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Burundi, Factor 6: Sustainable Agriculture

Successfully Nourishing a Family with Two Acres of Land

Located east of the Democratic Republic of the Congo and west of Tanzania, Burundi is a country working to recover not just from civil war and flooding that affected Bujumbura, but also from food hunger. Burundi's food problems affect families greatly as seventy-two percent of the population, fifty million citizens, are food insecure. Sixty-eight percent of the population lives under the poverty line (Culture of Burundi; Davis). This is due to citizens earning and living on less than \$1.25 a day; fifteen cents being the minimum wage (Davis; Worldmark Encyclopedia of Nations). Over seventy percent of the money earned goes towards overpriced food. The money left is insufficient for other necessities. Famine is a major problem as fifty-eight percent of children age five and under are chronically malnourished, and only 2.5% of the population live to the age of fifty-five (Davis).

Family households in Burundi are usually big enough to only fit about five people. They live in huts constructed with wood wrapped around poles. Huts are grouped together so that relatives are near each other (Worldmark). In Burundi, women are important as they are able to reproduce. The responsibilities of women in Burundi consist of doing household work and taking care of the family's children. Men are the leader of the household and are the ones who provide money and food for their families.

Typical foods found in Burundian kitchens are made with the same base ingredient, the red kidney bean. Spices and seasoning are added for variety (Martin). Parents in Burundi have trouble feeding their children with only one job and are indirectly forced to have several. Parents usually own two acres to farm on, but how the land is being used is questionable (Worldmark).

The education system in Burundi requires students ages six to twelve to attend school (Encyclopedia Britannica). Education is free, but even then only 26.7% of the students who attend complete elementary school as parents would rather have them help out at home or work if old enough. They also face the challenge of buying uniforms for their children (Worldmark).

Meat and dairy are not always accessible in Burundi. Beef and poultry are overly priced, and the milk found in Burundi is not safe. Parents often have problems to feed their families without meat, so they avoid meat, as it would result in even less food. There are other dairy products, such as cheese, but they are priced highly (Cities of the World). Kwashiorkor, protein deficiency, is very common in Burundi due to the lack of meat in their diets (Culture of Burundi).

Several health problems affect Burundians. The Burundian birthrate is high, but they also have a high infant mortality rate (Culture of Burundi). Sickneses such as Malaria, influenza, diarrhea, and measles are found in Burundi (Encyclopedia Britannica). AIDS affect six in every one hundred adults in Burundi. With ten million citizens in Burundi, approximately six million are living with AIDS. Twenty-five thousand deaths in Burundi were caused by AIDS (Worldmark). All these diseases contribute to the low life expectancies. Life expectancy is fifty-seven for females and fifty-four for men.

With all these diseases, Burundian citizens need affordable and accessible health care. This is not the case as there are only five doctors, twenty nurses, and a pharmacist per one hundred thousand citizens. World Health Organization (WHO), is working with Burundi to provide low-cost health services (Country Cooperation Strategy at a Glance- Burundi). They currently provide proper healthcare for pregnant women and for children five and under.

Ethnic conflicts have been a long-term problem in Burundi. Researchers believe that the Twa were the first inhabitants of Burundi, yet they are not as big of an ethnic group. The two major ethnic groups are the Hutu and the Tutsi. The Hutu migrated from the west sometime between the seventh and tenth century and were the second group to inhabit Burundi. When they arrived, they outnumbered the Twa. The Tutsi arrived between the fifteen and sixteenth centuries. They came from the Nile region. The Tutsi held power over the Hutu. The Tutsi were warriors, and they held the highest position in the government, while the Hutu's to be the working class (Worldmark). This ethnic problem has led to the recent civil war and has impacted the country's economy. Even though the country just ended a civil war, the threat of another coup is still present (Culture of Burundi).

Burundi's government has taken arable land to build cash crop farms, and the high-class population reserve the best land (Culture of Burundi). The jobs on the country's plantations are poorly paid, as fifteen cents is the minimum wage (Worldmark). Subsistence farms in Burundi were not well taken care of during the civil war, as families were scared of all the fighting that was occurring. People fled and left their crops planted, but left no one to take care of the harvest. The civil war came and left with no innovations on how to improve farming (Culture of Burundi). Burundians who fled during the civil war have returned to see that their huts are now the homes of other civilians or were taken by the government.

There are also farmers who cultivate in highly erosive hillsides. Destructive rain easily washes loose soil down hills, dragging any crops with it. Livestock graze the eroding hills, eating the plants needed to help the soil from eroding. These factors combine to give Burundi ever-worsening land erosion (Culture of Burundi). Although not much can be done to prevent the government from taking farms, there are things that can be done to help alleviate the high rate of food insecurity.

Researchers say that Burundians should move away from subsistence farming and become cash crop farmers (Culture of Burundi). This would only be beneficial after families learn how to grow enough food for their families. Families should be educated in how to harvest so that any member of the household is able to farm if others are too busy. Those who have not farmed before, those returning after fleeing war, or those born in different countries, should be taught the basics of farming in Burundi. Once families can live off their crops, steps can be taken to begin selling produce.

Burundi joined Scaling Up Nutrition (SUN) in January of 2012 (Hunger in Burundi). SUN believes all people have a right to nutritious food. Their goal is to reduce malnutrition from fifty-eight percent to forty-eight percent. They believe if people get together they can each contribute something unique. That together as a country they can achieve what no one else can do alone. These are objectives are useful, but if we make some changes the results could improve.

According to Pure Energies, A family of four can live off of land with meat and dairy with 91,690 feet of land, about two acres (Wheeland). The size of a Burundian family farm is about two acres, so this method should work for the vast majority of Burundi and will be adjusted to fit each family's needs. (Worldmark). Once the US helps the Burundians with their land, they will eventually be able to sustain their families if they follow these following guidelines.

