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Haiti, Factor 6: Sustainable Agriculture

Implementing Sustainable Agriculture in Haiti

Imagine you are twelve years old, you do not go to school anymore, and you do not have electricity. You are sick but there is not a doctor anywhere near you, so you will once again tough it out. You have already experienced one of the worst earthquakes in your country's history, and you only have one parent left because of it. You work on the small farm where you live and take care of your younger siblings during the day, because your dad has to work in town in order for you to survive. You are not sure where your next meal will come from, because it is not harvest yet. Your whole family lives on less than two dollars each day. Now this may not be a situation you ever have to face, or even seem realistic, however unfortunately it is realistic for kids who live in developing countries who are food insecure. Unfortunately it is a reality for far too many people in this world. Norman Borlaug once said "Yet food is something that is taken for granted by most world leaders despite the fact that more than half the population of the world is hungry". He was pointing out food insecurity is something that too many people are familiar with. In developing countries, such as Haiti, thirty percent of the population is food insecure (WFP). That's an issue. But how can we fix it? It is not an easy task, and it is not a problem that just one person can fix. Solving world hunger takes people working together to teach farmers in developing countries about sustainable agriculture practices. It may not be easy, but it will take cooperation and dedication in order to educate people about how to produce their own food and help provide for others in the process. Feeding the world is a daunting task when it is viewed as a whole. When you help do your part to educate and advocate for sustainable agriculture, it becomes a little more manageable. When sustainable agriculture practices are put into play, hunger needs are not only met presently, but sustainable agriculture practices help ensure food security for years to come.

A typical farm family in Haiti consists of a man who is the main caretaker of the livestock and the crops. The woman sells the products from the farm, as well as helps with the planting and harvesting; she also does the housework, as well as caring for the children. The children, typically there are two, help care for the animals and retrieve water and firewood. The typical family only eats two meals a day. A small breakfast consisting of coffee and bread is eaten, and then an afternoon meal usually including beans and either a small amount of poultry, fish, or goat is consumed. Fruit is only eaten as a snack between meals.

Healthcare is extremely scarce in Haiti, as there is only one doctor for every eight thousand people (Every Culture). Only fifty percent of the population has access to medications, and only about fifty percent of the children are vaccinated. In Haiti only half of the children attend school. Of the fifty percent that do attend school, only seventy percent make it past third grade and of that seventy percent, only forty percent make it past sixth grade (Haiti Partners). Therefore, only 14 percent of children in Haiti make it past sixth grade. Only about 62.5 percent of males are literate, and about 57 percent of females are literate (CIA). An astounding 80 percent of the teachers in Haiti have not had any previous training (USAID). Haitians gross per capita income average is about \$1730 (WorldBank).

Trends are improving for the total number of people who are food insecure. Both families in rural and urban areas are experiencing less hunger in Haiti. This is simply being measured by how much food aid Haiti needs, and by how much food they are importing (WFP). While these trends are improving sustainable agriculture practices are still crucial in order for these trends to continue to improve.

The average farm is two and one half acres, and it produces cane sugar, corn, rice, beans, and possibly cash crops such as mangos and cacao. If they are lucky they will have some chickens, goats, or some other small animal. Haitian farmers typically only grow enough food to feed their family. They are not

technologically advanced, so they do not use tractors, combines, or any other modern equipment. Haitian farmers mainly just use small hand tools, and they will rarely use a plow or an animal (World Food Prize). Haiti has many obstacles when it comes to farming. The soil has been over worked, and soil erosion has become a big issue. Each year in Haiti about 900,000 cubic meters of topsoil is lost due to erosion. (USAID). Agricultural productivity is declining and the population is increasing. Poverty rates are high and since Haitian farmers usually only produce enough for their family, they have nothing to sell. Haiti has to rely on imports for about half of their food supply (US Aid).

Clearly there are some issues when it comes to sustainable agriculture in Haiti; it basically doesn't exist. Farmers are only able to produce enough food for their families, so they are not making any profit to use for anything else that they need. The second issue is that the soil is overworked and eroded. This makes it less fertile, resulting in less product, and a lower quality product. If the farmer makes no profit they will not be able to afford to buy better equipment, build terraces, or improve their farm in any way. These farmers will not be able to even sustain their families if they continue to travel down the path that they are currently on. Farmers in Haiti need to start using sustainable agriculture practices in order to provide enough food for their struggling country.

