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Haiti, Nutrition

Haiti: Solution to Food Insecurity

The Caribbean country of Haiti consists of 11,198,240 people, 58% of whom live in urban areas and 42% in cities. (CIA, 2021) The island has an area of 10,714 miles of land, slightly smaller than Maryland and is one of the most densely populated countries in the Western Hemisphere, as well as one of the poorest. (Encyclopedia of Nations) On paper the country has a Semi-Presidential Government, yet the system is corrupt with rigged elections and a government that is unwilling to provide necessary relief to the poverty within the country. For example, barriers to protect local businesses from the dangers of international trade were abolished by the government of Haiti, putting many farmers into severe poverty as they were unable to compete with the cheaper imports. Out of the 10,714 miles of land in Haiti, 58% is cultivated for agriculture. (LandLinks, 2018) The sector of agriculture employs two thirds of the labor force in Haiti and focuses on subsistence crops. These crops include plantains, bananas, sweet potatoes, rice, cassava, corn, and beans. However, due to eroded soil farms are barely able to yield enough food for subsistence. This causes many to rely on imported food, in turn lowering crop prices and increasing the poverty of farmers. These farms are on average 2.5 acres per family, a stark contrast to the 435 acres per family in the United States. To put 2.5 acres in context, it is around two football fields and must provide housing and enough food to feed the family. Typically, Haitians use locally grown spices such as oregano, thyme, and others to prepare their food although many struggle with obtaining enough food in general. Although Haiti has great potential for fishing, many rely on crops and livestock for food and means of living because boats are small and scarce. (Ferguson, 2021)

The jobs in Haiti include work in the agriculture sector such as farming along with jobs in cities such as manufacturing. Haiti has many exports including textiles, footwear, tobacco products, rum, ornamental flowers, rubber products, and more. However, these jobs scarcely provide enough to live, with a little less than half of the population living off of \$1 a day. (LandLinks, 2018) There is no social security or welfare so there is no government assisted aid to the poverty. Healthcare is limited in both supplies and doctors, leading to a high mortality rate. Many Haitians are also uneducated as schools lack supplies and resources. Those who are educated typically are wealthier and attend private schools. Transportation is hard to come by leading to many traveling by means of foot, bike, donkey, or bus; only the wealthy have cars. There is no electricity or plumbing in houses, many gather at local markets to buy and sell produce and other goods. (Ferguson, 2021)

Due to the poverty in the rural communities, many Haitians move to cities; however, conditions are scarcely better. Housing is similar in both rural and urban areas consisting of mud walls and thatched roofs made of palm leaves or local grass. Neither urban nor rural houses have electricity or plumbing while in cities houses are densely together in slums. Even large infrastructures are typically poorly built as Haiti lacks safety protocols. These poorly built dwellings and buildings lead to devastating effects during hurricanes and earthquakes destroying the dwellings and leaving thousands displaced. The climate and location of Haiti increases the frequency of hurricanes and other natural disasters which often occur close together and without reprieve. For example, Haiti was hit by four hurricanes in 2008 killing hundreds of citizens, destroying houses and wiping out 70% of Haiti's crops. With a mountainous geography and heavy deforestation, Haiti also experiences frequent mud slides and flooding causing many crops to be destroyed. The government of Haiti is unable and unwilling to provide relief after these disasters leaving many in poverty. (Ferguson, 2021)

Furthermore, many families struggle to obtain basic commodities such as fresh water, food, and enough money to live. This is due in part to soil erosion that causes half of the farm land to be unsuitable to yield substantial amounts of food. (Ferguson, 2021) Out of the two-thirds of land that is farmed, only one-third is suitable for farming. (Ferguson, 2021) Soil erosion is due to deforestations, high density of inhabitants, and the overworking of land. (Begum, 2020) Many in Haiti depend on trees and coal as a power source as the country does not contain any hydrocarbon resources necessary for electricity. The country also struggles with corruption in both the government and police force leading to unsafe conditions of living along with a high drug trafficking rate. (Ferguson, 2021)

Many Haitians are dying of hunger. Sustainable agriculture is a major issue in Haiti that affects all as it leads to food shortages and poverty. Since many rely on farms for not only income but food, soil erosion and unsustainable farming is a major issue that needs to be addressed. (Ferguson, 2021) There are three viable solutions to help solve the issue of soil degradation and poor farm production: cover crops, reforestation, and human compost.

First, cover crops are a great solution to soil erosion because it replenishes the soil with necessary nutrients, fosters life of bacteria and insects below the soil, and improves the water aeration in soil. Cover crops are able to provide nutrients such as carbon, this is due to the ability of the plants to create carbon based molecules that eventually travel into the soil and provides building blocks for organic molecules. Cover crops also maintain nutrients in the soil by preventing them from being flushed away by rain water. Earthworms and other organism are able to feed off of the bacteria and fungi that is fed by the carbohydrates of cover crops thus

creating a food web centered around cover crops. Finally, cover crops improve the aeration of soil as its roots open up the soil and allows water to easily travel through. (Clark, 2020).

