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SCIENCE

TRUST



Roman Kiefer WACO High School Wayland, IA Burundi, Factor 19: Foreign Aid

Roman Kiefer is a 16 year old from the United States of America. He is a junior at WACO High School located in Wayland, Iowa. Roman has a passion for volunteering in and around his community. He attended the World Food Prize in Des Moines on October 15th-17th. His focus is how foreign aid can help reduce hunger in Burundi.

Burundi: Foreign Aid

Across the world people are dying from starvation. The United Nations World Food Program estimates 8 million people die each year as a result of poor nutrition and starvation. This global food insecurity stands in contrast to an estimated 133 billion pounds of wasted food in the United States (Society of St. Andrew). As American students, we hear humanity's future is bright, but this future is endangered by the social injustice of food insecurity and food waste. Social and political barriers that make ending world hunger an arduous task. There are many factors that occur in Burundi, that make it a promising task for foreign aid organizations to help end hunger there. Although there is a shimmer of hope to end hunger in Burundi, it is still an uphill battle with many barriers in the way. One barrier is that much of the public has put up blinders to this topic. This needs to be addressed because there will never be any action to end world hunger. Another barrier allowing starvation to continue is the foreign aid force is not as large and as committed it could be. The barrier that will define humanity is if we can defeat the food paradox without losing our morality in the process. This is important because the food paradox explains that there is not enough food for a population when they exceed their availability of natural resources. When this happens, which it has already begun, how will it be decided on who gets food and who decides that and this may cause us to turn from our morals. The last big barrier faced when fighting this injustice is many programs are under-funded, which means less food and fewer volunteers are available to people who need help. These barriers can be brought down with many existing or future projects by several foreign aid groups all over the world. These projects will be faced with criticism and other projects will be met with welcoming arms, which is why there must be protocols to introduce these new concepts. All of these issues are present in Burundi now and need to be addressed so that Burundi's hunger can end once and for all.

The country of Burundi serves as an example of food insecurity. From 1993-2005 Burundi suffered from a civil war that was very similar to the Rwandan conflict. This conflict was between the Hutu and the Tutsi because both wanted government control but it also displaced 550,000 people and is one reason why the country is struggling to end hunger today (GlobalSecurity.org). This issue resonates to the present day; if



someone who fled during the civil war returns home, they may take back their land if they want to, causing more people to become misplaced, homeless, and jobless. This is a difficult topic to resolve because this issue is about what mindset each person has and whether or not the mindset is right or wrong and who should be listened to. One solution that could be used is to start a pilot program which would contain a committee of local people who have diverse views on this issue and to have this group find a solution that would benefit everyone related to this issue (Worldmark Encyclopedia of Nations). Burundi's democratic government began in 1995 but stabilized in 2005 by lifting curfews and allowing Hutu rebel groups to join Burundi's army. The country is also the second poorest country in the world which causes many of the underlying problems that has created so much poverty and hunger of its citizens (BBC). Three major languages are spoken in Burundi: Swahili, French, Kirundi. In Burundi a typical family size is 4.7 people (two parents and two children). This is an insufficient family size, because 90% of Burundi's population works in an agricultural setting, which means that there is great need for family help in the fields. Only 28% of Burundi's population is food secure which means that almost three fourths of the population doesn't always have the availability of food. The Burundian diet consists of manioc, beans, bananas, sweet potatoes, corn, and sorghum. The main exports from Burundi are coffee and tea; coffee alone makes up 39% of the exports from Burundi. The unemployment rate is 14%, which is a moderate amount of unemployment for a third world country. However, this rate could be reduced if there would be more farm land available to small farmers. Another way the unemployment rate can be reduced is to build up a wider range of a job market. In Burundi there is an estimated 2.718,000 acres of land which is utilized for permanent crops, and out of those 2,718,000 acres only 182,800 are irrigated. On average each farm is only 2 acres, leaving families with little earnings after raising food for themselves. Farming techniques used in Burundi are very poor, causing erosion and loss of soil fertility. The literacy rate in Burundi is 67%. Many Burundians can't afford to send their children to get a basic education; it's even more difficult to send them on to college. The health care system in Burundi is free to pregnant women and children under the age of five. Healthcare is important anywhere but is even more important in Burundi is because many diseases occur in third world countries in younger children and pregnant women.

