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## Hunting Hunger in Haiti Through RUTFs, Healthcare, and Security

Haiti, officially known as the Republic of Haiti, is located on the island Hispaniola along with the Dominican Republic to its east. Haiti has a population of approximately 11 million people distributed fairly evenly but mainly concentrated in coastal areas. It also has a total area of 27,750 square kilometers which includes 27,560 square kilometers of land and 190 square kilometers of water (Central Intelligence Agency, 2020). Haiti's climate is mainly tropical but is partially dry where mountains restrict wind from blowing freely. Haiti's mountain soil is very thin and infertile. (Britannica, 2018). The soil in the plains and valleys is fertile but largely over cultivated due to a high population density. It is the second country in the Americas to declare independence from Spanish colonial rule. Over time, however, social, political, and economic issues have led to chronic poverty. Furthermore, on January 12, 2010, a massive earthquake devastated most of the country. The earthquake was even felt in Venezuela and Cuba and was measured at a catastrophic 7.0 on the Richter scale. Worst of all, the epicenter of the earthquake was only 16 miles away from the country's capital, Port-au-Prince. All of Port-au-Prince's hospitals were destroyed and the airports and seaports were rendered useless. The Haitian government reported that 316,000 people perished and approximately 1 million people lost their homes (History, 2011). Although the Dominican Red Cross assisted in the rehabilitation of the capital, the demolished infrastructure made recovery nearly impossible. Over 1 million people still lived in tents. Furthermore, a cholera outbreak in October caused the death of 3,300 more Haitians.

Urban families in Haiti may have 3-4 children, but those in rural areas may have 10 or more. The extended family is common and grandparents usually act as parents in place of absent or working mothers and fathers. Adult children are expected to remain at home until marriage. After marriage, children live with their spouse's parents until they are able to purchase their own home. In urban families, the father is usually considered the leader of the home and is expected to earn for the family. Mothers take the responsibility of cooking, cleaning, and taking care of the children. Middle class urban families hire someone to cook, clean, and take care of the other household responsibilities. Though the men earn the money and work, the women are usually the ones who handle the household's money. In single mother households, the oldest child is expected to earn money for the family. Domestic violence against women is common, unfortunately, and some of Haiti's laws discriminate against women. Wives who murder their husbands face exponentially worse punishments than husbands who kill their wives. (Brice Foundation, 2013). Haitians usually eat rice and beans and spicy dishes are most often consumed. Piman zwazo (small pimento chilis) and garlic are added to most dishes to add more spice. Chicken and pork are the most consumed meats and Haiti is especially known for its freshly squeezed juices.

Haiti's school system is the same as the French model. Haitian children, if their parents can afford it, attend kindergarten, 6 years of primary school, and 7 years of secondary school. There are situations where students in poorer families do not attend secondary school and go straight to working after

finishing primary school. Usually, schools lack a large amount of qualified teachers and the essential supplies necessary for learning are rare. Education is very important to Haitians, but it is unaffordable for many families. A small number of schools are public and most children end up going to private schools with high tuition fees. Also, many Haitians live in houses with only one room and do not have running water. The restrooms are often located outside of the house and the earthquake caused many Haitians to

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live in tents and outhouses. The lack of hygiene led to a massive cholera outbreak after the earthquake. Hospitals do not provide adequate assistance to most mothers and children. Haiti has an agricultural economy and is a large exporter of cocoa, bananas, and mangoes. In 1987, approximately 66% of the country's workforce was employed in the agricultural market and contributed to 35% of the gross domestic product. (World Atlas, 2019). Even these numbers are considered low compared to previous years.

