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Liberia, Infrastructure

Liberia: How A Lack of Infrastructure Affects Food Security

Liberia is a small country located on the Atlantic coast of Africa with a population of 4.5 million. In recent years, Liberia has faced many difficulties, ranging from the end of a massive civil war in 2003 to a deadly Ebola virus outbreak in 2015. Currently, Liberia is facing a threat they have been dealing with for years, food insecurity. Currently, 720,000 people in Liberia are food insecure (“Liberia”). The food insecure only make up a small portion of the 3.9 million people who live under the poverty line of \$1.25 United States Dollar (USD) a day (World Food Programme).

A typical family in Liberia is made up of two parents and five children (“Our Students from Liberia”). Emmet Murphy, Kalli Erickson and Macon Tubman, authors of USAID Office of Food for Peace Food Security Desk Review For Liberia, 2016-2020, point out that a majority of Liberians, 67%, rely on agriculture to support themselves and that 71% of those families grow rice on their farms; these farms tend to be approximately 3 acres (Murphy, Erickson, Tubman). Rice is a staple food for Liberians. Unfortunately though, many Liberians do not eat enough of other foods because they do not have access to them. Murphy, Erickson and Tubman note that in the city of Monrovia only 2.19% of citizens lack diversity in their diets while 41% of people outside of Monrovia do not have dietary diversity. This lack of diversity is a problem because it often leads to malnutrition; being constantly malnourished is known to cause many problems, including growth delays. Sustaining this fact, Murphy, Erickson and Tubman point out that Liberian children under five have a height stunted by 31.6%.

In addition to their lack of food and diet diversity, Liberian children also suffer greatly from a lack of education. The literacy rate for Liberian youth is staggeringly low at 50.35% (UNICEF). For young women, the literacy rate is 37.2% and young men have a literacy rate of 63.5% (UNICEF). According to Saaim Naame, secretary general for the Association of Liberian Universities, “Less than half of 15- to 24-year-olds are literate, less than half of young children attend primary school, and about a third of children who start primary school do not finish”. Consequently, literacy rates in Liberia are low.

In Liberia, land is plentiful and more than enough rain falls to grow a sufficient amount of food to feed the entire country. Unfortunately, due to poor agricultural techniques and improper storage of harvested goods, Liberians are not able to fully take advantage of their land and the food it could provide. Farmers in Liberia are very reliant on the slash and burn method, also known as bush rotation (Murphy, Erickson, Tubman). The bush rotation system is a method of farming in which a plot of land is cleared in the forest, used for one season and abandoned for a new plot of land the next year. This practice is used most commonly in the tropical forest zone and, sadly, instead of the rainforest growing back in less than a year,

a thicket grows back instead (“West Africa: Land Use and Land Cover Dynamics.”). This method of farming is partially to blame for the 44% of Liberia that is covered in degraded forest. From 1975-2000, Liberia lost 3,000 square kilometers of forest cover and from 2000-2013, the tropical forest zone lost an additional 3,500 square kilometers. This degradation of tropical forest land has a lasting effect on the overall environment and biodiversity of Liberia.

As of right now, Murphy, Erickson and Tubman explain that Liberians lose 45% of their post-harvest crops to improper storage of the harvest. Many factors contribute to the loss including pests such as birds and groundhogs, humidity, no cold storage, bad handling, and “limited road infrastructure” (Murphy, Erickson, Tubman). Also, their “bulk storage facilities” are severely lacking which means that farmers lose all of the potential bargaining power they have with traders later on in the year (Murphy, Erickson, Tubman). The reason why bulk storage is so important is because the farmers are able to sell all of their produce at a competitive price in a large market all at once. Due to such high losses, farmers have learned to grow twice as much to accommodate for the losses they do not know how to prevent. Unfortunately, growing twice as much food is not enough to make up for the losses, and Liberia ends up importing 50-60% of all of its food (Murphy, Erickson, Tubman).

Farmers are also limited in where they are able to sell their product because their roads are in such poor conditions (Murphy, Erickson, Tubman). A poor road infrastructure has severely limited farmers by preventing them from moving to “valuable markets” and from reaching “improved inputs to increase production” (Murphy, Erickson, Tubman). During their rainy season, rural communities have a difficult time moving to more valuable markets, so farmers have to stay and sell locally. In this “local market,” they are not paid nearly as much for their produce as they would have in a bigger town/marketplace (Murphy, Erickson, Tubman). Additionally, Murphy, Erickson and Tubman point out that poor road infrastructure can also prevent some farmers from going into a market at all. Some farmers are forced to walk to the market because the roads can not support any other kind of travel, this can take as long as nine hours (Murphy, Erickson, Tubman). Travel for most is also very limited during the rainy season, which is unfortunate because the monsoon season is the time of year that farmers can get the most money for their product in large markets, but again, because of their poor roads farmers are forced to sell locally in their small market where their goods sell for much less (Murphy, Erickson, Tubman). These farmers and rural communities are some of the people who suffer the most from lack of food diversification. In addition to not being able to sell their goods in larger markets, these same rural farmers and their families have very few ways of reaching and purchasing other products in the market, limiting many to a diet of rice, cassava, and roots (Murphy, Erickson, Tubman).

