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The Democratic Republic of the Congo: Market Access through Infrastructure

In the Democratic Republic of the Congo, 48 million people go through each day malnourished and starving. These people are the byproduct of a dysfunctional society which cannot grow or import enough food to provide for its own citizens. In order to solve this hunger crisis the Congolese government must create comprehensive transportation infrastructure to allow farmers market access. This paper will investigate this problem by first introducing the typical Congolese family and their system of food production. Then it will look at the major barriers preventing increased agricultural production and propose some possible solutions to the hunger crisis.

The typical rural family in the Democratic Republic of the Congo consists of six to seven people often including extended relatives such as grandparents and cousins. (CIA 2013) The staple of a typical diet is cassava, a root vegetable grown by many subsistence farmers in Africa. Cassava provides carbohydrates and calories but lacks many basic vitamins including Vitamin A. This vitamin deficiency stunts growth and increases susceptibility to disease. (Fanzo 2012) Education in the DRC is also severely lacking. Public school is officially free and compulsory; however, a significant portion of the population remains uneducated. Only 86% of male children and 87% of female children attended primary school between 2005 and 2009 while 39% of males and 40% of females attended secondary school in the same time period. (UNICEF 2011) Additionally, the availability of healthcare in the Democratic Republic of Congo is greatly restricted with only 0.11 doctors per 1,000 people due to regional violence. Despite an overwhelming need for doctors, only 4% of GDP is spent on healthcare annually. (CIA 2013)

The typical farm in the Democratic Republic of Congo is around 0.5 hectares and is used for agricultural subsistence farming with little to no livestock. These farms grow a mix of cassava, corn, rice, beans, and peanuts. Cassava is the leading crop with almost 18.2 million tons grown annually in the Congo. Farmers often use shifting cultivation techniques including the slash-and-burn clearing method which results in rapid loss of farmable land. (Bremner 2012) Fertilizers, insecticides, and fungicides are not used or available for the vast majority of farms. Without modern agricultural practices and technology, Congolese farmers operate at an output vastly behind a growing demand for food.

Nutrition is also a main factor in the hunger epidemic in the Congo. Many Congolese are deprived of vital nutrition because of the focus on growing cassava to survive. Without modern agricultural practices, farmers are unable to diversify their crop. Without food diversity, many Congolese suffer from preventable diseases such as Vitamin A based blindness. Because of the lack of transportation infrastructure, farmers are unable to trade for foods they need, and instead eat little variety of food.

In order to examine solutions to solve the problem of market access, this paper first examines the obstacles. The major barriers impeding growth in the agricultural industry include a lack of transportation infrastructure, regional instability, outdated farming techniques, and gender discrimination. Much of the DRC's transportation infrastructure has been neglected due to local violence and as a result, farmers often lose much of their food on the way into urban areas to sell it. Because of this lack of market access, many farmers store excess food which often ends up spoiled and wasted. (Bremner 2012) Regional instability is another large contributing factor toward the hunger problem. With constant fighting, farmers are often forced off their land or killed by bands of rebels. The constant relocation of farms forces farmers to adopt short term means of production, such as slash-and-burn. (Center for American Progress 2012) Without protection from these violent groups, farmers cannot produce on a large scale. For women, opportunities

to control production are severely limited. (Robinson n.d.) The degree to which regional instability affects women is much greater than the degree it affects men due to increased risk to sexual violence and rape.

This paper's research focused on transportation infrastructure and how it restricts market access for farmers. For the purpose of the proposal, transportation infrastructure takes the form of roads and railroads and ability to access markets through them. The Congo has the least amount of paved highways among any similarly-sized country in Africa. The DRC is 2500 miles in diameter but contains a mere 2,250 miles of paved roads. (von Braun 2009) The railroads are in even worse condition with 15 out of 80 locomotives functional and only 2,262 miles of railway being used while the other 9,358 are in need of repair. (Connors 2007) In order to fully understand this infrastructure problem this paper will first discuss the role that history, conflict, and geography play in defining the infrastructure of the DRC as well as the recent trends in transportation. Then it will address both domestic and international means to solve the hunger crisis.

