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Haiti, Factor 11: Malnutrition

### **Haiti and the Malnutrition Crisis**

Around the globe, food security is a constant threat, and malnutrition rates are persistently rising in children and adults alike. There are many factors influencing malnutrition including climate, soil degradation, population changes, weather patterns, and corrupt governments. In countries such as Haiti, these factors are a major problem hindering the security and production of food. Even though there has been some effort to reduce and mitigate the malnutrition crisis, Haitians have a long journey ahead of them to make significant progress. By utilizing sustainable urban farming and implementing best management practices, Haiti can increase its harvest and effectively feed its population.

In Central America, Haiti, also known officially as Repiblik Dayti - République d'Haïti (One World, n.d.), rests alongside its bordering neighbor to the east, the Dominican Republic. These two countries make up an island in the tropics of the Caribbean Sea, formally known as Hispaniola. Haiti is a Republic government, meaning the power is held by the people. According to the World Population Review, the population of Haiti is approximately 11.5 million, with a density of 1,075 people occupying a square mile. This statistic brings Haiti to hold 17th place as being the most densely populated country in the world. With such a high density, Haiti struggles to provide nutritious food along with a well-balanced diet to its citizens. The World Population Review projects Haiti's population to grow to its height by 2070 and reach 15.7 million (World Population Review, 2021). The average life expectancy is 65.61 years at birth (CIA Factbook, 2021).

The average temperature of Haiti ranges from 72°F to 95°F year-round with July reaching the country's highest temperatures seen throughout the year and January hitting the lowest (Weather Atlas, 2020). Temperatures in this high range create difficulties when trying to produce healthy crops. As a result of its tropical nature, Haiti is threatened by hurricanes and earthquakes which are detrimental to the country's agricultural efforts to grow nutritious food as well as the destruction of homes. Excluding hurricane season, which occurs June through November, 2 to 9 inches of rain falls yearly, compared to an average of 40 inches of rain fall yearly in Pennsylvania, United States.

Currently, Haiti is the 4th hungriest country in the world (Concern Worldwide U.S., 2020) and around 50% of the population is undernourished. Malnutrition and food security in Haiti is concerning, especially for children, who will suffer consequences for the rest of their lives like weakened immune systems, physical and mental underdevelopment, and growth stunting. Statistics show 1 in 5 children go hungry every day and 1 in 14 children will die due to lack of important nutrients before they turn 5 (Haiti Outreach, n.d.).

The average Haitian lives on approximately \$2.00 per day (The World Bank, 2020) and has an annual income of \$350.00 (Haiti Outreach, n.d.). In Haiti, the average family size is 4.3 (Population Reference Bureau, 2020) with a man-to-woman ratio of 0.98 (Embassy of the Republic of Haiti, n.d.). Most Haitian families live in a house made of cement blocks, located on a small parcel of property, most likely inherited from a family member. Due to the scarcity of money, the land is rarely purchased from owner to owner. Day to day, the average family eats only one meal, cooked over a charcoal fire or boiled in a large kettle. Usually, the meals eaten by Haitians consist of the same ingredients every day such as cornmeal, rice, beans, and sometimes vegetable stew. A favorite dish loved by the Haitians is fried plantains, a fruit much like bananas. Mangos are also eaten during their ripening period which ranges from April to June. (Produce Market Guide, n.d.).

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Although it may seem like Haitians are receiving a healthy, nutritious meal, they are not consuming some important nutrients including vitamin A, iron, and protein in their diets. These missing nutrients are a vital part of staying healthy and nourished. Moreover, rather than consume three meals per day, most Haitians eat only once every day, not receiving the correct serving sizes recommended by food nutritionists.

Small farms owned by most families represent the agriculture sector of Haiti, with over half of the workforce in agriculture (International Fund for Agriculture Development, n.d.). They are usually located on land that was bought or rented by the farmer some distance away from where they live. The most common crops grown by Haitians are carrots, onions, beans, sweet potatoes, plantains, cabbage, rice, corn, okra, and manioc. Farm animals like goats, hogs, chickens, and cows are raised and used for meat resources.

Unfortunately, these farm animals, similar to the Haitian people, are also malnourished from lack of feed sources and overcrowding. Influences including weather and the absence of irrigation play large roles in the poor and low production of crops such as hay and grain which are products fed to livestock, leading to poor quality and little quantity of meat. Overcrowding of animals leads to the spread of disease which lowers the number of available livestock. The abundance of livestock in such a close living environment cannot be sustained. In the end, there is never enough supply to feed livestock and in turn, not enough livestock to supply a meat protein source to the Haitians.