Vegetation uses 91,318 square feet of land and provides more than 9,200 calories per family a day (Wheeland). This amount of calorie intake is considered healthy and does not include calories from meat nor dairy. This vegetation will also include the wheat and corn that the animals need to eat. Possible vegetation choices include beans, bananas, mangoes, papayas, cabbages, carrots, lentils, onions, peas, peppers, plantains, sweet potatoes, maize, and wheat. The type of vegetation grown will be the choice of each family.

Meat requires two hundred seven square feet (Wheeland). Enough room for three pigs. Nine square feet would be needed for each optional piglet. The pigs would provide sufficient protein as Burundians

currently do not get enough. If portioned and bred correctly the pigs would be able to feed a family for at least a year. The offsprings born replace their predecessors.

Milk and other dairy products use one hundred square feet (Wheeland). This is enough for two Nubian goats, which require less land than cows. The goats can provide up to 1,844 pounds of milk a year. A little over half a gallon a day. The milk may be used to make cheese, yogurt, and other dairy products. A male and a female goat would be kept at all times, so they can produce kids.

To eat about a thousand eggs a year, thirteen chickens and sixty-five square feet would be needed (Wheeland). A thousand eggs provide about nineteen eggs a week. To maintain the number of chickens, a separate chicken coup with a rooster and a chicken to produce chicks and eventually be able to eat and replace old chickens.

These numbers would be adjusted to fit each family's necessities. If they do not eat a lot of wheat, they could use the extra space for more animals or some vegetables. If families come to the point where they have enough money to buy corn bushels for animal feed, they could use that portion of land for their other needs. The Burundian families should be encouraged to adjust this structure to their wanting as it will be theirs to grow and maintain.

Once they are able to support themselves, the Burundians have the opportunity to sell parts of their harvests for profits. They would be able to buy other needs with the money gained from selling part of their harvest. The main goal is for the Burundians to eventually feed their families without any help.

Measures need to be taken so that the land stops eroding to allow the land to be used fully. One of the easiest ways to stop land erosion is to plant vegetables across hills. Using fertilizers also helps, and it can be made naturally. There are other products such as vegetation mats that may help, but cost a lot of money to use and they have to be replenished each year. So instead, a retaining barrier could be built to keep the soil from eroding. This would cost less than having to replace the vegetation mats seasonally. The retaining barriers would be made of stones or brick like a dam. The damaging water that falls could be caught before it reaches the plants and the water caught will be used to water the plants during droughts.

Burundians can learn a lot from the US, but the US will also learn a lot from Burundi. The US can learn about Burundian customs, practices, and their view on the government. Burundians can express what they need help with. US agricultural organizations "know" what problems they have due to research that has been done. That knowledge will change once the Burundians share their problems. Burundi may have problems which are not considered problems in the US, but may be essential to the Burundians. Therefore, before any actions are done to help the Burundians, the Burundians have to provide input to better help to aid them.

Burundian' trust needs to be gained before anything can be done. If another country were to "invade"- the US, and give commands abruptly, the citizens of the US would not obey the instructions. Especially, if the invading country did not speak English. United States civilians would try to retaliate as much as possible. The US would not want the invaders to tell the US what is right and what is wrong. The US would think that they are crazy because they think the citizens will actually listen to what they say. The US would not want to do anything that country commands, so why would the citizens of Burundi?

Steps need to be taken to gain the trust of the Burundians thus increasing the effectiveness of the mission. The first step should be offering food to the hungry Burundians, but not American food. The food given to the Burundians should be familiar foods in their country, like the red kidney beans (Burundi). Meat should also be provided, as meat is scarcely eaten among the poorer Burundians. This would only be temporary as the farms are established. The US would not be supplying the families of Burundi with food for very long, as the Burundians need to learn to be able to fully provide for themselves. Volunteers serving and helping out should be able to speak French as this is their official language (Burundi

Information). The US could recruit some Burundians that are currently living in the US to help as they are familiar with the country. Having people speak their language, and or have lived there, provides ways to communicate if the Burundians had any questions or concerns. It will also build trust as Burundians are able to speak directly to the foreign helper.

Moving on, gifts may help gain Burundian families' trust. These would be gifts that will help the civilians' everyday lives. They would be wells dug deep into the earth that provide potable water. Medical doctors in their village for immediate attention, who specialize not only in modern medicine but also in traditional Burundian home remedies. Food dieticians who can help families eat and plan nutritional family food. Free food for the students who attend school, so that families are encouraged to send their students as they know they are being fed. Free school tuition and uniforms so these factors are not interfering with students getting an education. There will be explanations on how to use these gifts. Information about AIDS and other STDs would be given as Burundi is a country with a high count of infected citizens. The citizens would be informed on how to protect them from these diseases.

If any further trust issues occur, the US could establish farms on families willing to volunteer. Once the farms start blooming, the others will be more willing to join. As one family tells another about their results, the successful results will reach the majority of the country. Every family will be given the chance to participate, but the actual participation will be left to each family.

Food insecurity in Burundi can be defeated using Pure Energies' method of backyard farming. The land in Burundi must first be fertilized and prepared to be able to grow this amount of vegetation and animals. Land erosion must be stopped, and the trust of the Burundian citizens must be gained. Family farms would be used to efficiently and nutritionally feed families, and maybe even provide some income. Improving subsistence farming would help the fifty-eight percent of the children under the age of five who are chronically malnourished. Once families are well fed, the age expectancy will go up. There are realistic chances to fix Burundi's food hunger. The process will take time, but the results will be essential to ending Burundi's food insecurity. Eventually, all the families in Burundi would be self-sufficient, and maybe have food left to sell.

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