The imperial history of the Congo is marked by violence and instability. When King Leopold II of Belgium obtained the territory of the Congo in 1885, he immediately enslaved the people through a series of unfair contracts and put them to work extracting a variety of resources from the land. In order to transport the massive amounts resources, Leopold constructed a railroad running through the lower falls and rapids at a distance of almost 220 miles on the eastern side of the country. He used this railroad to connect resource-dense areas to the rivers, which then he then used to ship the resources out. The railroads were constructed using slave labor and cheap materials. The end product was a rickety series of railways heading from areas rich in natural resources such as the jungles of the Congo Basin, to the rivers and coast. These railroads served as a means to transport materials out of the country, but failed to bring them back into it. The system Leopold devised was one of maximum profit for exporting goods, not for circulating them within the country. This mentality resulted in the inefficient railroad system within the Congo today. (Hochschild 1998) Even after gaining their independence in 1960, the Congolese government failed to create a satisfactory transportation system for the internal circulation of goods due to conflict. The First and Second Congolese Wars damaged large amounts of existing railroads and militia groups confiscated most land vehicles. These militia groups are still prevalent in the Congo today and are a severe obstacle in the way of infrastructure development. (Center for American Progress 2012)

After the First and Second Congolese Wars, many rebel factions took root in eastern Congo. These rebel groups are the single biggest detriment to the development of the Congo. There are three main categories of armed groups who operate primarily in eastern Congo. These groups include the Rwandan Hutu FDLR, the Rwanda and Uganda-backed M23, and various "Mai Mai" groups. (Center for American Progress 2012) All of these groups are responsible for countless human rights abuses, destroying farmland, and undermining the authority of the Congolese government. The agendas for each group vary. Most of them lack a significant political agenda, however some, most notably the M23 faction, do have political motivations. (Center for American Progress 2012)

Negotiating with rebel groups is incredibly difficult. Their motivations are too obscure and their offences too serious for negotiation. However, in order to make progress in developing transportation infrastructure, the rebels must be accounted for. Currently, the Congolese military is too unpredictable and unreliable to completely protect infrastructure projects from them. However, two other solutions are possible. Foreign countries who have invested in developing Congolese infrastructure could use private security contractors to keep rebels from sabotaging construction. Private security contractors often work for governments who do not wish to commit their own forces. These contractors have been used in places such as Iraq by the United States government to help build infrastructure. The use of security contractors does have potential for abuse; however, through constant vigilance by the United Nations, they can be greatly effective. United Nations Peacekeepers could also be sent to oversee construction and protect workers from rebels.

Another serious obstacle to the creation of transportation infrastructure is the Congo's geography. As of 2005, over 50% of the Congo was covered in forest. The forests make it difficult for much progress to be made into certain parts of the Congo. (Rhett 2006) However the rivers located within the forests can be used to transport materials across them to roads or railways.

The trend in transportation is disconcerting. Most of the progress made in improving the transportation in the Congo has taken place in air travel. This trend is not isolated to just the Congo. Africa as a whole is projected to increase development of air travel by 5.2% in 2013 (Chingosho 2013) Even the naturally advantageous waterways are ignored in favor of planes. An aerial transit system isn't particularly helpful; air travel is expensive and lacks the ability to provide farmers with market access. China has also begun a trend of investment in African infrastructure. They have already invested over \$9 billion to improve the DRC's transportation system by building railroads connecting major economic hubs like Lubumbashi to the border with Zambia in exchange for mineral resources. (Meyer 2012) This trend appears beneficial.

Improving the Democratic Republic of the Congo's market access is a vital first step in solving the hunger crisis. "Improving [the link between farmers and markets] creates a virtuous circle by boosting productivity, increasing incomes and strengthening food security. Better access by small producers to domestic and international markets means that they can reliably sell more produce at higher prices. This in turn encourages farmers to invest in their own businesses and increase the quantity, quality and diversity of the goods they produce." (IFAD n.d.) Farmers will be able to produce more food, make a profit off of it, and make a living for themselves. The average subsistence farmer will be provided with a greater food variety and can make a profit off his own crop. Now, the path to providing market access requires a two part domestic solution. The first part involves a combination of private and public industry and the second calls for government subsidies. Additionally, the international community and micro loan programs need to play a greater role investing in the Congo

