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Haiti, Factor 5 Climate Volatility

Haiti is a country in the Caribbean that is slightly smaller than the state of Maryland, located in the United States of America. It covers around 27,750 square kilometers and borders only one other country, the Dominican Republic. Creole and French are the most common languages. There are five mountain ranges which cover 75% of Haiti's entire land surface. (Pike, Military) These are considered some great tourists attractions for beautiful sightseeing. However, for as breath-taking of a landmass the country is, the food situation is definitely not the prettiest. It is very common that children and adults alike throughout Haiti do not receive the proper nutrition or calories they need a day. A large issue is that the country is often not prepared for the extreme weather conditions because of the seemingly endless pool of poverty Haiti floats in.

Many of the rivers and streams arise in the mountains. Their flow depends on rainfall and ranges from overflowing to totally dry. Flash flooding during rains is a big hazard, especially to farmers. Hurricanes with large amounts of rain and destructive wind are a threat in the late summer and fall. An average of up to 8 hurricanes a year strike the Caribbean region between July and November, their common storm season. There, the land set aside for agriculture makes up roughly 66% of the land total human-inhabited land. Of this percent, 38% of this land is arable, 10% are made up of permanent crops, and 18% is permanent pasture. Deforestation has left Haiti made up of only 3.6% forest. Urban areas and others make up the final 30% of space. This means that (Central Intelligence Agency, 2017)

The capital of Haiti is Port-au-Prince With a population of an estimated 10,000 people, Haiti has an estimated density of around 400 people per square kilometer (Central Intelligence Agency, 2017). Columbus stumbled across the country in 1492, with this brought many new diseases and issues to Haiti's ground. Most of the citizens were killed by disease, executed, or enslaved. When many think of Haiti, they often associate it with poverty and devastation. It is relatively easy for one to connect a country of desolation to the Haitians, due to the common misconceptions presented by the media. It seems as if every time the country undergoes a recovery, they are stricken with something of more intense ruin.

The climate of Haiti is generally hot and humid. Despite this, Haiti also experiences a dramatic dry season. This common variation often affects the success of harvests and crop growth. Only about one-fourth of the entire population of Haiti has accessible safe water. Making water for people, rather than crops, a common priority. So not only are the Haitians hungry, but they are commonly thirsty. (Pike, Military)

Food insecurity is when a person is unable to obtain a sufficient amount of healthy food on a day-to-day basis. Haiti is extremely food insecure. A common cause of this is the weather and extreme climate that seems to hit the nation the hardest. What many people do not know, is beyond the physical damage left behind by the severe climate and conditions of the country. The key to understanding the depth of the effects the constant destruction has on it's people, is having a better comprehension of the citizens and the conditions in which they live.

The ongoing chain of climate crises has left Haiti and its people in the dust. They are hungry, homeless, abandoned, and worse. Between rattling earthquakes, and catastrophic hurricanes, Haitians have seen it all. With a poverty rate of 77%, Haiti, as of 2015, is considered one of the poorest countries on Earth. The majority of those affected by poverty live on less than two dollars a day (Karen Fragala Smith, 2010). There is a common scarcity of electricity, water, sanitation, medical care, and especially food. After a major earthquake in 2010, and Hurricane Matthew just last year, matters for the citizens of Haiti have progressively worsened.

A common cause of Haiti's severe poverty today was induced by the historical revolution. The Haitian Revolution began after Haitians had been enslaved for years by the oppressive French and finally revoked against their enslavers. Haiti had gained its independence in January of 1804, after a series of conflicts between the then slaves and the French. It began in 1791 and went on until 1804, it is considered to be the largest and most successful slave rebellion of all time. With Haiti being the first country to have ever been founded by former slaves, During the brutal enslavement of the Haitians, Haiti was the most successful producer for France. France had many colonies in the Caribbean which aided in the production of agricultural products with many plantations of cotton, sugar, indigo, and coffee, all of which benefited the French economy (Exploring the Revolution, 2011). The significance of the slave revolt is that it was the only successful revolt in history. After over 300 years of slavery and oppression, not only was Haiti free from this vice, but the other colonies of France were as well.