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93.5% of Burundi's population lives on two dollars a day, which contributes to the fact that 58% of the population is chronically malnourished ("World Food Programme"). Burundi's GDP is at an all time high of \$2.715 billion, yet this high is still very low on a global scale. Since Burundi's GDP is so low, funds to fight hunger are mainly provided through foreign aid. In 2010 Burundi received \$629.9 million but in 2012 only received \$522.7 million (The World Bank). This means that there was a funding shortage of \$107.2 million; this amount of money could help ending Burundi's hunger.

There are many barriers that block seemingly easy solutions to ending world hunger in places such as Burundi. 90% of the people of Burundi work in an agricultural field; if agricultural productivity increases, then the farmers would be able to pay their bills and keep food on their tables. One barrier to improving agricultural productivity is that the soils diminishing fertility, which makes growing crops an even more challenging task. Another barrier is the low living wage in Burundi. If wages increase, then the people of Burundi would be able to buy more land and plant more food. Another barrier is getting



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food from Burundi and selling it efficiently in a global market, and using the acquired money by cheaply buying nutritious foods to feed the country. According to the World Bank, Burundi's economy ranked 158th in the world in 2013, with an inflation rate at 18.01% (The World Bank).

A pressing issue causing major unrest in Burundi is the 2015 vote for president. According to Burundi's Constitution, article 96 states. "The President of the Republic is elected by universal direct suffrage for a mandate of five years renewable one time." In 2015 President Pierre Nkurunziza was elected for a third mandate, but according to the U.S. Secretary of State John Kerry, the elections were "deeply flawed." There is also evidence independent media outlets were closed down, and votes were tampered with, allowing Pierre Nkurunziza to win. This campaign has caused many protests leading to dozens of deaths, as well as approximately 170,000 Burundians fleeing to surrounding countries waiting to see if the country will plunge back into civil war. Another issue with this vote is the citizens of Burundi want a unified government, which has yet to be put into place. The people of Burundi want a unified government is so that it would allow all parties to have equal legislative power (Al Jazeera). These are major issues to be analyzed quickly and thoroughly because if it is not dealt with soon enough, war will erupt causing even more of Burundi's population to fall into poverty. In addition when a war happens in a country, there is less food harvested because war makes people live in fear and not tend to their fields. This issue is far from over and needs to be addressed by global leaders, so lives will not be taken that could be saved. Foreign aid organizations are helping the displaced Burundians in the surrounding countries and are ready to move into Burundi if war does occur (Al Jazeera).

When examining food insecurity, it is very important to consider the food paradox factor. The food paradox is a formula used by ecologists to study a population that is growing and to observe the amount of food availability decrease as the population grows; if the population gets overpopulated, many die from starvation from the lack of food. If there is not enough food for everyone, who will decide who gets food and how will it be allocated? The food paradox studies why there is a portion of the world's population that is obese and another portion that is undernourished. The only that this paradox could be fixed is by boosting the economy of undernourished areas so that there is a cash flow that goes to the poverty stricken sectors that then can help improve poverty levels (Barilla Center for Food & Nutrition).

Foreign aid groups are doing a tremendous amount of work for many people who desperately need it. UNICEF, the World Food Programme, and the Peace Corps are three of the most well-known aid organizations. These groups tend to have a set of common values. One important virtue when working with a group of people is sincerity; helpful sincerity requires that a worker can communicate honestly without being mean or derogatory. Another virtue present in foreign aid organizations is frugality; it must be frugal with expenses so that the people who desperately need supplies can receive them. When helping the people of Burundi, foreign aid workers must be industrious because there is much work to be done to help feed its people. Also, foreign aid organizations must use moderation. If these organizations give out too much food to the people, food shortages will occur in the future. They also must watch how much money they use,



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because if, perhaps, a natural disaster would hit Burundi, the foreign aid organizations would need the money to stay afloat and help those affected. One last essential virtue for a foreign aid worker to possess is selflessness. Selflessness is an important quality for foreign aid workers to possess because if they did not possess this virtue, then a lot of projects wouldn't be able start or be accomplished.