Even though most families in Haiti have a farm, it is a constant struggle to keep up with and adapt to the many factors that bear hardship for the farmer. The first factor that greatly affects the growing season is dramatic changes presented by weather, from raging hurricanes and tropical storms that promote flooding to droughts that kill off most crops being grown, to earthquakes that prioritize money and time. After the crops are harvested, there is a lack of storage facilities to keep food cool enough until the next season. Another major factor in food production is the fiscal deficit of each family. The purchase of land to plant on, seeds to sow, and tools to till the ground take up a substantial amount of money that can only be spared once. If the first harvest does not prove successful, there is not enough funding to try a second time. Furthermore, the lack of new technology in the agriculture field decreases harvest yields brought by farmers. Also, there is currently no irrigation system to supply plants with water, a necessity to raise the proper amount of food. The maturity of plants relies solely on rain as a source of water.

Crops that survive through the year to the harvest season are taken by horseback or another means of transportation to the closest market which can be miles away. On most occasions, it is discouraging to farmers that travel far distances to sell their crops and produce because they lose product to bandits who block roadways. On occasion, a farmer's wife will sell her family's harvest alongside the road so there is no risk involved with traveling.

Haitians do not have much money on which to live. Taking this into consideration, some expenses lessening available funds from buying food or resources to grow food is school tuition and health care. Concerning tuition, children are not required to attend school and, in most cases, the family does not have sufficient funds that allow a formal education for the younger generation of Haiti. There are, however, a select few schools that have no tuition fees, but the parents would still have to accumulate the things

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needed for their child to attend such as books, school supplies, and a uniform. Transportation is yet another expense for the family. Sometimes, it costs more to get to school than it does for tuition.

Haiti's health care is quite different from that of the United States. Primary care, which is most readily available, is in the form of small, scattered clinics. While there are hospitals, the majority of them are located in and around metropolitan areas such as Port-au-Prince, the country's capital. At a hospital, a patient is not provided with much assistance, at most, a doctor or nurse to tend to health concerns. The patient must supply themselves with essentials needed during the duration of their stay such as bedding to sleep on, a cook to make one's meals, and a form of transportation to obtain their medication. While hospitals are known for providing care to the sick, in Haiti they draw crowds that gather there for the social aspect.

Today, approximately 9% of the world's population is going hungry and that number continues to rise daily (Action Against Hunger, n.d.). Countries included in this percentage are food insecure and their citizens are suffering from malnutrition. According to the World Health Organization, malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. It can occur when a person is overweight or underweight. Causes of malnutrition range from lack of affordable food to lack of food with nutritional value. Many consequences arise when a population suffers from malnutrition. These can include anemia, stunted growth in children, heart disease, and other severe health problems (Healthline, 2018).

The people of Haiti are underweight and thus suffer from malnutrition. Many factors influence undernourishment including natural disasters such as earthquakes and hurricanes. These severe weather conditions wipe out food sources and create difficulties when starting to raise crops again. The arising political conflict is creating lockdowns around the country and the inability for families to access food on a day-to-day basis. A lack of clean water and good hygiene also play a significant role in the effectiveness and absorption of nutrients, especially for children. The productivity of agriculture is also poor, adding to the poverty level. In addition, the COVID-19 pandemic has brought a greater burden to Haiti, making it harder for families to receive funding and food.

There is a lot of work needed to improve nutrition and hunger in Haiti. One way to accomplish this need is by utilizing best management practices (BMP) that improve agriculture productivity. Since agriculture is a major part of Haiti's employment as well as its main food source, farmers need to produce a high yield. Not only does the harvest need to be abundant, but there must also be nutritional value in the consumed products, which comes back to how that product was grown, especially concerning livestock. Another way to improve malnutrition rates consists of educating the locals on self-sufficiency and how to be sustainable. This will help many become more stable in terms of food security as well as produce healthy, nutritious food.

An idea to improve nutrition in Haiti is to start a group of agriculturists, agronomists, soil scientists, and others who are knowledgeable about BMP that will help promote healthy, nutritious, and sustainable crops as well as have an interest in making a difference in our world. This team would identify major problems in the food chain, address ongoing barriers, and bring new, innovative ideas to the table. This group would also partner with humanitarian organizations who are in Haiti working towards an end goal – reducing malnutrition in Haiti. The team could also start a grassroots group of Haitians who have been

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trained in BMP which will significantly help the cause. The Haitians can then take it a step further and educate their family and friends around them.

