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 Democratic Republic of The Congo, Factor 11: Malnutrition

Democratic Republic of The Congo: How Inland Fisheries and Improved Crop Selection Can End Malnutrition

The Democratic Republic of the Congo was first colonized in 1908 by Belgium and named “The Belgian Congo”. The country later gained its independence from Belgium and earned the right to govern itself. The nation has had many issues over the years and these have deeply affected those living within its borders, including corrupt governments, civil wars, rebel conflicts, lack of infrastructure, poverty, and many more. Despite the fact that the nation is recognized as one of the most resource-rich countries in the world, it remains one of the poorest due to years of hardship across the nation (Cordell). It is the second largest country in Africa with 2,267,048 square kilometers of land and has a population of over 100 million citizens, 54.4% of these live in rural areas and 45.6% live in urban areas (“Congo...” [CIA]). One can see the mineral wealth of the DRC in the fact that mining creates nine-tenths of their exports, and the number of small mines that are poorly regulated. The DRC’s climate is hot and humid and the center of the nation is largely a rainforest, the wet and dry seasons differ from place to place in the country as some are above the equator and others are below. There are few tall mountains, but those that exist are primarily in the east, but most of the country is a low-lying basin. The nation was once known as Zaire under the rule of the dictator Mobutu Sese Seko, but has since changed to a semi-presidential republic with elections every five years.

In the DRC, the average family consists of 5.3 members, 25% of households are headed by women which appears to be an unexpectedly high percentage. The housing of these families differs from place to place, but most Congolese families in villages live in small buildings that have cramped conditions and are made of mud-bricks if available where they live, while many families in more urban areas such as Kinshasa live in shanties surrounding the dense urban centers (“Democratic Republic...” [DHS], Jordan). The most common crop in the DRC is cassava, a root vegetable with large green leaves, both parts of the plant are eaten. The root is often used to make fufu, which is a dough-like staple that is filling but lacks nutritional value. While the leaves are prepared by being boiled, fish or other meats can be added to dishes such as sombe to make it more hearty. Crops such as corn and rice are also grown in the country and are used in various dishes, but few will dispute the fact that cassava is the most important crop in the nation (“Congolese”, “National Aquaculture...”). Citizens must produce much of their own food. On average, Congolese families produce 42% of the food they consume, but this number varies as some must produce a much higher percentage than others. This fact makes small crop plots very important for many families, while families that are able go to markets to purchase more food if they do not have enough at home (“Democratic... WFP”). In the DRC agriculture creates most jobs, but mining is also somewhat common. Sadly workers in both fields are subject to horrendous work conditions with very little pay. Most Congolese people make only \$394.25 annually, adding up to only \$32.85 each month making it very difficult to provide for their families without multiple members being employed (Tasch, “Congo...” [Encyclopedia]).

The healthcare system in the nation is abysmal as it has been ravaged by conflicts in the country in the last few decades. A lack of infrastructure makes it more difficult for people to get to hospitals and for hospitals to get to people. To combat this, organizations such as the UN have set up mobile hospitals which are better able to care for those in need. Conflicts make education less common as routes are

unsafe for children, however, the system is improving, but has not reached desirable levels. There are 3.5 million elementary school-aged children who do not attend school, and of the children who are fortunate enough to attend school, 44% started school late. Of the children who start first grade, 33% will not reach the 6th grade. Those who reach the 6th grade, 25% will not pass their exit exam. Many children cannot attend school as their families need them to help grow food or to have a job to help make money since so many families are impoverished in the country. Another reason is that 65% of schools in the DRC are private and therefore many poor families cannot afford to send their children to these schools (Kalysia, “Education: Democratic”, “Education”). According to 2017 statistics, 43% of people in the country have basic access to water, meaning they are able to get improved water within 30 minutes. On the other hand, 36% of citizens must drink from unimproved water sources. When it comes to toilets, only 20% of people have at least basic facilities, meaning an improved toilet not shared with other households, in contrast. 12% must practice open defecation (“Democratic Republic...” [GNR]).

Acute malnutrition is a widespread issue affecting approximately 21.8 million Congolese people. Their nutrition is so poor that it jeopardizes their health. This number equates to 21.8% of the population but in some regions, primarily the eastern provinces, the percentage is far higher due to the conflicts that plague these areas. One of the major causes of malnutrition and food insecurity in the DRC is that the nation is riddled with conflict and civilian lives are at risk, and that takes focus away from farming. It also affects food as the militant groups in the country often will raid villages and take their food or impose a tax where the village must give them a regular supply of food or be subjected to their wrath. Malnutrition affects children specifically at higher rates, where in some regions 54.6% of children are malnourished as a result, the growth of many children has been disrupted. 42.7% of children under the age of five are considered stunted. One particular area in the DRC that is heavily affected is the Kasai provinces in which 400,000 children are currently at risk of starving to death (“Democratic Republic...” [GNR]). Another way that children are affected is by wasting, which is when a child’s weight is too low compared to their height and 6.5% of children fall in this category. Only 8% of children aged 6-23 months in the country receive what is considered the minimum acceptable diet (“A Closer Look...”). The average diet is not very diverse and relies primarily on staple crops such as cassava and rice, as well as corn and beans. This widespread lack of proper nutrition leads to many of the aforementioned issues in people, both young and old, and even these crops are under utilized as only 12.5% of the arable land is currently cultivated. Another side effect of poor nutrition is anemia, and this affects women at a higher rate than it does men. An estimated 41% of women at reproductive age experience anemia, however, while women experience anemia, men are more often underweight both as adults and children (“Democratic Republic...” [GNR], “Agriculture...”). While the negative effects of malnutrition are very prevalent in the nation, some good news is that the percentages mentioned above have and are projected to continue decreasing. Two examples of improvement from the past would be anemia in women which is down to 41% in 2016 from 57% in the year 2000. The other example is the prominence of child wasting in the country, which in the year 2000 was 15.9% but today has dropped to 6.5% (“Democratic Republic...” [GNR]). One of the main reasons that these numbers are on this current trend is because of the vast efforts made by humanitarian organizations across the world, who have dedicated much of their time and resources to help those in need. Rural areas have been more heavily impacted by the lack of food due to their lack of funding. If food in storage is stolen or goes bad, the village cannot recover in the way that a city would, since food can be purchased on a per person basis, and therefore storage is not as much of an issue. While urban areas are not threatened as much as rural areas, this does not mean that those in the cities have easy lives, there are still various flaws in the cities. Many in the country are still severely underpaid and struggle to make ends meet and barely provide enough for their families (“Facts About...”).