Farmers of Burundi make up 90% of the work force. One way foreign aid workers could help fight hunger in Burundi is to set up free regional centers that teach more effective farming techniques to the local people. A way to do this would be to make the area around the regional center a miniature farm where the teacher could teach by example. This program would affect the whole country of Burundi, because if the farmers learn how to raise a larger yield of crops that are more resistant to its environment, food would be more available throughout the country, which would mean that more people could eat nutritious foods. The regional center could improve agricultural productivity in Burundi by using a process of bringing modern farming equipment and techniques to Burundi, then teaching local farmers effective techniques they could then share with the rest of their communities. This would help each farmer to harvest, plant, and spray their crops in a much more efficient manner. Many Burundians are not able to get an education because they have to use their time tending their fields at home. These centers could also have a STEAM (Science, Technology, Engineering, Arts, and Math) initiative which would help citizens be competitive in the ever-changing world. This education would also help Burundians gain jobs outside of agriculture, which would allow Burundi to begin building a larger and more powerful infrastructure. When a country's infrastructure gets large enough, the people of the country begin to prosper from the money they gain as they begin to have a larger presence on the global market. Some of that money can be used to buy food. When someone would attend a regional center the attendee would also be able to get food from the center to bring home for their family. One food that would be nutritionally powerful to send home with the attendees to their families is golden rice. Golden rice would be a great source of nutrition for the people of Burundi because it is a high-yield crop, engineered by Professor Ingo Potrykus and Peter Beyer. According to the Golden Rice Humanitarian Board,

"Dietary micronutrient deficiencies, such as the lack of vitamin A, iodine, iron or zinc, are a major source of morbidity (increased susceptibility to disease) and mortality worldwide. These deficiencies affect particularly children, impairing their immune system and normal development, causing disease and ultimately death. The best way to avoid micronutrient deficiencies is by way of a varied diet, rich in vegetables, fruits and animal products. The second best approach, especially for those who cannot afford a balanced diet, is by way of nutrient-dense staple crops ... Unfortunately, there are no natural provitamin A-containing rice varieties. In rice-based societies, the absence of β -carotene in rice grains manifests itself in a marked incidence of blindness and susceptibility to disease, leading to an increased incidence of premature death of small children, the weakest link in the chain. Rice plants produce β -carotene (provitamin A) in green tissues but not in the endosperm (the edible part of the seed). The outer coat of the dehusked grains—the so-called aleurone layer—contains a number of valuable nutrients, e.g. vitamin B and nutritious fats, but no provitamin A.



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nutrients are lost with the bran fraction in the process of milling and polishing. While it would be desirable to keep those nutrients with the grain, the fatty components are affected by oxidative processes that make the grain turn rancid when exposed to air. Thus, unprocessed rice—also known as brown rice—is not apt for long-term storage. Even though all required genes to produce provitamin A are present in the grain, some of them are turned off during development. This is where the ingenuity of the *Golden Rice* inventors, Profs Ingo Potrykus (formerly ETH Zurich) and Peter Beyer (University of Freiburg) comes into play. They figured out how to turn on this complex pathway again with a minor intervention" (Golden Rice Humanitarian Board).

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Golden rice can only be grown in rice patties which are full of water; this can prove a problem during dry spells in Burundi, which means that the irrigation system needs improvement. The strength of growing golden rice is that it gives needed nutrients that are lacking in a Burundian's diet. The regional centers could help raise Burundi from its status as a developing nation. The effect on a typical family from Burundi is they get more food from the regional center, and then they also get more money when they begin to apply what they learned from the regional center.

There are some projects in Burundi similar to these two ideas, and many could be scaled up so they can fight hunger more aggressively. Schools are being built to provide a greater chance for Burundian children to get an education. This could be scaled up so more Burundian adults can go and obtain a higher education, which can then be used to help fight hunger as these people move into a better economic position. Another project that is related to the concepts of what foreign aid can do in Burundi is led by the World Food Programme; this project feeds students in school in and around middle Africa and East Africa (Foreign Affairs, Trade and Development Canada).

When a foreign concept or project enters a new area often scepticism is raised by the local people due to cultural differences. When starting a project in a new area, skepticism and mistrust can stop the project in its tracks. One way to make people more interested in these efforts is to have local officials or "heroes" show how it can become a positive concept or project to use. Another option to interest more people is to tell them of a "rags to riches" story when someone used this concept or project. One more option is to create books or pamphlets to give to children that have heroes exemplifying the morals and values that will help the new project have success.

When a country receives foreign aid, it is also necessary to have a plan in place for when the country is able to take better care of itself, and the foreign aid organizations will be relocated elsewhere. Without this plan, the country could fall back into high poverty rates and a large portion of its citizens become starving again. The first step of this process would be make sure the people of Burundi work alongside the foreign aid workers so they know how to do many important things to help others. This step was very important to Norman Borlaug who said, "Alongside our own work we were to train local scientists and ease them into our jobs. Moreover, we were to be neither consultants nor advisors, but working scientists getting our hands and boots dirty, and demonstrating by our own fields results what could be done" (Norman Borlaug).



