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Haiti, Factor 7: Animal Agriculture

Haiti: Animal Agriculture

Haiti is the poorest country in the Western Hemisphere. I learned this first hand while traveling to Haiti in January 2015, where I visited Mireabalais, a very poor area about 40 miles north of Port au Prince. Per capita income is only two dollars a day, and in rural Haiti incomes are more commonly around a dollar per day (Planting). Rural Haitians often live without electricity, running water or working bathrooms and cooking is done outside over charcoal. This is not the charcoal that Americans buy in the store, but rather charred wood. For centuries Haitians have cut down trees and burned them in underground pits, to create charcoal. The constant tree harvesting has left the mountainsides lacking in vegetation and bare hillsides have suffered severe erosion, resulting in the rich topsoil washing away, leaving most land unsuitable for crop growth (Planting). The lack of trees has also affected the water cycle so that Haiti has a long dry season and a rainy season. Decades of severe erosion has coated the ocean coral around Port au Prince with silt, destroying the habitat for any marine life. So even though Haiti sits in the Caribbean it has no fishing industry and very little seafood in the people's diet. (Planting)

Only 50 per cent of school age children attend school. Most schools are private, run by churches and do not have trained teachers. The cost to enroll in these private schools is often \$130 per year. Many families only send their children to school when they have the money. The World Bank estimated that in the early 2000s the average age of a sixth grader in Haiti was 16 years old (Four).

There is little medical care in Haiti. I visited a new, government run hospital in Mireabalais, that has a free walk in clinic. It is common to see people standing in line for several days to see a doctor. For every 100,000 births, 500 mothers die. This compares to eight in Europe (Haiti).

Historically the Haitian government has been very turbulent with dozens of both military and political coups. This political unrest has led to the ruling class serving the elite and the working class left to fend for themselves. The Duvalier family ruled Haiti from 1957 to 1986. Their government did very little for the poor, rural Haitians (Planting). Much of rural Haiti has none of the services we take for granted. There are few traffic laws, no garbage pickup, no mail service, no stop signs, very little police, and very little banking. Currently there is a more stable and somewhat popular government, but even while I was in Haiti earlier this year, there were political demonstrations going on at the capital.

The devastating earthquake in January 2010 drove tens of thousands from Port au Prince back to the countryside, which has put further strains on rural families (Planting). There are few jobs in rural Haiti and most are related to construction. There is very little manufacturing and since there is no large scale farming there is virtually no food processing industries.

Some regions of Haiti produce agricultural crops like mango and sugar cane. Haiti once grew a large amount of rice, but in the 1990s the United States sent millions of tons of rice to help feed Haiti, but in the end it depressed rice prices forcing the rural farmers to abandon their rice farms (Planting). Near Port au Prince, beans and sorghum are raised with the help of irrigation. Most farms are very small, less than an acre, and field work is done by hand.

In rural Haiti they don't have grocery stores. I visited a local street market and learned they are held twice a week. At the market I saw fresh vegetables, rice, fruit, shoes, clothes and even fresh killed meat. There is no refrigeration at the market, so there were some pretty intense smells.

Unemployment runs over 50 percent and is worse in rural areas. There is very little manufacturing and if there is some it is on a small scale (Planting).

There are several barriers to improving the agricultural productivity in Haiti. Poverty is the biggest issue. My father has traveled to Haiti for four years to teach agriculture sustainability and he tells a story about when he asked his students why they didn't dehorn their cows. After a couple of answers one student asked "What would we use for a hoe?" My dad asked for an explanation and the student said, "When we butcher a cow we take the horn, tie it to a tree branch and use it as a hoe." (Gasch) They don't have money to buy a hoe. Even if the Haitian farmer could raise some animals for food, most rural areas don't have electricity so there is no refrigeration to store the food.

The next big barrier affecting agricultural productivity for the Haitians is the poor quality of their soil. Erosion has been so devastating that most hillsides have soil structure that limits plant growth (Planting). Since Haitians don't confine their animals in fenced areas, it is difficult to add organic matter from manure back to the soil. The weather is so hot that worms, used to help break up the ground, won't survive in the warm soil. It will take dozens of years to get some of the Haitian hillsides to be suitable for farming again.

The factor I chose is 'Animal Agriculture'. I selected Haiti and Animal Agriculture because I traveled to Haiti in January 2015 to educate Haitian families on raising laying hens in small moveable pens. I traveled there on behalf of the non-profit, Pens for Hens. I worked with my father, sister and grandmother to form Pens for Hens. I was part of an FFA Marketing Plan Career Development Team that designed promotions and helped fund raise for Pens for Hens. In fall 2014 I managed a Pens for Hens booth at the National FFA Convention where I visited with hundreds of FFA members from across the country on the plight of the Haitians and what Pens for Hens was trying to accomplish.

Confinement animal agriculture is not very common in Haiti. Most Haitians do not confine their animals in fenced areas so they can't control what their animals eat or where they roam. Even their chickens run loose, and as a result the hens will hide their eggs, making it hard to know how fresh the egg is when it is found. While in Haiti the families asked why their eggs were often bloody. It turns out that there are roosters running loose too, so the eggs are fertilized. After a few days of laying out in the hot sun, the egg starts to incubate. The blood they see is actually the embryo starting to develop. Haitians have native or Creole chickens. They are hardy but not selected for egg production.

Eggs have a very dense source of protein. By having limited access to eggs, the family's and especially the childrens' diets are lacking in protein. Haitians do not eat much meat and they do not drink milk so eggs could become a very valuable protein source.

Women are greatly affected by the lack of protein in the diet because they tend to make sure the children get the best food to eat, which means they will do without. The situation isn't getting any worse but it isn't improving because of poverty. Also, raising animals in confinement won't be accepted until it is shown to be beneficial. My impression is that except for cell phones, Haitians are not quick to accept new ideas.