In order to fix the transportation infrastructure problem, the government should improve their process of allowing private investors (both domestic and international) to take out government bonds, similar to American Treasury Bonds. These new bonds would be for the express purpose of constructing and repairing roads to allow farmers market access. These bonds appreciate in value and are a vital investment opportunity for the Congolese people, since the Congo has no functioning stock market and few banks. These bonds, in addition to improving Congolese infrastructure, would also be more money spent within the Congo's economy. Reconstruction would likely take a substantial amount of time due to the scope of the issue that needs to be addressed. To meet the Congo's transportation need over 10,000 miles of roads must be constructed, and the existing railroad needs to be repaired. The Congolese government currently has a program in place for the purchase of government bonds; however this program is notoriously unstable. (Business Monitor International 2010). The program can be fixed by addressing corruption and inefficiency, two major deterrents for potential investors. The fix for these problems is increased transparency.

The government could reduce corruption by making the flow of money completely transparent. (Transparency International 2012) Transparency would be accomplished by allowing private investors to follow the flow of money in released documents, contracts, and all financial records. This transparency would encourage investors to buy transportation bonds since these investors will be more likely to trust the government if they can witness how their money is spent. Corrupt officials will be substantially less likely to skim off the top if the voters and investors are looking at the money every step of the way and they will be much easier to prosecute if their corruption is public knowledge. Increased transparency would bolster government accountability and inspire confidence, likely creating a more stable investment.

Transparency allows private investors to witness and streamline the government's processes. Government spending is notoriously rife with inefficiency in the Congo. Through increased publicity, private businesses can witness government spending and make suggestions to streamline it. The private sector

will be able to police their investment and offer competitive options to reduce financial waste. Private companies will be likely to invest because they will want to build new transportation. A new transportation system will allow private companies to increase the amount of the Congo in contact with their products as well as make money off the government bonds.

The cost of the debt accumulated through the selling of the bonds would be absorbed by the increase of taxable income. With the creation of this infrastructure project, the amount of farmers who have market access will increase dramatically. With this market access comes more revenue for the government since these farmers will be able to sell their crop for profit, increasing the amount of taxable income within the Congo. The government will be able to raise an enormous amount of money from this influx of taxable profits which were previously rotting away in remote farms. Currently, almost four million families live on subsistence farms. With increased market access, a substantial amount of these farms will be able to convert into commercial farms and work for profit. While these commercial farms might threaten the livelihood of subsistence farmers, the amount of food they produce combined with the ability to distribute it will outweigh this downside. It is the responsibility of the people and communities to use these roads to sell excess food at market for a taxable profit. An example of the relationship between market access and economic growth is China. China's removal of 163 million citizens from poverty between 1978 and 1999 came from rural growth rather than from manufacturing or tertiary sectors. (Shephard and Prowse 2008-09).

The second part to solving the transportation problem also comes from the Congolese government. The government will subsidize farming supplies and transportation for farmers once the roads are functioning. They will subsidize the equipment by giving money to the farmers for the purpose of buying transportation or supplies. It is the responsibility of the typical rural farming family to use the subsidized money and buy transportation or fertilizer. The Congolese government will make it a priority to import fertilizer and seeds for these farmers to use. The farmers then must use these items to increase their crop production and take it to market to be sold. Furthermore, they must also pay their taxes once they have a substantial living standard. Without their willing cooperation, the project cannot be paid for and therefore will be unsustainable. However, if the farmers comply, they will have the means to transport their crops as well as a functioning road and railroad system. By providing farmers with the means to increase production now, the Congolese government will invest themselves in the future growth of the agricultural sector. In the United States, the introduction of subsidies to farms led to a dramatic increase in their agricultural production. Farms that were once barely growing enough food to survive now had the ability to grow excess food and make a profit. (Sumner 2007)