The poor roads and lack of storage affect many Liberians. However, by utilizing the unemployed percent of the Liberian population, these problems could be lessened. Liberia has a low unemployment rate of only 4%, but a large percentage of the population (65%) is made up of youths, so the need for jobs is going to increase dramatically in the near future (“Liberia Unemployment Rate,” “Liberian President Says Youth Unemployment a Threat to Peace”). By creating a job training and employment program to repair the road infrastructure in Liberia and educating the farming population about proper techniques to

use for crop production and storage, Liberia could drastically reduce the eventual higher unemployment numbers, increase literacy rates, prevent post-production losses and improve their infrastructure. This program will be targeted towards illiterate young adult women who would receive a basic education, learn of sustainable agriculture practices, such as crop rotation, how to reduce post-harvest losses and how to repair roads. The participants in the program would begin their work with training. This training would instruct the participants on how to build new roads and the best methods to use in repairing older roads. After successfully completing their training, the participants would start repairing the most vital sections of roads in the communities closest to them, preferably the same community in which the work study program is based in. They would continue to work in the community until all important roads were useable. After completing repairs in the first location, the program would shift focus to the next community, which would be picked based off of location and the demand for better roads. If too many communities are in want of repair, an application process could be stated in order to assess need. After completing their work with the program, the participants would receive a quality education. The classes included in the program would consist of material required by the Ministry of Education and of classes that teach different kinds of farming and how to properly dry and store produce. The school should also be set up similarly to a successful school program that has been started in Liberia, the Liberia Education Advancement Program.

The two key reasons why a work study program would be successful in Liberia are due to the results of two programs, the Liberian Education Advancement Program (LEAP) and the Women Empowerment Through Entrepreneurship in Grande Cavalla Village that are currently being utilized in Liberia. LEAP and the Women Empowerment Through Entrepreneurship program are prime examples of how well Liberians embrace educational and skill-learning programs. With LEAP, 93 state schools were taken over by private school companies, while remaining property of the government, in order to find the best way to manage the public schools in Liberia (“Liberian Education Advancement Program”). These operators helped improve the schools by removing illiterate teachers, providing adequate supplies to students, restructuring the school day and limiting class room sizes (Liberia's Ambitious Education Policy). The results from this program were astonishing with Liberian students in LEAP schools scoring “0.18 standard deviations higher in English and 0.18 standard deviations higher in mathematics compared to students in regular public schools. This is the equivalent of 0.56 extra years of schooling for English and 0.66 extra years of schooling for math” (Can a Public-Private Partnership Improve Liberia's Schools?) With the Women's Empowerment Project “widows, single parents, and teenage mothers” were given the opportunity to take workshops in which they would learn valuable trades such as “natural tie dyeing, soap-making, raffia weaving, jewelry making, as well as coconut shell carving” (Women Empowerment Through Entrepreneurship In Grand Cavalla Village). The women were also trained in customer service, how to take money, write receipts, count change, and keep track of orders (Women Empowerment Through Entrepreneurship In Grand Cavalla Village). With a little bit of aid, the women of Grand Cavasa were given the opportunity to learn desperately needed skills to support themselves and their families. These women took those skills and thrived with them. With these two examples of how Liberians have been able to excel in classroom settings and in skill-building environments, a program combining the two would no doubt be met with positive feedback from Liberians and also be supported with positive outcomes of a better road infrastructure, lower unemployment rates and a much higher literacy rate.

Many groups are trying to help Liberia. Friends of Liberia is one such group that would be interested in supporting a work study program because of the education participants would receive and the fact that it focuses on young women; literacy and women's rights are two factors that Friends of Liberia cares deeply about (“Home Page”). Concern Worldwide is a charity who works to improve gender equality and literacy rates, could also provide funding for Liberia’s government to start a work study program (“What We Do”). Concern Worldwide also has a graduation program in which they work to graduate households in extreme poverty to “food security and sustainable livelihoods” through five key steps; comprehensive targeting, income support, technical and business skills training, coaching and mentoring, facilitating access to financial services and promoting saving and capital/asset transfer (What We Do). William V. S. Tubman University, the organization that supported Grand Cavalla Village with their Women's Empowerment Through Entrepreneurship project, is an other organization that could help with the work study program (Women Empowerment Through Entrepreneurship In Grand Cavalla Village).

While the main goal of this work study program would be to provide Liberians with the skills and knowledge on how to improve the road infrastructure and proper drying and food storage techniques, many other issues would also be covered. The opportunity to participate is given to both males and females, but the targeted demographic is females, which would aid in gender equality . This program would also touch on education by providing all Liberians that join an opportunity to learn how to read. This program could significantly improve the current literacy rate for both youth and adults who join. Through teaching about sustainable agriculture, Liberians would improve food insecurity through the use of sustainable agriculture. Due to the fact that 67% of families depend on agriculture to earn an income, it is highly probable that they will need this agricultural knowledge for themselves one day, and even if they do not personally, they will still have the information to teach to their communities (Murphy, Erickson, Tumban).

In conclusion, in order for Liberia to gain food security, their infrastructure must improve. Currently, a major barrier to many farmers is actually transporting their crops to a market where they can be sold at a reasonable price. Another barrier that Liberia faces is in post-production losses. The average Liberian farmer will lose up to half of his crops due to various factors including pests, poor handling, and poor storage facilities. Most farmers will grow twice as much as what they want so they can support their families, but in the end, Liberia imports 50-60% of their staple foods. These problems could be lessened greatly, if not eliminated, with an educational, hands on work study program. Liberians would receive a primary education and attend hands-on classes in order to learn how to build and maintain roads, along with how to reduce post-production losses. With this training, Liberians could not only grow almost all of their staple foods, they could also sell them in high-value markets as well, which could bring many people above the poverty line. With these programs, Liberia can strengthen its food security by improving their road networks, farming and food preservation techniques and increase the literacy rates in both adults and young adults.

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