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Haiti, Malnutrition

### **Haiti: The Incredible, Edible Egg...Haiti's Saving Grace?**

Wake up before 5:30 a.m., head out to first tend to the crops and livestock if fortunate enough to have some. Travel to the closest river to bathe, then fetch water from a spring to take back to the rest of the family. Finally, once all chores are done, walk two hours to school for a less than average education. Once school lets out, walk home to further tend to the crops. Hoe, weed, water, do whatever possible to keep the plants healthy and alive. Work until dark, eat dinner if there is anything to eat, then off to bed. Wake up, and repeat. This is the typical day for a rural Haitian child.

The average family size in Haiti is five members; two working adults and three children. Half of Haiti's population makes less than one dollar a day (Haiti Partners). For the average rural family, that means they are to live off fourteen dollars a week. Feed five people, pay any expenses, all on fourteen dollars a week. Surprisingly, after working endless hours, it is unfortunately common to go to bed on an empty stomach. Those who are fortunate enough to have a meal every night, still aren't getting the right nutrients to keep them healthy and growing. The main staples of the Haitian diet include corn, cassavas, millet, rice, and fruits. Animals are hard to come by, meaning they rarely get to consume the by-products from them. The lack of protein in their diet weakens the bones and muscles of rural Haitians, thus making it more challenging to endure the hard labor their job requires.

Haiti is located on the island of Hispaniola. It encompasses only 10,714 square miles of the islands 29,418 square miles, the remaining land is home to the Dominican Republic (World Factbook). In terms of reference, Haiti is roughly equal to the size of Vermont. Haiti's placement in the Caribbean Sea, makes it vulnerable to severe weather and natural disasters. The hot, dry climate in the Caribbean has caused many droughts and hurricanes to affect Haiti. The Indian form of Haiti's name is *Hayti*, which blatantly means "the land of mountains." Doing justice to its name, approximately three-quarters of Haiti's land consists of mountainous terrain, with peaks measuring as high as 8,000 feet. The rough landscape leaves very little quality land that could be used for farming. Of the 10.7 million population, roughly 50% are undernourished and 59% live in poverty (World Food Programme). The more advantaged tend to live in urban areas which gives them access to better jobs and a better quality of life. 60% of the population are unemployed and the other 40% tend to have seasonal jobs such as vendors, shoe-shiners, or farmers.

Naturally, Haiti struggles with malnutrition and hunger and the weather certainly doesn't help in fixing the problem. Etienne Peterschmitt serves as Haiti's Senior Emergency and Rehabilitation Coordinator within the Food and Agriculture Organization of the United Nations. Etienne once said, "Poor, vulnerable, agriculture-dependent communities suffer some of the most severe consequences of natural disasters" (MissionNewswire). Etienne's words prove to be true when looking at past weather events and their destruction. In 2010, a hurricane measuring category seven hit slightly off the coast, but still managed to wreak havoc on the island. The capital was destroyed and close to 300,000 Haitians lost their lives. The destroyed capital enforced a move from urban to rural for many remanding Haitians. This

increased the scarcity of land and agricultural products. In more recent times (2016), Hurricane Matthew, a category four, hit the country. This hurricane destroyed farmlands, killed some of the little livestock on the island, and made fishing unsuccessful. Hurricane Matthew left upwards of 806,000 people in a state of urgent food assistance (World Factbook). In addition to the typical hurricane and earthquake, Haiti also is vulnerable to severe drought. This makes it hard to grow many crops and raise livestock. Haiti is currently experiencing its worst drought in quite some time. The drought is now on its fourth continuous year. Mirene Raymond, a Haitian rice farmer, said in an interview “We’ve had droughts before, but never like this.” Mirene, along with many other farmers, farms in the Artibonite Valley. Mirene explained how the valley used to produce enough rice to supply the whole country, but now she barely harvests enough to feed her own family.