A project this size is daunting as well as expensive. However, there are a few ways to pay for it. The first way is for the government to take out loans from foreign countries to fund the program. They can pay for these loans through the exchange of future mineral wealth. The promise of future mineral wealth has been used before as payment for money and services in the 2007 deal they struck with China. (Meyer 2012) This deal exchanged mining sites and the promise of natural resources in return for Chinese assistance in building the Congo's infrastructure. Basing payments off of this model, the Congo has the means to pay for a large amount of foreign capital. This capital will then go toward funding infrastructure development projects or the subsidy program. The second way the government can fund the subsidy project is through more private investment bonds. These bonds would work the same way they did for road construction, providing investors with transparency and interest on the government's use of their investment in return for immediate capital. As established earlier, private sector intervention can also provide for more streamlined operations. A third way the government can subsidize the equipment is through raising taxes. This tax raise won't affect those Congolese who subsistence farm because they have no taxable income to report. Rather it will take money from those who can afford to pay taxes. The short term problems for the economy with raising taxes pale in comparison to the long-term benefits of providing transportation to farms.

The ability for the Democratic Republic of the Congo to pay for the roads they need is limited. Therefore, the international community must play a role. A prime example of international help is a deal the Democratic Republic of the Congo struck with China. Back in 2007, the Chinese government invested almost \$9 billion in the DRC. “Many aspects of the deal are not public, but according to NGO Global Witness China would be granted 10 million tons of copper and 600,000 tons of cobalt. In exchange China would build 2,400 miles of roads and 2,000 of rail, 145 health clinics, 32 hospitals, two universities, and two hydroelectric dams. Other infrastructure projects include widespread transportation renovation and an electricity distribution network. The other \$3 billion of Chinese investment would go to develop Congo’s copper and cobalt mines which are expected to turn a profit in 2013, repaying Chinese investment in five years.” (Meyer 2012). This large investment is part of China’s infrastructure for resources project, a project which involves investing in African infrastructure in exchange for potential resources. Other countries need to follow China’s example. Investing in the Congo’s infrastructure will greatly benefit its development.

Micro loan programs are also a driving force behind increasing food security worldwide. “In 2012, the World Bank reached more than 53 million Micro Small and Medium Enterprises clients with an active loan portfolio of more than \$4.5 billion, and with lending and technical assistance projects in more than 70 countries” (The World Bank 2013) Micro loans allow poor families the means to build their economic security. Already in the Congo, many micro loan programs are in effect, targeting Eastern Congolese women. The program teaches women how to manage their finances and take out loans in order to build farms. These programs can be scaled up by diverting the \$323 million in direct food aid given by the World Bank into micro loans. Research shows that farm aid, such as a micro loan, is more effective than direct food aid for lasting benefits. (Long 2013). The responsibility to use these micro loans resides with the farmers, specifically the women. “Studies have shown that women use the profits from their businesses to send their children to school, improve their families’ living conditions and nutrition, and expand their businesses. The fruits of their businesses not only make an impact on themselves and their families, but entire communities.” (Grameen Foundation n.d.) Micro loans are a necessary way to ensure that farmers are provided with financial security that can benefit their entire community.

A combination of solutions is the best possible course for the Democratic Republic of the Congo. In order to create railroads and roads, the Congolese government must provide a government bonds program to encourage investment through transparency. Transparency is a vital part of adapting the existing bond program into one which fosters trust. Additionally, the government must begin a subsidies program to provide farmers with transportation and ways to increased production with fertilizers. BY creating a two part solution, the farmers will be able to both have access to the roads and use these roads to transport increasing amounts of crops to markets. The Congo also needs foreign intervention to build infrastructure in exchange for potential mineral wealth. As demonstrated by China’s program, investing in African infrastructure is appealing. Finally, the Congo needs increased micro loans from international companies to foster financial security for farmers. These micro loans will enable farmers to have a means to increase their crop production as well as create opportunities to purchase increased means to travel to access markets.

The hunger epidemic in the Democratic Republic of the Congo is one of the foremost issues in the world today. This problem is widespread and difficult to solve due to the history, conflict and geography of the Congo. It is evident in the conditions for the Congolese which are some of the worst in the world. The solution lies in increased government focus through spending on transportation infrastructure. This spending comes from a variety of sources and goes toward constructing new roads and enabling farmers to utilize them through subsidies for transportation and fertilizers. International cooperation is a cornerstone on which the Congo can rebuild itself. Through domestic efforts and the effort of nations across the globe, 48 million Congolese people will no longer have to go to bed hungry.

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