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Burundi, Factor 11: Malnutrition

Burundi: The Road to Combatting Malnutrition

Burundi is noted as the African country with the highest population density, with about 246 individuals living per square kilometer ("10 Facts About Conflict & Hunger in Burundi"). Yet this country is also noted as, per 1993, one of the top 10 hungriest countries in not only Africa but the world. According to the World Food Programme, only 30% of the population is food secure, while the other 60% suffers from food insecurity ("Burundi | WFP | United Nations World Food Programme - Fighting Hunger Worldwide"). Many families must live on less than one dollar a day ("Burundi's Free Health Care Saves Lives, Faces Fight"). This profound hardship was greatly influenced by years of civil war. This war, resulting from dispute between the Hutu and Tutsi ethnic groups, not only displaced many civilians who were harmed by the continuous fighting, but also took weight on the economy. Goods were used up and production/importing ceased, schools, hospitals, and other important infrastructures were destroyed, and much of the land lost its fertility. The violence itself has thankfully settled, however, these consequences still remain. Agriculture is considered the "backbone" for Burundi's success, yet it is failing ("Agriculture and Food Security | Burundi | U.S. Agency for International Development"). The country produces only about 1,472 kilocalories a day, around 600 less than the recommended minimum requirement, and therefore struggles to support the growing population ("10 Facts About Conflict & Hunger in Burundi"). Within the past 23 years, agricultural productivity has decreased 24 percent (a little over 1 percent per year). However, the population is growing at about a 3% rate. With lack of food resources to support these people, malnutrition is a deadly threat and heightens profound problems with the country's health. While the birth rate may be considered high, the death rate continuously strikes as a substantive threat. With a population of approximately 10.7 million and an inability to even feed itself, it is easy to foresee upcoming results in Burundi. Burundi, as a result, is a country that needs not to be neglected.

The median fertility rate for an adult Burundian female is about 6, which means a Burundian mother on average can have around six dependent and hungry children she needs to feed. As agriculture is a major part in the economy, 90% of the population is dependent on this practice. Those working on farms harvest mostly coffee, bananas and livestock. A typical diet for a sustainable farmer's family consists of cassava, potatoes, bananas, maize, rice, and other carbohydrates, as these tend to be the only foods they can produce. However, meat is an extremely expensive good for most families, and therefore many individuals suffer from protein deficiencies. Non-cultivated foods must be purchased, but these prices often skyrocket. In one instance, the price for food rose from \$15 to \$30 within one week ("Food Has Become Too Expensive"). This may seem trivial, but on an income of only \$1 a day, the struggle to meet these prices is extremely heavy. Families have spent up to two-thirds of their income on obtaining food alone, yet never get enough to fully sustain the family.

According to the World Factbook, Burundi has a literacy rate of 85% and an average school life age of 10 years ("The World Factbook: Burundi"). However, proper education in Burundi is still a problem. As noted by D.C. Bliss, malnourished children often fall behind nourished children in education. (517). Without proper nutrition, the body suffers from fragility and exhaustion. Also, according to the report, the higher the education, the higher the physical standards; there have been concerns on whether a lesser amount of malnourished children in high school and these requisites were connected, and for that reason. However, health alone is not the barrier to education. While finance was also a major issue for

children attending school, as of August 26, 2005, children were both allotted free primary education and required to attend. However, many children still face issues attaining consistent education due to the physical availabilities of the school. ("Education in Burundi - Global Concerns Classroom"). Many schools were destroyed during the war, and already exhausted children have had to walk miles just to get to their school. The UN notes that education does not warrant a "one-dimensional" solution and does in fact require these and other different outlooks. ("Burundi's Push for Universal Education | Africa Renewal Online."; un.org)

A lack of infrastructure and medical professionals limit the amount of healthcare Burundians receive. Governments generally can do very little on this case, creating a standstill. As for any health care possibly provided, it is generally unattainable to the public due to overcrowding and high demands for assistance. On May 1, 2006, free healthcare was mandated for children under 5. However, with so many children in need, these hospitals were overcrowded, creating more chaos, confusion and neglect, which, in some cases, led to death ("Side Effects of Free Maternal, Child Healthcare"). An undernourished body lacks the strength to adequately fight off diseases; therefore, stakes are raised when it comes to health when diseases such as malaria, influenza, and HIV/AIDs are introduced. Some diseases even feed off the existing nutrients in the body, and therefore require quicker and greater replenishing. ("Burundi."; worldbank.org)

According to 2011-2015 statistics, agriculture makes up approximately 39% of the overall Gross Domestic Product in Burundi ("Agriculture, Value Added (% of GDP)"). As discussed earlier, 90% of individuals depend on these practices and live on small, individual farms to just support their household. About 9.5 million individuals live rurally. The foods they produce may include, as mentioned, maize, bananas, rice, and cassava. However, this requires much manual toil and weakened families must work strenuously. They lack the education and technology for more efficient practices.