Deforestation, erosion, and lack of crop rotation are holding back Haiti and its ability to provide enough food. The current agricultural practices are not sustainable and are adding to the problems of erosion and the lack of soil productivity. The efficiency of the current Haitian agricultural practices is constantly decreasing, providing yet an even smaller food supply. Sustainable agricultural practices will have to be implemented in order to increase the Haitian food supply, and allow the farmers to prosper.

By improving the amount of sustainable agriculture used, farmers are not only able to produce more food during the present growing season, but these practices will help keep the land fertile for many years to come. Sustainable agriculture allows for a long term solution to Haitian food insecurity. Sustainable agriculture practices such as crop rotation will keep nutrients in the soil and help reverse the fact that the soil has been overworked and is nutrient deprived. Creating terraces will help keep the soil from eroding. When you have soil that is nutrient rich and doesn't erode the farmers are able to get higher yields and higher quality crops. This allows for excess crops for them to sell and make a profit. Since they are able to sell these crops, the urban population has a larger food supply, decreasing the food insecurity.

Haiti has an extremely volatile climate and you really can't stop an earthquake that registers at 7.0 on the Richter scale (costing Haiti's agricultural sector approximately 32 million dollars) from happening (FAO). However when you use more sustainable agricultural practices you are able to provide a larger food supply and have food in reserves, so when a natural disaster does happen Haiti is more prepared, and is able to sustain itself for a longer period of time. The population in Haiti is increasing, therefore the sustainable agriculture practices will help produce more and feed the growing population. The sustainable practices will help produce more on less land so that as the population increases and cities expand, farmers are able to use less to produce more.

The sustainable agriculture practices that would be most useful include crop rotation. By rotating legumes such as different varieties of beans, nuts, and peas into the plots where the farmers grow their crops, they will be able to restore nitrogen back into the soil so it is more fertile in the future. This fertile soil must be kept from eroding by creating terraces. This practice will keep the soil intact and it will help use water wisely. Controlling the water with terraces allows it to be channeled to places where water is needed. Not only do terraces keep soil in place, but these structures can also help with water management.

Finally when these farmers are able to produce more crops, they are able to sell them for a profit, allowing for a new food source for people living in urban areas. With the profits, these farmers are able to invest in more advanced equipment allowing for more efficient crop production. They can also invest in

animals, not only for meat, but the animals are also an excellent source of fertilizer when waste is managed properly.

Haitian farmers are not going to be able to adopt these practices overnight. These farmers will have to be educated about these practices. One long term way to help these farmers learn about these practices is by having short seminars in order to teach them and their families about these practices in just a few days. Another way to teach them about these practices and help give their children education is by having schools where students not only get basic education, but they also learn about agriculture and have plots of land where they can try out the new practices to see how well they work. These children will already have a base of knowledge when they start their own farms. They will have already learned how to rotate crops, manage terraces, take care of livestock, and market cash crops. They will have also been given the opportunity to experiment with sustainable agriculture practices, so that they will understand the use and importance of them. These students then also become more food secure as they would be able to eat what they raise at school and could sell the excess.

Many organizations are already working in Haiti in order to improve the nation's healthcare, financial status, agricultural sustainability, and emergency readiness. The United Nations is one of these organizations. United Nations is currently helping to improve the education and medical care status. They have spent about 3 million dollars in order to create a better situation for Haitians. They are also providing efforts to rebuild the country after the earthquake in 2010 (UNfoundation).

Another foundation that is making strides in Haiti is the Gates Foundation. Currently they are funding projects to improve the banking and financial condition of Haiti. This includes 2.5 million dollars given by the Gates Foundation and the United States in order to better the Haitian banking system. They are also working to create a better medical system in Haiti by giving another 2.5 million dollars to the Albert Schweitzer of Deschappelles Hospital (Gates Foundation).

Both of these organizations are doing impactful work in Haiti, and while neither of these organizations are directly aiding Haiti's agriculture sector, they are both indirectly helping farmers to become more sustainable. When the UN improves the medical conditions for Haitians, it helps keep farmers healthy and in the proper physical condition to perform their duties on the farm with precision and efficiency. When The Gates Foundation improves the banking system in Haiti it helps the farmers to better manage their incomes from their markets. This will help farmers to manage their profits and understand the importance of properly managing their profits in order to reinvest in farming equipment, animals, or in the construction of terraces in order to improve their farming operations. In order to end food security in Haiti, it will require efforts to improve each aspect of Haitians' daily lives. One improvement will create a domino effect because when one area of their life is positively impacted, it affects other needs in Haitian's lives in a positive manner.

