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The Impact of Human Disease on the Democratic Republic of the Congo

The Democratic Republic of the Congo (DRC), formerly called Zaire, is located in Central Africa and is the third largest country on the African continent. It is bordered by the following nine countries: Angola, Burundi, Central African Republic, Republic of the Congo, Rwanda, Sudan, Tanzania, Uganda, and Zambia. The official language of the DRC is French. Over sixty million people currently live in the DRC and the average life expectancy ranges from 47 to 51 years. This is partly due to high poverty levels, a high prevalence of HIV/AIDS and other infectious diseases, and limited access to healthcare. Furthermore, civil war, ethnic conflict, violence, and political corruption continue to be ongoing problems for the DRC. The DRC is still struggling to overcome the effects of wars that occurred between 1996 and 2003. Despite all of the challenges that the DRC has to contend with, it is however, a country rich in natural resources. For example, diamonds, gold, silver, uranium, timber, copper and petroleum are just a few of the natural resources it offers. Land is another asset of this country. Given the varied climate and terrain, opportunities to farm are great, but farming remains limited and confined to small family farms. The country's weak infrastructure and lack of government financial support makes it difficult for the DRC to reach its agricultural potential.

Congolese families range in size from one to fourteen individuals. Just under half (48%) of the adults are single, while 35% are married and 12% are widowed. The remaining 5% include those who are divorced, separated, in common-law marriages, or whose status is unknown. Single mothers make up approximately 20% of the entire Congolese population (Cultural Orientation Resource Center). The Congolese population is relatively young, with nearly 55% under the age of 18 and an additional 18% between the ages of 18–25. Only slightly more than a quarter of the population is over the age of 25, and only 3% is 50 years of age or older, a clear sign of the hardships this population has suffered. Clearly, the DRC has a high dependency ratio, which puts a strain on the resources of the government.

For many in the DRC, food is not necessarily a part of daily life. When food is available, it usually does not contain the nutrients required to prevent disease and maintain proper health. In general, Congolese diets mainly consist of cassava and palm oil is the most consumed foods by households: 85% and 96% respectively and this on average four to five days a week. Cereals (81%), vegetables (77%) and meat, poultry, fish and seafood (74%) are consumed by fewer households on an average of three times a week (Food Security in Democratic Republic of Congo). Other foods such as sugary products and dairy products are even less available. Thus, malnutrition is a major issue that could be resolved by the government by providing food subsidies to farmers and by educating the general population about proper nutrition in schools countrywide.

Access to basic education in the DRC is limited, with up to seven million children across the country not attending school, despite a 2010 government decision to make primary education free. The primary school enrollment in the DRC is only 52%, and the dropout rate in the first year of primary is 20 % (Implementation of Free Basic Education Policy). This is partly due to massive corruption that still exists. The government has been promising to do things for this country, yet very little has been accomplished. Decades of conflict and a lack of government investment have made it hard for people in the DRC to access basic healthcare. Epidemics have spread unchecked and treatment of deadly diseases has been neglected. The eastern DRC context is still volatile, marked by shifting alliances between armed groups, ongoing military operations, instability, insecurity, banditry, and violence. Attacks against civilians and aid organizations are rising, making both the population and humanitarian aid workers increasingly

vulnerable. Sadly, rape, murder, kidnapping, and random acts of violence are daily occurrences for millions of people. Consequently, access to basic healthcare is a privilege and not a right.

In much of DRC, living conditions are dismal, access to health care is minimal, and violence still erupts in unstable areas. It is projected that rape and violence against women is more common in DRC than anywhere else in the world. The ability of the government to provide free and lifesaving healthcare is limited by this instability. Lack of investment in the healthcare system results in a lack of infrastructure and properly trained medical staff throughout the country. While medical needs are enormous, people are left struggling to access the most basic level of healthcare services. More than 2.5 million children have died since 1998 as a result of the conflict in the Congo. Some are killed by the bombs, bullets and knives -but the vast majority of deaths are from preventable or treatable diseases.

The DRC has great agricultural potential with an estimated 75 million hectares of farmable land. Unfortunately, only about 10% is being used for farming (3% for crops and the remaining 7% for breeding animals). Most of farming in the DRC is subsistence farming where the food harvested is primarily for the farmer and his family. Commercial farming, which is done on a larger scale, is with the intent to make a profit. This type of farming requires significant investment to get established. Once established it makes farming very efficient and provides more food for the people of the DRC with the surplus sold to other countries. The cost of switching from subsistence farming to commercial farming makes this opportunity not possible, as the government does not have the funding to facilitate this transformation.