To solve the issues of malnutrition and food insecurity in the DRC, one intriguing solution is to invest in furthering the cultivation of fish and the creation of inland fisheries. According to some estimates the

DRC has massive potential for inland fisheries. In fact, some say it has potential for larger fisheries than any other African country. Were these resources to be fully utilized, the nation could produce anywhere from 520,000 tons to almost 780,000 tons of fish every year (“UNEP Study...”, “Country”, Oirere). Production of this much food could help feed millions of people in the DRC, and the location of much of the nation’s water is in the eastern half of the nation with the country’s share of the Great Rift Valley Lakes, of which the DRC possesses about 25,000 square kilometers and this is convenient placement as the eastern portion of the country is the most heavily impacted by food insecurity, and close proximity to these large water bodies will help to get food to those in need quicker (“Management Objectives...”). Congo also has many lakes in its borders that could be fisheries making a continuous supply of food in communities who need only to be educated on how to utilize such resources. One organization that has a history of helping educate communities on better farming practices is Food for the Hungry, a Christian organization whose staff are 98% working in their country of origin. This means that people from the DRC will be the ones teaching communities these practices and how to provide for themselves. There are also organizations within the UN which specialize in this sort of aid (“About FH...”, “Management Objectives...”). The fish species that would be most well suited for this increase in aquaculture would be *Oreochromis niloticus*, known primarily as the Nile Tilapia. This species of fish is very commonly used in fisheries across the world for their many desirable qualities, one of them being that they are very hardy, resistant to disease, quick growing, spawn many eggs at once, low cost both in the purchase of the fish and in diet, and can thrive in crowded conditions. This means that not only do these fish propagate and mature quickly, but they are less likely to die due to the environment and are also very affordable. Another huge benefit of breeding Nile Tilapia, is they are native to the DRC and therefore will not cause serious harm to the ecosystem as an invasive species (Pearson, Moffett, “Fishing and...”). The ease at which these fish can be raised may lead to suspicion in regards to the nutritional value of the fish, however, adding even further to the benefits of this fish, it is a very healthy fish with high amounts of essential vitamins and minerals such as niacin, vitamin b12, potassium, phosphorus, and more, helping to mitigate the lack of nutritional value in the diet of many Congolese people (Moffett). The primary proposed issue with the fish is that tilapia is high in omega-6 fats which have been attributed by some to certain conditions such as heart disease in high amounts, however, according to the American Heart Association in a Harvard affiliated study, not only are omega-6 fats not responsible for heart disease, they in fact, can help to prevent such ailments, and as such there is no need to fear consumption of tilapia (“No Need...”, Moffett).

Another step to help reduce the effects of malnutrition would be to prioritize more nutrient dense foodstuffs rather than some staples in the country. One perfect example would be peanuts, which are already grown in the country fairly commonly, albeit far less than other crops such as cassava. They are a complete protein source and high in many nutrients, not only this, but peanuts are able to enrich the soils where they grow. Therefore with proper crop-cycling the yields of other crops and the peanuts themselves might increase. Peanuts are also very versatile and can be prepared in many ways and are included in traditional Congolese dishes and can be used other ways as well (Tang, Carver). However, there is an issue with the cultivation of peanuts in the DRC, they possess unusually high levels of aflatoxins, which can lead to cancer if not removed. Luckily the removal process is fairly simple all one must do before consumption is heat the peanuts to 100C for 90 minutes, and then the levels of aflatoxin will be reduced by almost 42%, and then reduced further with any additional roasting necessary for the desired doneness (Lavkor, Su, Kamika).

In conclusion, the DRC stands to benefit greatly from changing what foods they choose to grow/raise for consumption. Implementing inland fisheries and increasing peanut production will make food more abundant in regions where people need it the most. 400,000 children in the DRC are at risk from starvation as they not only increase the amount of food, but the nutritional value of food available. These

projects are very sustainable as they only need an initial investment of educators to teach communities how to raise fish and prepare peanuts. After this initial wave of educators, the communities will be able to grow a continuous supply of food for themselves. These changes can be addressed with the help of some of the many possible organizations dedicated to helping communities in need of quality farming techniques, a few notable examples are Food for the Hungry, Catholic Relief Services, the Agency for Technical Cooperation and Development, The World Food Programme, Cooperazione Internazionale, and more. Developed nations could send help and raise awareness for the DRC. These changes can be brought into effect and work together to beat malnutrition in the DRC.

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