In 2009 US AID started a program that cost 155 million dollars in order to build terraces as well as plant trees in Haiti. This effort was aimed at trying to eliminate the amount of erosion that is happening in Haiti. USAID has also started trying to improve the markets for the crops that are traditionally raised in Haiti, such as corn, rice, beans, and plantain (USAID).

The World Bank is also making significant strides in order to rebuild Haitian agricultural practices. They have a four part system put in place in order to help Haiti's agriculture sector get back on its feet. The World Bank emphasizes Haiti's Ministry of Agriculture, Natural Resources and Rural Development's role in providing and helping with agricultural services. The second part of their program utilizes agriculture extension services. Third they help educate farmers about emergency agricultural situations. Last they provide financial assistance as well as trying to implement more advanced technologies in Haitian farming (WorldBank).

The World Bank utilizes the services that already exist in Haiti in order to create a more efficient system of helping farmers improve their agricultural practices. They also focus on emergency procedures due to the volatile weather patterns in Haiti.

The four organizations previously described all have one thing in common. They are all working to improve the daily lives of people living in Haiti, however they all have a different approach. When trying to end the problem of food security in Haiti, it will require a collaborative effort among each of these organizations. When world organizations work together, but each affect a different aspect of Haitian's lives it creates a situation where there is less food insecurity. If the problem of agriculture sustainability is improved then it creates a population that is in a better physical condition, lowering the amount of people who are in need of health care in remote locations. If Haiti's education system is improved then students are able to receive a more complete education, allowing them to have a job that provides enough income for them to purchase an adequate amount of food. This allows all needs to be positively impacted when just one sector of a Haitian's life is improved.

Agricultural sustainability is one aspect of Haitian's lives that is in desperate need of improvement in order for Haiti to become a food secure nation. The task of ending hunger in Haiti will require assistance from world organizations to better the situation. There are a variety of ways that these groups can help. World organizations can help with this effort by building schools and assisting to find trained teachers who understand the agricultural needs of the region and how to make the farms more productive. They could help by providing land for the students to utilize as they learn modern agricultural practices and experiment with crops and livestock that could be most beneficial to them. They can also help by connecting farmers in Haiti who already use these practices with farmers who are just learning about them. World organizations can help with funding soil conservation practices such as terraces. They can assist with marketing and logistics as farmers develop cash crops. They can also advocate for the farmers in the urban community in order to keep the whole country well informed about their food and the sustainable practices that farmers use in order to put food on their plate.

Food insecurity is a problem; however it does have an answer. The problem actually has many answers, however one of these answers is sustainable agriculture. Farmers in Haiti are not currently using these sustainable practices; however with education these practices can be implemented. Currently the living conditions in Haiti are very poor. Education, healthcare, clean water, and food are all lacking. The 7.0 magnitude earthquake in 2010 destroyed much of Haiti. Since the earthquake they have been able to rebuild, however Haitian farming practices have not progressed in technology and sustainability like the rest of the country. Currently the soil is overworked and lacks in nutrients. However by using crop rotation, building terraces, and then making wise investments the farmers will once again be able to restore the soil and make a profit. However these farmers do not have the knowledge required in order to make these improvements. World organizations will need to help educate these farmers by demonstrating to the farmers how to implement sustainable agriculture practices. Long term agricultural plans will also need to be taught in school in order to ensure that the future generations of Haitian farmers have the knowledge they need in order to be productive, efficient, and sustainable. Implementing sustainable agriculture practices will require cooperation amongst world organizations and Haiti's citizens, as well as educating farmers about these practices. By using new sustainable agriculture strategies Haitian farmers will be able to restore the soil and produce enough food to decrease the number of Haitians who are food insecure. Now imagine a world where all children attended school, had access to medical care at all times, knew where their next meal was going to come from, and knew that they had a future of food security. Once again this may seem farfetched or unrealistic, however with proper education and implementation of sustainable agricultural practices, creating a food secure world is attainable. When Norman Borlaug said "Food is the moral right of all who were born into this world" he was envisioning the second scenario. In order to achieve this we must use the same mindset, that each and every person has the right

to have access to a sustainable food source, and use sustainable agriculture practices in order to achieve a food secure world.

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