About 60% of the working population is employed in the agricultural sector; however it contributes to less than 50% of the gross national product. The amount of food produced annually is not adequate to meet the needs of the Congolese population. Although some additional food is imported from other countries, most of the population struggles with hunger and poor nutrition. The most important crops for export are coffee and palm oil. The livestock sector is largely undeveloped, with small numbers of cattle, pigs, goats and chickens. This agricultural sector supports two-thirds of the population. More than half of the DRC's land is farmable; however, only about 2% is used for such purposes at a given time. This is tremendously important because this arable land could not only produce jobs but feed the population of the DRC. On the other hand, subsistence farming involves four million families on plots averaging 1.6 ha (four acres). Subsistence farmers produce mainly manioc, corn, tubers, sorghum, sugarcane, and rice, plantains, sweet potatoes, bananas, yams, and pineapples. Domestic food production is insufficient to meet the country's needs, and many basic food products have to be imported. Coffee is the DROC's third most important export (after copper and crude oil) and is the leading agricultural export. 80% of production comes from the provinces of Haut Zaire, Equateur, and Kivu. Other cash include rubber, palm oil, tobacco, tea, and cocoa.

Barriers to improving agricultural productivity can include major institutional constraints. For example, the reduced effectiveness of specialized services of the Ministry of Agriculture, which provides extension, seeds, and input procurement, makes it difficult to sustain the agricultural economy. Moreover, a weak land-tenure system (which has limited the adoption of natural resources management practices), and a non-forward-looking NARS has failed to adapt to new science and technology. Not to mention the multitude of poor health facilities in rural areas. Notable policy constraints include the following: privatization of plantations and other agricultural enterprises (done in 1973, but the consequences continue), over taxation of agricultural products, lack of standards to make agricultural products competitive, inadequate funding of agricultural research, leading to low rate of technology development and high staff attrition, inadequate infrastructure (especially transport-related), and low farm prices. Other constraints include endemic diseases such as HIV/AIDS and malaria, which have led to a reduction in the agricultural labor force; the destruction of natural resources (deforestation, soil and biodiversity erosion), climate changes, crop and animal pests and diseases, inadequate supply of water and armed conflicts.

Employment is hard to come by in the DRC. When jobs are found, the pay is barely enough to live on. Barriers such as a high rate of inflation and limited means to travel to jobs make it difficult to afford basic human needs such as food, water and education. This leads to a vicious cycle making it impossible to exit. According to CNN's 2012's review of worst economies in the world (based on estimates form the International Monetary Fund), the DRC was ranked as the "worst per capita income" in the world. This is further complicated by the fact that the DRC only uses about 90% of its arable land. By not completely using all of the land available, there are fewer jobs.

Barriers to accessing food markets and adequate nutrition include the following: lack of knowledge and income, financial restrictions, preparation and storage. Data collected directly from low-income households can be used to determine whether there are barriers or transportation issues that make it difficult for such households to access food resources. Other barriers might include the following: inconvenient hours, poor customer service, lack of information, stigma, distance to resources, and insufficient food or food benefits available or offered. To determine the accessibility of food resources, the government could create a map that indicates food resource locations and neighborhood demographics. The assessment would begin by using existing information to determine whether food resources (retail food stores, farmers' markets, food cooperatives, and food assistance programs) are located near low-income neighborhoods. If they are located near low-income residential areas, then the assumption is that food resource accessibility is unlikely to be a problem.

Human disease in the DRC has been a longtime battle and has had a direct impact on the household income of those living in the DRC. When the head of a household becomes HIV positive and develops HIV-related illnesses or AIDS, the family income is severely limited or lost because the infected family member can't reliably work. Conversely, the medical costs related to caring for the individual often increase greatly. To bring some perspective to this scenario, the average family's annual household income is \$137 (According to World Vision, a Christian humanitarian organization). Data reported back in 1998 revealed the costs for treating an AIDS-related condition could cost as much as \$870.