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The next step of this process is to make sure the younger generations know how bad life was and to make sure they follow in their parents' footsteps and strive for a better country where everyone is cared for. It is also important to make sure the people have a voice in their government, because it is very easy for a government to become corrupt, and the people could be oppressed and unable to create a system that cares for everyone. The people need to have the freedoms that allow them to continue their efforts. Once all of these steps are completed, the people of Burundi will be able to thrive and start helping other countries.

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Foreign aid for the future of Burundi is unclear at this point in time, which is making the Burundian government focus on mobilizing domestic revenues. The government is trying to help get its people above the poverty level and improve the standard of living in Burundi. It could also help the United States of America because a partnership between these two countries could improve both economies. Another issue affecting the potential help from foreign aid is the worsening soil fertility. If it keeps the agricultural industry could die because of these irreversible effects. The question that will be the key to the future of Burundi is if foreign aid will help with the problems this developing country will face in the near future. If and only if foreign aid stays in Burundi will hunger be eradicated, because the people of Burundi don't have enough resources to help the majority of their population. It is also just as important for the Burundian government to be ready to pick up the torch when foreign aid must leave to help another place. Another thing that Burundi needs to figure out is how to properly deal with the lack of land area. As well as how to teach farmers proper ways to grow their crops and to harvest them. If these practices become used by the farmers of Burundi, then soil fertility will grow and more crops will be produced. People must stand up and use their words and actions to show the world that ending hunger is possible. These people could begin to break down the barriers that allow hunger to ruin people's lives, then they can help the world move forward to take on another problem. After analyzing and looking at the facts of Burundi and the hunger of its people, the facts show that ending hunger in this country is not impossible.



Works Cited

"Burundi." Burundi. Web. 30 June 2015. http://data.worldbank.org/country/burundi.

- "Burundi Country Profile BBC News." *BBC News*. BBC, 5 July 2015. Web. 27 July 2015. <u>http://www.bbc.com/news/world-africa-13085064</u>.
- "Burundi Opposition Leader Calls for Unity Government." *Al Jazeera English.* Al Jazeera, 22 July 2015. Web. 27 July 2015. <u>http://www.aljazeera.com/news/2015/07/burundi-opposition-leader-calls-unity-government-150722124446067.html</u>.
- "<u>Burundi.</u>" <u>Worldmark Encyclopedia of Nations</u>. 2007. *Encyclopedia.com*. 30 Jun. 2015 <u>http://www.encyclopedia.com</u>.
- "Food Waste US." EndHunger. Web. 4 July 2015. http://endhunger.org/food-waste/.
- "Golden Rice Project." *Biofortified Rice as a Contribution to the Alleviation of Lifethreatening Micronutrient Deficiencies in Developing Countries.* Web. 30 June 2015. <u>http://www.goldenrice.org/</u>.
- Hesser, Leon F. "Borlaug Builds a Revolutionary Wheat Breeding Program." *The Man* Who Fed the World: Nobel Peace Prize Laureate Norman Borlaug and His Battle to End World Hunger : An Authorized Biography. 1Borl ed. Dallas, Tex.: Durban House Pub., 2006. 43. Print.
- "Hunger and World Poverty." *Poverty.com* -. Web. 4 July 2015. <u>http://www.poverty.com/</u>.
- "International Development Projects." International Development Project Browser Foreign Affairs, Trade and Development Canada (DFATD). Web. 30 June 2015. <u>http://www.acdi-</u> cida.gc.ca/cidaweb/cpo.nsf/fWebCSAZEn?ReadForm&idx=00&CC=BI.
- "Key Burundi Opposition Politician Urges Fresh Vote." *Al Jazeera English*. Al Jazeera. Web. 26 July 2015. <u>http://www.aljazeera.com/news/2015/07/key-burundi-opposition-politician-urges-fresh-vote-150725130439101.html</u>.
- "Military." *Burundi Civil War*. GlobalSecurity.org. Web. 27 July 2015. <u>http://www.globalsecurity.org/military/world/war/burundi.htm</u>.
- Nierenberg, Danielle. *Eating Planet 2012: Nutrition Today : A Challenge for Mankind and for the Planet.* Parma, Italy: Edizoni Ambiente, 2012. 56-58. Print.

"World Food Programme." *Burundi*. Web. 4 July 2015. <u>https://www.wfp.org/countries/burundi/overview</u>.