Despite the fact it may seem that Haiti is far from successfully feeding its population, it has improved drastically over the last few decades. This improvement can be directly linked to the work of non-profit organizations. The most prominent leader in this transformation is the World Food Programme (WFP). The World Food Programme is the world's largest humanitarian organization which works to improve food security and they have done just that in Haiti. The WFP has been working in Haiti since 1969 and has implemented many programs including school meals, emergency response, and nutrition. The school meals program delivers over 400,000 hot meals to schools every day. As a way to assist the economy, WFP is working to convert to buying all produce that is used in the meals, from local farmers. School meals have accounted for the country’s greatest food safety net for many years. As mentioned earlier, weather is an extreme factor for all of Haiti. The WFP has implemented the Emergency Preparedness program to help lessen the effects of natural disasters. Biscuits, rice, and beans are stockpiled prior to hurricane season that can feed up to 300,000 people (World Food Programme). Albeit the World Food Programme has done tremendous things in Haiti, it lacks in one area, educating the public on what they can do. The aide Haiti is receiving, is just as important as the lessons they are learning. For Haiti to succeed in food sustainability, they must be able to do it themselves. This requires the education of the public.

In the United States, the Smith-Hughes Act was passed in 1917. This act funded education in the areas of agricultural, trades, and home economics (Steffes). Today, agricultural education reaches over 800,000 students in the United States as a result of the Smith-Hughes Act and other pieces of legislation similar to it. Unfortunately, Haiti does not have any legislation regarding agricultural education, possibly because education is an area where the country lacks success. Recently, the Haitian government has committed itself to bettering education within the country. Inauspiciously, the major factors in a strong education system remain absent. Haiti does not have the resources nor the money to fund adequate teacher training and easier access to schools for rural Haitians. The majority of the schools in Haiti are funded and operated by non-profit organizations while receiving support for the Haitian government. One project in particular focused its resources into vocational agricultural education. The USDA’s Foreign Agricultural Service paired up with the National Institute of Food and Agriculture to create the Haitian Vocational Agricultural Education Project in 2013. By opening just one school in Dondon, Haiti, close to forty students were able to learn new techniques in crop farming and herd management to then take these skills home to share within their families (NIFA). With the average family size of five, this meant around 200 people were able to improve their own farming techniques and potentially generate a solid food source to live off of. If one school had left this substantial of an affect, imagine the capability of five schools.

The help from other non-profit organizations has helped Haiti get back on track to sustainably feeding its population. The ultimate goal is for Haiti to be self sufficient and it is important that ways to do that are being taught. I once heard the saying, “give a man a fish and he’ll eat for a day, teach him to fish and he’ll eat for a lifetime.” I believe that this saying can also be true in the terms of chickens. Give a man an egg, he’ll eat for a day. Teach a man to produce eggs, he’ll eat for the rest of his life. What better way to teach the production of eggs than to use chickens to do it. One potential solution for malnutrition in rural Haiti, is the mass distribution of chickens. For the first two years of a hen’s life, it will typically lay an egg a day. Although the amount they produce decreases as they age, they can still produce two to three eggs a week at the age of fifteen. One egg has seven grams of protein, six grams of fat, iron, vitamins, and carotenoids (Gunnars). Compare that to a typical non-fortified cup of rice at just 4.3 grams of protein, 0.4 g of fat, and 0.3 mg of iron or 2.6 g of protein, 0.1 g fat and 0.6 mg iron in beans. With low resources to sustain a farm, it is important to mention that hens are extremely easy keepers, simply because they virtually need no maintenance. They require little feed intake and since the goal is to place them in rural areas, they could peck at anything they see on the ground. This makes hens virtually free to keep and raise.

Large operation chicken farming used to be rather common in Haiti, but many events led to its downfall. The 2010 hurricane, left many chicken farmers with destroyed coops and deceased birds. Most farmers were left with little to no money to rebuild their once prosperous farms. The most prominent event that led chicken farming to be more difficult than ever took place in 2008. The government placed an egg ban on the border between Haiti and the Dominican Republic. Their reasoning was to stop the spread of the avian influenza and also improve the economy (USDA). At the time, the Dominican Republic had a surplus of eggs, Haitians would cross the border to purchase eggs for little to no cost. This made it harder for Haitian chicken farmers to sell their eggs since they had to charge much more. By placing the ban on the border, the government hoped to see Haitian chicken farms improve and become profitable. Unfortunately, it just caused farms to shut down and farmers to go out of business since it was harder to get supplies. Since then, farmers just haven’t had the resources to get back into business and very few chicken farms exist today.