Despite Haiti's independence from France, the country was left nearly shattered. The plantations were destroyed, along with the basis of all wealth, agriculture. The slave trade went hand and hand with the production of agricultural necessities. Free from France, they had to rebuild the economy and a sustainable food source. This would essentially signify that the Haitians were metaphorically dug into a growing whole without the aid of the French (The Borgen Project, 2016). After trying to recover from the hundreds of years of oppression by their enslavers, Haiti is often considered a country in the Americas that did not experience much of the industrial revolution. The significance of this is that Haiti would not be part of the magnanimous "boom" in both agricultural and manufactured products as the other countries had encountered. This impacted their future in both trade and production, and would have an effect on the economy for years to come.(Post-Revolutionary Period, 2009)

In Haiti, 60% of the people live on less than a dollar a day. With this, the country is the third hungriest in the world. The majority of children do not attend school and are often orphaned. In Haiti, the literacy rate is 52.9% while as, in the USA, it is 99%. This has a large impact on why Haiti just can not simply fix their own poverty. Without the proper education, children grow up to find it extremely difficult to find employment in a country so impoverished. Less than half of the population is literate due to the lack of education the children do not receive. Therefore, the poverty rate has managed to get progressively worse as the population goes up and the number of people with jobs does not grow or declines. Along with this, only about one child out of every five of secondary-school age actually attends. (Snowbarger, 2013)This means that the majority of Haitian children grow up to become unemployed, which is a cycle that continues for generations on end.

Health conditions are also extremely poor; only about one-fourth of the children are vaccinated, compared to the United States that has a vaccination rate of 95%. Similarly, Haiti has 1 doctor per about every 9,846 people. While as in the United States, this ratio of doctor per person is 1 to 365. It was also found that there is on average only 1.5 hospital beds per every 1000 people in Haiti. With education on the line, growing up in Haiti to become a doctor is unlikely(Central Intelligence Agency, 2017).

Only about one-fourth of the entire Haiti population has access to safe water. After gaining their independence in 1804, Haiti was required to pay tremendous amounts of damage. The natural disasters and environmental factors continued to be destructive as Haiti attempted to redeem itself. Today, only about 25% of the people in Haiti have access to a definite water source. This means that the majority of the population are living in extremely impoverished conditions. With an astonishing lack of resources, the rural areas often used for the production of agricultural necessities receive about one-fifth of the these. Two-thirds of Haiti's population are recorded to live in these rural areas, making it an unbalanced system of producers and consumers. (Poverty Analysis, 2015) This contributes to the impoverished conditions of Haiti and continues to cause complications in the overall food supply.

Despite the shortage of resources given to the rural areas of Haiti due to the extreme poverty, agriculture still makes up for 50% of the employment. Yet they still do not produce enough food to

supply the growing population. As climate crises strike Haiti, they face deeper problems in the food supply. Often times, it is crops and forests that take the blow. Forests played a large role in Haiti's history of weather disasters, they absorbed the majority of impact during large storms and earthquakes. However, as more forests are being destroyed by environmental factors and deforestation, it is the hungry Haiti's food supply that is next in the reign of destruction.

Haiti is not equipped with the breakthrough technology introduced during the Industrial Revolution, therefore they struggle to protect against these crises and face the consequences of insufficient resources. (Central Intelligence Agency, 2017) Perhaps if Haiti was supplied with the proper attire to protect against and address the inconvenient natural disasters that recur consistently in the country, they would be able to tackle the poverty status and food insufficiency that has gone on for entirely too long. The growing population of Haiti will rely on the precautions taken now to help build the food supply to progressively make fewer people hungry.

According to the World Food Program, Haiti is the country that is third most affected by extreme weather crises. In 2015, Haiti happened to have endured its third consecutive year of drought exacerbated by the rare El Niño phenomenon. An Emergency Food Security Assessment was released in February 2016 and found that 3.6 million Haitians were facing food insecurity, and among them, more than 1.5 million were severely food-insecure, and struggle for food every day. (WFP, Haiti)

The typical rural Haitian family has a higher average number of children than urban families. Many children raised on farms work as servants and do not receive a sufficient education. Annually, the general citizen makes only about \$700 a year. (Poverty Analysis, 2015) The average Haitian farm is very small, being only around two acres of land. Many Haitian citizens are lucky to consume 1,000 calories a day, and have a diet that consists of primarily what is grown at home or what they have traded. Homes for the residents of this country are undersized, homes that consist of only one room with either a thatched roof made of sticks and dried mud, or flimsy tiny. It is implied that these houses are not enough to sustain the hurricanes, earthquakes, and destructive storms that frequently run through Haiti. It is also estimated that around 90% of these homes do not have electricity. The majority of a family's income is spent on food. (World Food Program, Haiti)

Haiti is very well-known for its extreme weather and climate. According to, "The destruction Tropical Storm Isaac and 'Superstorm Sandy' left behind in 2012 meant combined agricultural losses totaling \$174 million." It almost seems as if the majority of Haiti spends its time attempting to recover from these losses. Along with extreme storms, there are other common difficulties farmers must face as well. (Weather Underground, Haiti) This includes soil erosion, which can be devastating during the harvest season. The food insecurity worsens with the growing population, struggling economy, and erratic weather. In 2016, Hurricane Matthew swept through southern Haiti and devastated thousands, leaving at least eight hundred people dead, and even more homeless and hungry.