The recent years of war have left their mark, and while there are efforts for the country to recover, the issue of the consequences is still at hand. Due to soil erosion, a great deal of Burundi's land is no longer arable, or lacks fertility; only about 50% of their land remains arable for use. That may in itself seem sufficient, yet when you consider the fact Burundi is smaller than Maryland, the significance becomes apparent. Burundians that can produce their food often lack the proper knowledge of harvesting the most of their foods. Also, their food intake lacks the proper nutrients to fully support their bodies to increase their efficiency in their work. ("Burundi."; worldbank.org).

Unfortunately, there is no single, simple direct way to handle malnutrition in any situation. Proper access to food would require financial help and better education. Education would require infrastructure development to transport the children to the schools. Health, however, is the foundation for the rest, yet is dependent on the strength of the other factors: without proper health, individuals cannot function correctly in virtually any task, but as discussed above, resources for adequate healthcare are limited. The way to combat malnutrition would require branches and roads of other developments.

In not only Burundi, but many African countries, agricultural practices fall short in supporting the growing and needy populations, and often third-party assistance must be incorporated. If we could increase agricultural development, we could build a good, solid start for tackling malnourishment in the country. The best solution for Burundi may be specific and long-term work. The following ideas will require investment, resources and funding. The World Bank ("Projects & Operations."; worldbank.org) has a history of funding such projects and could be rendered useful on this matter. Also, if possible, any ideas we have could be pitched to other sponsors on the matter, such as UNICEF, FOA, and others, collaborating their resources and ideas for a single cause. I believe if we are able to collaborate with these other companies, we will be pushed ahead greatly in achieving our cause.

A lot of rural farmers, while they can farm to an extent, lack the knowledge of how far they are able to go within their practices. Investing into setting up education systems closer to homes, such as schools and small centers can educate not only children but also adults. These systems would not only help with their curriculums, but teach them different and more efficient agricultural practices, such as ones to promote fertility, utilizing more enhanced technology such as better tools to reduce the amount of manual labor, and so forth. In fact, a Burundian woman once received help from the Food for the Hungry organization, also known as "FH." The program taught her varying but simple and successful farming methods, such as different trees she should plant and using goat manure as compost. She in turn, with the help of the FH, taught these skills to others using a cascade group method; a means of teaching a large audience these methods and having them train these newly-learned techniques to others while implementing them themselves. ("Organic Farming in Burundi: More than a Health Thing - Mission Network News"). If we could expand upon this method, such information may be used and utilized on a much wider scale. In such facilities, our agriculture experts would be teaching for a period of time, and once we get Burundians to learn enough they would teach amongst themselves. If we raise awareness in Burundi about the issue of education, we have a chance of inspiring future teachers within the country to take a stand. We could ask Food for the Hungry more in detail about their processes and look into them aiding us on the matter as well. Food for the Hungry, while a small corporation likes us, is strongly dedicated to this movement and I believe they could be a viable ally to the matter, if they agree.

As stated, soil erosion has greatly affected the fertility of the land and this land is necessary to uphold Burundi's system. To repair the soil's fertility, we could invest into research of restoration. We know flooding in Burundi has been a major cause of soil erosion. If we pinpoint the root of these floods, with permission of the people, we could set up structures to barrier the water flow and use this held water to our benefit. In this way, the water usage is manipulated for a more positive use and more soil is saved. Something similar, a process already in motion, is a project the Food and Agriculture Organization (FAO) is working on in Bangladesh. The country has heightened flooding rates as well; however, the FAO has found a way to use these floodwaters for their benefit using hydroponic farming. ("Sustainable Farming Systems in Bangladesh and Japan Receive Global Recognition."; fao.org) As for the actual soil, we should dedicate time to attempt to chemically return its stability. Also, according to the European Commission, much of the soil infertility in Africa is affected by the varying pH levels impacting the nutrition count ("Soil Atlas of Africa"). If we could control these factors, we would be down a steady path towards rejuvenation. The thriving plants along with data of previous plants thriving, if available, within the soil's conditions may provide some insight. These improvements of the agricultural industry would increase the amount of food in the market.