One issue that needs to be addressed through a BMP is the erosion of soil at a rapid rate caused by deforestation. Starting with the intention of using more land for a growing population in need of food, deforestation expanded to the use of trees for fuel by way of charcoal. Now, with the continuation of deforestation, the land is in dire stress, losing nutrients that influence the healthiness of harvests since trees and their roots are not holding the soil together. One way to prevent soil erosion is by using a BMP technique called “no-till farming”. No-till farming has positively impacted farmers in the United States, reducing the amount of soil displaced during the planting of crops, and therefore, decreasing the amount of soil that will run off the surface and stopping the breakdown and loss of vital micronutrients and elements kept in the soil, essentials plants use for a successful production. The crops would benefit from the renewal of nutrients, growing healthier and more bountiful while producing nutritious foods and a greater harvest for Haitians. This practice could be implemented in Haiti to reduce dust in the air and prevent the erosion of soil.

Plants in Haiti rely on rain to grow, therefore, keeping moisture in the ground is an important practice for healthy crops. To keep as much moisture in the ground as possible, another BMP can be used such as planting two crops together, for example, corn and beans. By planting two crops at once in the same area, there are two food sources grown and the lower growing crop will aid in keeping the soil as moist as possible. Also, certain types of crops can be grown faster, such as corn, which can produce ears in as little as 90 days. Growing crops that mature at a quicker rate allows for a faster harvest, getting more nutrients into the Haitians sooner, rather than during the traditional harvest season when most crops are ready to be eaten.

Rotating crops and livestock, called rotational grazing, is a BMP and an eco-friendly way to keep nutrients used by crops in the ground. During the first year, roaming livestock will put nutrients in the soil as well as naturally fertilize and add compost to the ground. The next year, crops can grow in the same field where the livestock was previously. Along these lines, after harvesting crops, these fields can be used as a pasture for livestock, using the leftovers and human inedible part of plants for animal feed, keeping in mind that livestock feed is scarce in the first place. And the cycle will keep going. Rotational grazing would potentially keep livestock out of residential areas, creating a cleaner living environment, and assist in replenishing soil nutrients to create healthy, nutritious food.

There is no irrigation system in Haiti and plants rely on rainfall for their water source. This results in the low productivity of plants. With potable water already scarce, irrigating plants with clean water is not an option. However, there are possible solutions. Hydroponics is a system that uses water to grow plants without the use of soil. Under the right circumstances, a hydroponic garden could be maintained, filtering water for the intention of human consumption or use while growing healthy plants, concurrently. Grants could be awarded to communities across Haiti for the initial set up costs, water can be filtered, and plants can be grown. Raising and consuming healthy plants will benefit humans by providing them with the right nutrients to grow and remain strong and healthy, which in turn builds a better, stronger community.

Another solution to malnutrition is creating a way to keep food during the off-growing season. Haitians have no way of keeping food cool enough to prevent it from rotting since the weather is usually hot. A

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solution is needed that would give each family a way to store food in a cool place without using electricity, an uncommon utility in Haiti. In the United States, root cellars are widely used to keep food such as potatoes and apples edible. In addition to food preservation for future consumption, this could be a possible solution for Haitians to have food on hand year-round. The majority of soil in Haiti is either fine clay or silty loam, both of which are suitable for root cellar construction. However, these soil types require deeper root cellars in order to sustain a cooler temperature for produce storage. Construction and maintenance of these cellars require funding which may act as a financial barrier to the average Haitian family.

The future status of malnutrition in Haiti is starting to look brighter. Many humanitarian organizations are flowing in to assist the current situation by providing meals with high nutritional value, especially to children, working with pregnant women to prepare for their new child's health, preparing Haitians for natural disasters, and addressing anemia in youth.

Haiti's constant threat to food security is overwhelming and burdensome. As a growing population demands more food, trees are being cut, the land is becoming overpopulated, and poverty and malnutrition rates will rise. Many influences affect the seemingly never-ending malnutrition crisis. Many efforts are being done to help Haitians in their fight against hunger, but the fight is not over. With new, revolutionary technology being created daily and passion stemming from humanitarian groups across the world, change can be made. One way to help the malnutrition crisis in Haiti is through educating its citizens about implementing best management practices and working with families to understand concepts of better and sustainable food production while creating self-sufficiency.

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