Improving animal agriculture, especially raising laying hens, would quickly improve the level of protein in the Haitian diet. A pullet will start to lay eggs at five months of age so it is much quicker than raising cattle for two years before butchering them for food. The quality of the eggs eaten would improve because it would be easier to identify a fresh egg. If the family had extra eggs, they could sell them at the local market or trade with neighbors for other produce.

By raising hens in confinement, the manure could be incorporated in the soil to add fertility and improve the soil structure. The improved soil would be better suited to grow more vegetables and improve the family's diet and potential for increased income.

Raising laying hens in confinement would even offer benefits to the families with small amounts of land. Small pens would fit in any yard or garden. Most landowners in Haiti own very small parcels of land. It is not uncommon for someone to own a plot of land measuring one tenth of an acre.

Climate would have an effect on Haitians successfully raising laying hens in confinement. Haiti can get some very severe storms, even hurricanes which may damage or tip over the confinement pens. The average temperature is above 90 degrees and Haitians do not necessarily believe in watering their animals. On a recent trip to Haiti my dad was teaching about raising goats and had a goat to dissect. The Haitian students thought the goat's stomach would be dry because "goats don't drink water." They didn't even realize that their animals were finding drinking water on their own (Gasch). There is an issue with water scarcity in mountainous regions during the dry season, which runs from December to April. Haitians will have to learn to water their animals in confinement.

Based on both my research and my recent travel to Haiti, I would recommend an educational program on the benefits of confinement agriculture. I have worked with the nonprofit organization called Pens for Hens to address confinement animal agriculture in Haiti. Pens for Hens, with cooperation of local businesses in Haiti, built and distributed a frame for a ten square foot hoop pen. The frame was built from rebar purchased, cut, and welded by a local business in Haiti. A local veterinarian signed up families to participate in a seminar, where they put netting over the pen and learned management practices in raising laying hens. Finally, the families received three laying hens that were purchased in Haiti. The local Haitian veterinarian will serve as a resource person for the families if they have problems with their hens.

The Pens for Hens project was designed to benefit families with small amounts of land. The pen was designed to fit between the rows in a garden, where hens can scratch the ground eating bugs and weed seeds. Manure droppings would be incorporated into the soil improving the soil fertility. Fresh eggs would be easy to find and gather. Although the hens will have to be replaced every three years, food security is raised because of the eggs to eat and the increased productivity of the garden.

In 2015, Pens for Hens reached 50 Haitian families. Our plans are to increase that number to 150 families in 2016. We have only worked in a small area near Mireabalais, Haiti, which is about 40 miles north of Port au Prince. There is no quick cure for lack of understanding about animal husbandry. It will take decades of continually reaching more families. There will be the obstacle of the Haitian poverty; if anything goes wrong like dogs killing the chickens or the hens just dying, the Haitians have little money to use to get the project back on track.

The Pens for Hens project has started small and only been in existence for less than a year. But the project fits nicely into the Millennium Development goals developed by the United Nations. By getting these small scale hen projects to families, the quality and amount of protein in the Haitian diet will increase, leading to healthier children. In our first year doing the project in Haiti, 80% of the participants were women. So the project will empower women both to be in control of a sustainable agriculture project and to be in control of the family's diet and potential income.

Besides improving the family's diet, extra eggs could be sold at market to improve the economic outlook of the family. In the winter of 2015, eggs were hard to buy at market because the Dominican Republic stopped sending eggs to Haiti over some political issue. These small scale egg laying opportunities would free the Haitian families of the consequences of political decisions. And, best of all, the Pens for Hens project is agriculturally and environmentally sustainable. When the pens are put in a garden the hens

scratch up the ground incorporating the chicken manure and improving both the soil fertility and structure.

At the current time Pens for Hens is serviced by the group's visit once a year. Pens for Hens works to make the project about 'community'. Families were signed up prior to our travel to Haiti. We worked with local community leaders to help ensure that the Haitians receiving the pens and hens weren't just looking for a handout, but understood the benefits and responsibilities of the project. Finally, we worked with a local veterinarian on the project. This veterinarian lives in Haiti and will act as a resource to the families.

This Pens for Hens project could easily be expanded to reach thousands of families. It will need to be organized at the local level. Pens for Hens went into Mireabalais and worked with local civic groups to distribute the pens, this could be duplicated all across the country. A local network could be set up where materials for the pens could be purchased and pens built locally. I would suggest working with local veterinarians or veterinary assistants, as these people would have a basic knowledge of animals and their care, and are generally respected in their communities. I am thinking of a network similar to the University Extension Educator system in the US.

During our first year with Pens for Hens, we did not charge the Haitians any money for the pens or the laying hens. The pens cost about \$30 US and the three hens cost \$33 US. We wanted to reach Haitian families that might not have any money. Instead the Haitian families invested 'sweat equity'. They attended a seminar where they learned about feeding the hens, caring for the eggs, using the pens in their gardens, and 'worked' by attaching the netting to the frame. As this project grows I could see local communities even setting up their own hen raising businesses to earn extra money.

Haiti has suffered for two centuries of deforestation and neglect from the government. The problems stemming from these situations won't be fixed quickly. My father taught agriculture sustainability for two years at a post secondary school in Haiti. He would get on the plane to come home and think, "I just wasted a week and did no good because the Haitians have no money. Haiti will only be fixed one family at a time." It took another two years to start Pens for Hens. Volunteers raised money here in the US and went to Haiti and helped 50 families on the road to recovery. I was there to help. I will never forget the Haitians' smiles as they built their pens and received their three hens. I was very excited to see pictures on Facebook after I returned home of the hens in their pens, and the eggs they had laid that day. One family at a time, we can make a difference.

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