Hurricanes generally hit the food supply extremely hard. Many farmers find themselves struggling to produce after such a devastation strikes (New York Times, 2016). The New York Times claims that Hurricane Matthew in October of 2016 destroyed farmland, homes, and the lives of countless people. More than 20,000 houses faced destruction, and 800 people lost their lives. People lost their homes, livestock, and possessions. One street vendor sold food on the side of a road after the storm to try and give some sort of aid.

In 2010, Haiti was rattled by an earthquake that caused extreme damage to the country. Weeks went by before any relief reached the rural areas (Pallardy, 2016) International supplies and aid were simply not enough. Hundreds of people were found trapped or killed. Most rural families were isolated from the rest of the world at this point. The earthquake hit at 4:53 pm some 15 miles (25 km) southwest of the Haitian capital of Port-au-Prince. The initial shock registered a magnitude of 7.0 and was soon followed by two aftershocks of magnitudes 5.9 and 5.5. This caused devastation everywhere, especially in Haiti's farmland.

Why does Haiti suffer a seemingly disproportionate number of natural disasters? Some believe that the answer in the large part is, these are not only the natural disasters causing issues but they are also human-caused catastrophes. Haiti is the poorest nation in the Western Hemisphere, almost the poorest in the world. Since a regular amount of oil is often times too expensive for the poverty ridden country, charcoal from burnt trees has provided 85% or more of the energy in Haiti for many years. This means they relied on deforestation for their energy to produce. As a result of this, the millions of impoverished people in Haiti have relentlessly hunted and chopped down extremely large amounts of forest, leaving eroded mountains that rainwater washes down. (Weather Underground, Haiti) These forests helped to protect against the dangers of hurricanes and heavy rainfall. However, due to the recent deforestation over the past decades, this is not the case.

A common problem is water flooding in inconvenient areas, or the weather erosion changing the conditions of the farmland. So as the production of energy speeds up, food production hits a decline. The agriculture industry is often times heavily dependent on the environment to be successful. Common discrepancies such as flooding, water shortages, hurricanes, earthquakes, and more take a huge toll on the success of farms. Without the protection of the trees and forests that were extensive throughout the country, there is nothing else to take the impact besides rural areas where the trees were many times stripped. Food and farms are constantly being destroyed by the constant unpredictable weather.(Weather Underground, Haiti)

Agriculture is heavily impacted by the climate. Temperature, carbon dioxide, nutritional, soil moisture, and water needs all come into places hen having just a single successful yield. More extreme temperature and precipitation can prevent crops from growing. Extreme events, especially floods and droughts, can harm crops and reduce yields. Most field crops are dependent solely upon weather to provide life-sustaining water and energy. Livestock is also dependent upon weather for their comfort and food supplies. Proper conditions are essential during critical growing stages.(EPA, 2016)

Climate is defined as the weather conditions prevailing in an area in general or over a long period. Volatility is the liability to change rapidly and unpredictably, especially for the worse. This defines climate volatility as the common unpredictable change in weather particularly in an unfavorable way. Haiti is often negatively impacted by it's climate volatility. Along with this, there is no real solution that could properly insure a crisis from never reoccurring.(EPA, 2016) Therefore, it is significant that the citizens of Haiti are prepared for what hits them next, and could sustain agriculture, as well as their own lives.

Many of the planters of Haiti have a difficult time building a strong reliable place for successful harvest due to the unpredictable climate. Considering that the vast majority of Haitian farmers are in deep poverty, they are not properly equipped to protect their homes and farms from the damage that the country commonly faces. The two familiar disasters of climate volatility and poverty go hand and hand. Therefore it is essential that Haiti receives aid to attempt to come up with a plan on enduring the extreme weather. Some see the solution as simple as hiring more people to fill the jobs in agriculture. (The New York Times, 2016) Therefore there will be an increase food production and aid in poverty. This could help structure Haiti's economy so that farmers could afford t face the weather crises in the future. Since the weather is not necessarily something that can be altered, Haiti must be able to work around the weather and build up towards a brighter future.

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