Currently, only 12 percent of HIV-positive patients in the DRC are receiving antiretroviral (ARV) drugs, and 95 percent of women living with AIDS don't have access to treatment that can help prevent the transmission of the disease to their unborn children. The DRC continues to face a serious challenge in funding the fight against AIDS. In 2011, the World Bank stopped funding its HIV/AIDS programs and several other donors still work with very limited funds with regards to DRC's substantial needs. In addition, the Global Fund, which is the largest financing mechanism in the fight against HIV/AIDS, faces a major funding shortfall from donor countries. The President's Emergency Plan for AIDS Relief (PEPFAR) is the largest commitment by any nation to combat a single disease in human history. When the President launched this initiative in 2003, approximately 50,000 people in all of sub-Saharan Africa were receiving anti-retroviral treatment. Currently, PEPFAR is supporting life-saving treatment for 6.7 million people worldwide. This exceeds President Obama's goal of having six million people on treatment.

By improving disease in the DRC, more people will be available to work in the fields, causing a greater production of crops. More food available locally will drive prices down locally, making it more accessible to families. An increase in exported food means a greater GDP. As for the US, we could also benefit from the common concept of greater supply. In addition to lager production of crops, there will also create a significant amount of jobs for the people of the DRC.

The most prevalent issues impacting diseases in the DRC are water sanitation, the prevalence of rape, lack of available contraceptives to prevent the spread of sexually transmitted disease. In the DRC, with centuries of war, came rape. Perpetrators of sexual violence were often militia groups. These militia groups used sexual violence as another way to spread fear into the country. The Congolese had a lack of

contraceptives, so they had no way to prevent the spread of sexually transmitted disease. If you can't prevent it, then have to have to treat it. With the lack of money in the DRC, the cost of treating diseases is not affordable to Congolese, in fact the cost of treating AIDs in the DRC can cost over \$800, whereas most families only make a fraction of that a year. In addition to the cost of the treatment, the infected individual will still need a means to get to the treatment center, which can be quite a distance from home.

One of the first things that would need to be addressed is access to clean water. For some Congolese, clean water is too far away, so many have to collect water in local streams and rivers. The problem with this is the water from the streams and rivers are loaded with harmful bacteria and are unsafe for the use of cooking and drinking. For example, when the Congolese prepare cassava, they need to soak it in water, taking water from their local rivers and soaking the cassava in it. Even if the water looks clean, there is great risk for exposure to water borne illnesses. The Congolese needs be educated on food and water borne disease and how to properly prepare the food and avoid unnecessary death or sickness.

Today programs from all over the world are trying to help decrease the level of disease in the DRC. For example, the non- government organization Bumi is committed to treating and especially preventing disease by health education sessions and nutrition. If this organization is scaled up and made more accessible around the country, this could defiantly lead to less disease for the Congolese. Another organization focused on disease in the DRC is UNICEF. UNICEF works to help support basic medical services, training doctors and health personnel and giving them the much need medical supplies. They hand out insecticide- treated bed nets to reduce the risk of malaria, and clean water and adequate sanitation to reduce the prevalence of diarrheal disease. Not to mention this organization has also created the National Immunizations Days to help protect the children of the DRC from deadly childhood diseases.

Communities need to bond together so they can become a stronger unit. For example, if all of the farmers who grow corn organize themselves into a formal association, they can better access resources they could never afford on their own. Large scale farming machinery could be a shared resource amongst members of this association. The challenge still lies with finding sufficient money to fund the initial investment for such an organization. This is where the government and large organizations can play a major role in making this happen. By offering grants and other forms of assistance, the initial investment can be a big payoff for everyone.

Change often begins at a grassroots level. The typical family can assist in this effort by buying into the concept. They need to take a chance in the way they farm and by doing that, their community can take on drastic change. As of now, each family is trying to grow their own type of crop, and it is just not practical for their country to farm this way. If Congolese families were to "team-up" with each other, much more can be accomplished.

The DRC has experienced many challenges as a county in Africa. With war at fault for causing a pandemic of HIV/AIDS, the unsanitary water, lack of education, and really just lacking the basic necessities of life, such as an adequate amount of food, water, education, and health care. Signs of positive change in the country are evident. Multiple government organizations and non-government organizations are teaming up to help supply the DRC with a better life style. Supplying the DRC with basic items such as vaccinations, education workshops about disease, and access to clean water, they will help prevent the spread of disease. Small steps growing into meaningful change will benefit not only the citizens of the DRC but the world.

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