However, over the years, the role of agriculture in Haiti's economy has diminished largely. A number of components seem to explain this: outmoded agricultural practices, movement from rural to urban areas, infrastructure that is not strong enough, and an increasing number of livestock. (Food and Agriculture Organization, 2002). One more reason seems to be the main cause: the earthquake. After it struck Haiti, 10% of the county's GDP was dedicated to health. (Britannica, 2019). A 32-year-old mother of three named Elmode Augustin was working as a maid before rubble buried her underneath the third floor. She still experiences pain from serious injuries that were caused by the accident and cannot afford any care. Furthermore, in 1989, the percentage of the budget that was given to the Ministry of Agriculture decreased to about 5%. Coffee has always been the leading cash crop of Haiti, but decreased significantly after the country gained independence from Spain. Due to this, Haiti has one of the highest levels of food insecurity in the world (World Food Programme, 2019). More than 1 in 3 people are left hungry and without any source of food. Things are really bad in urban areas that are located close to the capital. A single mother named Mickerlange Noisy says that she cannot go to the market to buy or sell rice without encountering a gang of robbers with guns. People resort to whatever they can in order to earn money for their family and keep them eating. 55% of the Haitian population lives below the poverty line.

Haiti's fishing zones are endangered. Also, not much of the land in Haiti is suitable for cultivation, but a lot of the land is being used. Because Haiti has a vast number of mountains, soil erosion is prevalent. Many farmers actually plant subsistence crops such as cassava, bananas, plantains, yams, sweet potatoes, and rice. These crops are sold through intermediaries and merchant houses (Britannica, 2020). The trends seem to continue to worsen in Haiti, especially because of the large impact COVID-19 has had on the country. Children seem to be the most affected by food insecurity. However, there have been solutions that have already been implemented to help alleviate the situation and to bring more food security into Haiti. For example, Hands Up for Haiti is a nonprofit organization that aims to assuage nutrition issues in three different ways: a supplement called Medika Mamba, educational programs that teach locals how to grow enough food to provide for their families, and professionally trained medics that know about malnutrition related illnesses and how to treat them (Borgen Project, 2019). A huge disadvantage is the

lack of knowledge and awareness that has been spread about the malnutrition issue and what can possibly be done to help. One of the biggest solutions or at least ways to help the situation is by advocating about how the situation continues to worsen without awareness and without help. Organizations like UNICEF have been talking more about the situation recently and more ideas seem to be working. Another organization that is currently working to spread more awareness on issues such as climate justice, human rights, and movement building is called Grassroots International. They have also recently launched a program dedicated to food sovereignty in Haiti to ensure that all people can decide what they eat and ensure that food in their community is ecologically, socially, economically, and culturally appropriate (Grassroots International, 2020). They could also launch a program that ties in with this one dedicated to advocating about the effects of malnutrition in children and adults. The International Rescue Committee, which has recently jumped into action during the devastating explosion in Beirut would work alongside doctors and other healthcare workers to provide more assistance and aid in terms of medical equipment in Haiti.

Another solution that has been implemented in other poverty-stricken countries is RUTFs. These are Ready-to-Use Therapeutic Foods. They have been developed in the form of nut based pastes and cookies. Most importantly, they are highly nutritious and can keep children full for a long time. They are also healthier alternatives to other food solutions that may not be as good for children in the long run. They do not need to be refrigerated and will not spoil for a long time. Water does not have to be added and heat does not have to be a source of cooking. Since they are filling, it is difficult to overeat them and even a small amount of them can keep hunger at a minimum. They have resulted in a 90-95% recovery rate of severely malnourished children while encouraging recovery at a faster rate (Greater Good, 2020). The most common RUTFs are made of sugar, dried skimmed milk, oil, and vitamin and mineral supplements. Another common ingredient seems to be peanut butter and other nuts. The main brand of RUTFs being used currently is known as "Plumpy Nut." It is peanut butter based, high in nutritional value, and does not cost much to be manufactured. However, nut allergies can be an issue for children. An alternative to the nut based RUTFs are the ones that consist mainly of powdered milk. Having both around can be a good source of nutrition for children and can help provide solutions that are targeted specifically at the community they are introduced to help. Both are also easy to eat and do not require spoons or any type of utensils that may not be possible to find in rural areas. They also do not require clean water to be added to the dry mix and rather use the same concept as chocolate spreads such as Nutella. Dr. André Briend, a French physician with a PhD in nutrition came up with this idea. He explained, "I had the idea by looking at a jar of chocolate spread when I noticed that the balance between proteins, energy and lipids were more or less the same in this chocolate spread as in the diet recommended by WHO. So, then it came to change...the recipe...by replacing part of the dry skim milk with peanut butter and getting something that the child could eat directly without the addition of water." (Harvard Medical School, 2011). Meds and Food for Kids (MFK), is a social benefit enterprise that works on lowering malnutrition rates in Haiti and was founded in 2003 by Dr. Patricia Wolff. They aim to develop, produce, and distribute RUTFs in Haiti. They make their food products using Haitian workers and have already saved 435,000 children and trained 2,403 farmers in making their own food. They could be aided by the UN's high level task force on

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global food and nutrition security to expand their distribution and manufacturing sectors.