Sunn Hemp is a great cover crop that can be planted in between growing seasons because grows well in poor sandy soil and flourishes in tropical climates like Haiti's. (Natural Resources Conservation Service, 1999) In order to implement the cover crop solution, the United Nations along with the United States will need to help fund and plant the Sunn Hemp. The farmers must be educated on the optimal time and conditions to grow these plants. Farmers will be able to plant these crops between growing seasons thus replenishing the soil and making it more fertile for the next season of crops. In order to plant these crops, seeds should be given to farmers along with instructions and care. It must be taken into account that it will take a while for these crops to fully renourish the soil and any neglect on the farmers parts could be detrimental; it may require the UN and US oversight.

Second, planting trees in an attempt at reforestation is another solution. Deforestation is a major issue in Haiti as many Haitians rely on wood for energy and many trees are taken down and not replaced causing soil erosion. (Ferguson, 2021) Deforestation does not only affect the soil, it limits the amount of water returning to the Aquaphor and the amount accessible to irrigation systems. (gsvu.edu, 1999) This is due to the fact that run off from the eroded soil enters the drinkable water sources and lakes thus ruining them. Reforestation will improve the soil while simultaneously creating an ecosystem and habitat for other organisms as well. Although the Haitian government attempted to reforest the land multiple times, these plans fell through as the funds allocated eventually went to the infrastructure problems along with corruption. (Ferguson, 2021) One solution is to not rely on the government to plant these trees. Instead, funds should be raised by charity organizations to not only plant the trees with volunteer work, but also employ Haitians to plant trees. This will not only provide jobs to those in poverty, but it will also improve the environment and reduce soil erosion. Kasya trees are a great species of trees to be planted in Haiti as they can regrow from the stump and they only take 3-4 years to mature. Kasya trees are great because they provide a solution to multiple issues. Their short growing time and ability to regrow from the stump provides Haitians with a source of wood that can be used for building along with heat and power. (Aurand, 2019) The organization Many Hands For Haiti have implemented this approach to reforestation and planted nearly 300 Kasya trees. (Aurand, 2019) Funds can be raised through charity events and fundraisers to donate money to this organization to plant more of these trees. Charity events such as galas and festivals will not only provide funding for planting trees, it will also raise awareness of issue in Haiti and solutions to said issues. Another approach can be seeking help from the U.N. for funds to pay local Haitians to plant these trees, thus providing jobs and reforestation for the country.

The third way to renourish the soil is through human waste. The organization SOIL has been implementing a system of taking human feces from toilets, then using ecological sanitation to turn it into compost to help crops grow. This system can be implemented on a larger scale simply

by teaching and encouraging rural farmers and families to implement this system. Already SOIL teaches many, but funding could be better and more people could be trained to travel around Haiti teaching families how to use ecological sanitation. This use of feces into compost helps replenish the soil and encourages productive crop growth. However, if a farmer were to mess up this system the potential for sickness because of contact with human feces is high. However, if volunteers are willing to be educated and travel around Haiti to teach the people how to implement this system then great success could be in the future. (OurSoil.org) It is important to note that volunteers do not need to be from different countries, they can be Haitian citizens who want to help in their community. Using Haitian citizens as educators can be very useful in regards to implementing this system in rural or dangerous areas as foreigners may not be widely accepted. Thus the use of human waste as compost can help increase food security as it encourages an increase in crop yield. (OurSoil.org)

Although finding funds and volunteers may be difficult, Sister organizations such as churches, schools and outreach organization are a great resource and can be very useful. For example, churches and religious organizations can reach out and find sister churches in Haiti like the Holy Trinity Catholic Church in Washington D.C. did (Trinity.org). These groups can raise money supplies to improve the community in which their sister church resides. The Haitian community can then let their sister church know what they need in regards to crops and other supplies, thus allowing the members of the church, school or outreach organization to aid in a way that is beneficial in the long term for the Haitian people and their agricultural. Another way to provide funding is through raising awareness of the organization called Kiva. Kiva is a non-profit organization that allows people to donate money in the form of loans to those in third world countries who need funds to kickstart their businesses. (Kiva.org). This can allow poor farmers to find the funds for crops, trees, cover crops and other various supplies they need.

Soil erosion and poor farmland can be improved by cover crops, reforestation, and human compost. Although there are many issues in Haiti in regarding health and welfare, solving the issue of soil erosion is a valiant start and can have a lasting positive impact in the lives of many Haitians.

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