Like Bangladesh, Burundi may also benefit from hydroponics, particularly a simplistic yet effective set up. Several African countries, including Kenya, have already adopted certain hydroponic techniques as an alternative to traditional farming. We could use a dynamic root floating technique, a simple hydroponic system recommended for developing countries. ("Hydroponics."; mit.edu) An individual in Kenya once started his own hydroponic business funded by the Kenya Climate Innovation Center and taught his techniques to those in the community ("Home - Hydroponics Kenya."; hydroponicskenya.com). What if we could expand upon this idea, creating a larger alternative for agricultural production within Burundian communities? We could invest in setting up several hydroponic structures across the country, getting them adjusted and eventually teaching Burundians how to grow with them. The natural solutions we use could pertain to the corresponding produce, be customized and then taught to the people by our scientists. While this may not leave too deep a footprint in our cause, it is another perspective into agricultural development and is a way for boosting the economy. With a great deal of soil infertility, this process, if expanded upon, may substitute from

soil as an alternative farming technique.

Many Burundians lack the proper health to function appropriately. Diseases such as HIV/AIDs, malaria and influenza continuously threaten the population. Diabetes, possibly from the excessive intake of starches, and high blood pressure affect 30% of the population ("Country Cooperation Strategy"). Both adults and children are affected by this, leaving adults too weak to work and children sick or orphaned. ("Burundi."; worldvision.org). These health problems derive from the expenses of healthcare and the lack of health professionals to combat these needy individuals. 53% of children under 5 are reported as "stunted" in growth ("Burundi."; unicef.org) and the infant mortality rate is 62% ("The World Factbook: Burundi"). 25% of preschoolers have Vitamin A deficiencies and more than 60% suffer from anemia ("Burundi."; worldbank.org). This being said, the healthcare provided in Burundi should be increased. Within these education programs, we could teach the importance of healthcare in an attempt to raise more health professionals. The more doctors in Burundi would allow more individuals to be treated. We already have health professionals working in these countries and by no means should they stop assisting Burundians in this matter. As for the nutrient deficits themselves, the World Food Prize should continue giving these families appropriate dietary (such as vitamin) supplements, but also consider finding ways to expand their diet to include foods containing these necessary nutrients. As brought to attention, a way of doing this could be modifying certain foods to increase their nutrition amount, such as through bio fortification. Also, some nutrient-rich foods may very well be undiscovered or lesser-known species native to the country; however, such discoveries would require a great deal of research. We should focus on expanding primarily the vitamins, iron, iodine, zinc, and protein, due to effects on the body. The World Bank already has had a project focused on increasing Burundi nutrition. ("Burundi."; worldbank.org) We could try to expand upon their work, possibly in collaboration. Also, we should consider increasing the meat production within the country, as to increase the supply to settle the heavy natural demand.

One more thing to consider with this may be one of the largest factors: the Burundian government. The country is wavering in stability: it currently recovering from a civil war between the two main ethnic groups that compose the population, and also, due to a rather unpopular election, there has been more tension and even some suspension of other aid. ("Burundi's Push for Universal Education | Africa Renewal Online."; theguardian.com) The country itself, as seen, has been very open-minded to the problems at hand and ways of fixing. However, we cannot say for sure their reaction. Interference on such levels may have resistance, but I believe we should not relinquish the attempt. When doing so, we should always stress the urgency of the situation and listen and incorporate their own input, as ultimately they are the ones to be affected. We must heighten the benefits of our actions and our primary goal of helping the country to strengthen itself. However, in each thing we do, we should try to push the growth on the country and rather ourselves. We should want Burundi to get to a point where it is no longer dependent on third party aid, and nor should we condone it. Therefore, while we work, we should do so in a way that guides the country, rather than force it, a certain way even if our guidance calls for strong leadership. As we can see, our path to overcoming malnutrition, just one factor in this strenuous poverty battle, is composed of mazes of twists and turns of other factors, including battles of education, technology, health, and simple human input. I am fully aware of the great deal of resources and timing such a process would require, and all of these may not be able to be addressed just yet. I also am aware as a young high-school student there may be flaws within my judgement on the matter. However, I personally believe helping at-risk countries like Burundi is not an impossible task. We would need to use methods that leave lasting effects. Only when we look at the problem as a whole, with all its branches of factors all linked together that create this confused mess of malnutrition, and get the country to a point where it requires little assistance from us, is when we can implement the solution.

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