Something that is also very important in these kinds of situations is the amount of medical personnel and attention that malnourished adults and children need. A lot of children in Haiti have serious issues such as tuberculosis and HIV/AIDS because of malnutrition that go undiagnosed due to the lack of medical attention. Medical professionals need to be stationed in rural villages and areas in order to take a look at people and make sure that they are getting the help that they need and to get them the help they need if not. More hospitals need to be built closer to rural areas and makeshift hospitals need to be created in the meantime. The World Health Organization ran a survey and inspection to make sure that primary care in Haiti that already existed was up to par. They found that "most facilities had fair overall quality of care and only 15 had good overall quality. Nearly half of the 786 primary care facilities offered good accessible care but only 4% (30) and 6% (42) ranked as good in terms of effective service delivery and primary care functions, respectively" (World Health Organization, 2017). It is imperative to bring better medical professionals and hygiene into these facilities because the main purpose is to make sure that people get assistance. What already exists is not effective enough and needs to be improved.

Furthermore, a report about gang violence in Port-au-Prince done by the United Nations in February of 2020 revealed that one of the country's most well-known gang leaders, Jimmy Cherizer was one of the main attackers and killed at least 3 people and injured 6 others. He was also a former police officer. Better police officers need to be stationed in Haiti to make sure that these kinds of things do not happen again

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and that mothers and children can go out into the markets and public areas without being attacked by gang members whose main intentions include violence and murder. Foreign intervention through the UN could help alleviate the threat of gangs. Approximately one-third of Haiti is under gang control. This is related to malnutrition and food insecurity because single mothers and even fathers are scared to go out and buy food for their children even if they can afford it since they fear getting shot and killed by gangs. This perpetuates the issue that is already flaring up rapidly. Mothers and families should not be threatened and should be given better security to ensure that they can get their family the necessary supplies to survive. The police in Haiti also can be corrupt as in the case of Jimmy Cherizer. This needs to be changed immediately. The UN should take action on those who are known to be dangerous and new personnel should be hired to give the country's inhabitants a fair chance at survival and true safety. They already have a group called MINUJUSTH which focuses on the institutional and professional development of the Haitian National Police (HNP). According to the United Nation's website, "MINUJUSTH has seven Formed Police Units with 980 officers from six countries - Bangladesh, Jordan, India, Nepal, Rwanda and Senegal. They are positioned in five regions of the country to safeguard the gains of the past years through operational support to the Haitian National Police." (UN Police, 2017). Backlash to the change and repositioning of Haiti's police system can be avoided with further advocacy. If more people found out about the violence and corruption of the system, people would be more accommodating to the changes. For example, Jessica Gervais is a mother who lost her baby, a four-month-old infant who was killed in a

gang ambush. If more people found out about the kind of innocent people that were losing their lives due to the corruption and gang violence in Haiti, the changes would not be feared as much and would slowly be embraced peacefully.

