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Haiti, affordable animal husbandry

Affordable Animal Husbandry

At this time 85% of Haitians practice some form of agricultural farming (Food and Agriculture Organization of the United Nations). Farming accounts for 26% of the economy in Haiti. Haitian farmers. And with a quarter of food eaten by Haitian citizens, it is important that the food grown/raised is not only sustainable for the farmers but affordable. In the past, people thought that just giving Haiti food was the answer. However, this neglects the need for economic stimulus and keeping those who had food in the business. There a new approach needs to be taken. A combination of grazing, a loan program, and a crop rotation plan with native plants will not only prove to be affordable but effective in Haiti's agricultural industry growth.

Haiti is a small island country next to the Dominican Republic, in the Caribbean. Haiti is home to 11.26 million people. Most Haitians are of African descent and speak creole. Haiti has an agricultural economy. Haitian families typically live together (LoveToKnow). This is for economic reasons. To elaborate, 59% of Haitians live in poverty (ReliefWeb). In other words, it makes more sense to stay close to family because they can help take care of the jobs needed at home. Since most Haitian families practice some form of agriculture there is a lot of pride in being able to grow and provide your own food. Their diets mainly consist of rice, yams, and plantains, which are things readily grown in Haiti.

Haiti's main exports are oil, cocoa, mangos, and bananas (International Trade Administration). Since Haiti is an island nation it is extremely prone to natural disasters. These natural disasters are part of the reason why Haiti struggles financially. The storms can decimate the crops. In 2016, Hurricane Matthew killed over 500 Haitian citizens and caused around 1.9 million dollars in damages. The last time an event this catastrophic hit was in 2010 was when a size 7 magnitude earthquake hit which killed around 250 thousand people and displaced an estimated 5 million Haitians (World Vision).

Haiti was hit by Hurricane Matthew in 2016 and its economy never fully recovered. Although storms hitting this area isn't uncommon. Some of the biggest threats to Haitian agriculture are the natural storms: hurricanes and earthquakes. Hurricanes come with flooding and the drowning of crops. Plus, the high winds erode the ground making plants with short roots at a disadvantage because they may lose their coverage. This is why plants that are used for these types of conditions are important to grow. Therefore, planting long-rooted native plants such as frangipani and bay beans is recommended.

Not to mention that their animal farming is not popular because of how expensive it is. For instance, it costs 250 dollars minimum to get a cow and the cost of obtaining a goat is about 50 dollars (The Haitian Vocation). Next comes the cost of maintaining the health of the animals. To take care of the animals some vaccines may be needed and making sure they have food and water is going to be another cost. Which most Haitians struggle with animal husbandry because

it is hard to make money when your crops are being uprooted/ washed away. That money is the income that would be used to feed their families and send their children to school. Therefore, it is not an option to use a lot of advanced technology yet. However, we can still use highly effective BMPs (Best Management Practices) to help Haitian farmers.

Some common BMPs used in the United States of America are keeping a living root, rotating the crops with legumes, and no-till farming. Although these methods aren't always in use they are the most effective way to keep the soil healthy and efficient at a low cost. This is because plant roots secrete acids such as malic and citric which feed the microorganisms in the biome. These microorganisms break down the acids and release usable nutrients into the soil.

Legumes are beans, beets, and nuts. They are plants that put nitrogen into the soil. Many legumes are not only beneficial to the soil but also to humans. A lot of legumes are edible and are a part of our everyday diet. They are rich in vitamins and minerals that people need. For example, peas have tons of vitamin c and magnesium which help with boosting the immune system (FoodData Central). Legumes are also commonly fed to livestock. Plus, legumes would go great in healthy meals such as salads and Lalo Legumes (Flavorverse).

To start, we should make sure that there is always a living root in the soil all year round. This keeps the rhizosphere happy because of the exchange between the plants and the organisms around the plant's roots(The Nature Education). This will also reduce erosion and will protect the soil from weathering. Plus little to no-tilling the soil will also help protect the soil. It is essential that the symbiotic relationship between the plants and the insects is disturbed as little as possible. If we use native Haitian plants they will be well suited to the soil. Then, we should use a crop rotation with legumes. This would help put nutrients back into the soil. This will help the soil grow more food without having to use any fertilizer. Plus it is all-natural and free. And it is less effort for the farmers.

Also, waiting for the crops to be ready for harvest farmers can use old egg shells and either grind to a powder to use on fields or use the shells as a biodegradable starter pot for when it's time to replant. For the starter pot the shell doesn't have to be removed. As long as the pot is a little broken it can be left on. The egg shell provides calcium carbonate for the plant's roots to absorb (Los Angeles Times).

Cattle, hogs, and goats can eat crop residue. This is easier than feeding them via trough because the food will be naturally growing from the ground. Therefore, there is no to little need to put effort into feeding the livestock. Plus, as they are eating the residue they are trampling the rest. This leaves the rhizosphere zone mostly uninterrupted. The livestock can discretion fertilizer on the land. This reduces the need to apply artificial fertilizer. This saves money and labor.

An animal education program for residents of Haiti on farming new farming practices they could use to grow food. For instance, educating people on the benefits of crop rotation with native plants, legumes, and cash crops. To clarify, with this information Haitians will be able to use more effective practices that work with their soil. This program could also cover fish farming, cattle farming, and other forms of animal husbandry. To demonstrate, rotational cattle farming

can be taught. By teaching about this they can learn about more affordable ways to raise livestock. Such as feeding them crop residue rather than growing food for the animals to specifically feed.

Although education is great it does not erase the need for financial opportunities. Therefore, a government low-interest loan program may be in order. With a loan program, people would be able to take out a loan to implement what they learned from the farming course. It would be important to have the course be a prerequisite for the loan because not only does it encourage people to attend the class, but also secures a safer investment for the lenders. This is because they will be educated on more efficient methods which will improve their financial situation making it possible for them to pay back the loan. To make lenders feel even more comfortable with their investment a detailed plan of what new techniques will be introduced and what tools will need can be made whether it be required or preferred. As well as a monthly update or agreed-upon plan stating what they are going to do could be useful with the lender's knowledge.

As a result, not only will people be more educated but have an economic advantage. With these new skills, people can rebuild faster and have a more secure food source. Plus, they will be independent and have more freedom on what they do financially. For example, people can send their kids to school. With Freedom from food insecurity comes a new world of possibilities.

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