The idea of the use of poultry in sustainably feeding Haiti has grown. Over the last decade, many non-profits directly focused on laying hens have come about. Hens for Haiti is a group that has opened a laying house in rural Haiti. The facility employs locals, thus strengthening the economy. Eggs from the facility are sold for reasonable amounts to locals. GreaterGood.org “sells” hens online. When someone “purchases” a hen, the hen is then given to a rural family in Haiti. Since starting the program, 379 hens have been distributed to families. GreaterGood.org has also helped schools develop curriculum on hen care that is taught at both the primary and secondary level. Chickens for Haiti is an annual fundraiser where athletes and citizens alike sign up to run a 5k race. All of the money from the entry fees is put towards building and sending chicken coops to Haiti.

The work organizations have done pertaining to laying hens has had a positive impact on many families. Personally, I believe the potential of hens could drastically change Haitian society. If the Haitian government were to pair with an organization they could effectively distribute chickens amongst the rural population. Laying hens are relatively cheap, one to five dollars as chicks, but the cost of importing them

is rather high. If the Haitian government were involved they could waive the tax on imports, thus making the only cost the price of the chick. Suppose they started by importing and distributing one thousand laying hens throughout multiple communities, as well as giving each community a rooster or two. This would allow one thousand families to grow their own flock. From one chicken, comes two, and so on. Within 21 days of receiving the first hen, a family could potentially have 20 eggs and one new chicken. If a male chick is hatched, it can simply be left to grow with the others and can one day be used for meat. The same can be said for hens once they stop producing eggs. Although this isn't a tremendous amount of meat, it is much more than many rural Haitian families are given the opportunity to have.

The eggs from hens could not only help in feeding the country, but it could also help to improve the health of the country as a whole. It is estimated that the persons per physician is close to 4,000 people per every physician. Compare this to the United States at 385 persons to one physician (World Food Programme). Not only is there limited resources to doctors, most Haitians don't have the money to afford proper medical care. Eggs could help compensate for the lack of medical opportunities by improving nourishment and potentially extend the life expectancy which is currently 62.7 years compared to the world average of 80.3 years.

Eggs are also proven to have alternative medical advantages. The list of vitamins that can be found in one egg include: A, D, E, B12, biotin, choline, folic acid, inositol, niacin, pantothenic acid, pyridoxine, riboflavin, and thiamin. The list is just as long for minerals: calcium, chlorine, copper, iodine, iron, magnesium, phosphorus, potassium, sodium, sulfur, and zinc (USDA). Studies have found that children who were given an egg a day in Uganda, increased both their heights and weights (Rains). Eggs have a positive effect on the body in general. They lower risk of migraines, reduce blood pressure, improve eye health, and boost muscle development. This could be beneficial to many Haitians, considering 50% of job occupations involve hard labor.

Haiti has received a large amount of assistance for quite some time now, and that assistance will hopefully continue. As American agriculture and the technology around it continues to advance, it is important that we as a country share those new advancements with Haiti and other countries who are experiencing the same struggles. Although life for a rural Haitian family is far from materialistic, it has improved drastically over the last decade. Without the aid from non-profit organizations, it is hard to say what Haiti would look like now. Unfortunately, the natural disasters and crazy weather pattern that tend to slow down Haiti's progress can't be prevented. As life continues to improve for Haitians, they can continue to prepare for natural disasters and potentially weaken their effect on the country as a whole. Now that the government is onboard in pushing for a better education system, I believe that the country is on the right path to sustainability. Within a couple of years, I am hopeful that Haiti uses chickens and eggs to their full potential in fighting hunger. As for now, I will continue to advocate for the incredible, edible, egg.

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