Education also needs to be provided to those families who engage in subsistence farming all on their own. A lot of farmers do not know how to produce the right amount of crops in the healthy way in order to provide their children with a good chance of survival. Another way that farmers can be assisted is by buying the peanuts needed to make RUTFs from the farmers, giving them a source of income and providing their kids with good nutrition. More programs need to be launched in Haiti to explain subsistence farming in depth and to show to farmers the harmful effects of overcultivation and how to avoid it. This is important because it can help bring awareness about the issue in Haiti while still providing a solution to those who need it. There only seem to be a few programs aimed at this right now and while making improvements to the situation, still need to be aided with more. According to their website, "The National Subsistence Agriculture Coalition (NSAC) works to reform and construct policies and programs that ensure opportunity and fairness for small and medium-sized family farms; promote agricultural practices that conserve our soil, water, wildlife habitat, and energy resources; increase the ability of beginning farmers to enter into farming encourage new and existing farmers to transition to sustainable and organic production practices; expand cutting-edge on-farm research and extension for sustainable agriculture, enable producer access to local and regional food systems; and increase consumer accessibility to sustainably produced foods." (National Sustainable Agriculture Coalition). They could be part of the effort trying to educate farmers in Haiti as well. The World Bank is also currently working to bring more awareness to subsistence farming and the need for more education in less prosperous countries. If these two organizations were able to work hand-in-hand, a lot more progress would be made in Haiti. Other countries have dealt with issues where farmers were not educated enough on how food should be distributed and have worked alongside organizations that help spread awareness and work with these farmers on site to teach them what each family should be receiving.

The last solution for the malnutrition issue in Haiti comes from natural disasters. The buildings in Haiti need to be made architecturally sound in case of earthquakes, hurricanes, and other life threatening disasters. The 2010 earthquake set off a chain reaction of malnutrition and hygiene issues in Haiti since

people resorted to sleeping in tents and other relatives' houses. Approximately 1.5 million adults and children were displaced and the issue is still not resolved. While the Haitian government did intensify their efforts to help their citizens, only a relatively small amount of children were truly assisted. According to the National Center for Biotechnology Information, "While the downward trend in childhood undernutrition in Haiti is encouraging, the overall prevalence of stunting remains high. Sustaining and accelerating the progress made so far will require concerted efforts that target direct and indirect causes of child stunting" (NCBI, 2013). The Infrastructure and Institutions Emergency Recovery Project (IIERP) was created after the earthquake to redesign Haiti's infrastructure to avoid future natural disasters. Furthermore, the IDA financed urgent actions to redesign the buildings as

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quickly as possible and to strengthen the reconstruction planning process for Port-au-Prince and surrounding affected areas and of public consultation mechanisms. (World Bank, 2019). People in the country should work together to advocate for better building safety. The more people talk about the issue, the more eyes get on it. Structural steel could be a good material for building strong buildings in less prosperous countries and Haiti is no different.

Overall, Haiti's malnutrition is the biggest issue in the country and is caused by a number of factors. Natural disasters, lack of education about agriculture, lack of education about subsistence farming, and the threat of gang violence. Malnutrition is killing children and adults in Haiti on an everyday basis, valuable people of society that can be helped and can be saved. The earthquake of 2010 had a grave impact on the country's society and millions of people were displaced. Malnutrition leaves kids at a huge disadvantage and a huge reason that they cannot lead normal lives. The lifespan of an average child in Haiti has dramatically decreased during the last few years and a lot more needs to be done in order to avoid this. Although there are programs that are reducing the amount of food insecurity and issues related to food in Haiti, most of them have been implemented very recently and therefore cannot do much alone. More people need to speak out and more corruption needs to be stopped so that Haitians can live lives with the necessary amount of food and supplies that keeps their families healthy. The poverty situation needs to be reduced and malnutrition will go along with it.

In more general areas, police need to be stationed correctly and the United Nations should get involved in any way that they can. More ready-to-eat foods that do not have to be heated and do not require refrigeration need to be implemented. It is imperative that the citizens of Haiti get what they need in order to lead healthy lives. Children need to receive better education overall and everyone should be able to graduate from secondary school before getting into work. Mothers and fathers should not be scared to give their children what is necessary, and there should not be a double standard for women. They should all be treated the same and higher authority should implement a better justice system so that those who commit heinous crimes and try to cover them up receive their much deserved punishment. Children should not be expected to earn the money in the household and should get the chance to live their childhoods happily and with enough food and water to keep them going. They should receive a proper amount of medical attention if necessary and should still be able to help their families.

These are just some of the issues that plague Haiti and some ways that stress and problems can be alleviated and even solved sometime soon. In the meantime, awareness seems to come at a heavy price. This should not be the case. People should speak out more about the issues in Haiti along with ways to help. The larger the amount of people who know about these issues, the larger the effort and more help and progress can be made.

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