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## Lost and Found: Ethiopia's Food Security

In the United States, citizens consume more than 3,500 calories per day (The Hunger Project, 47). This contributes to the majority of the population being overweight, and nearly a quarter being obese, which is defined as being more than thirty pounds overweight. While Americans grab another Big Mac and Diet Coke, thousands of people around the world die every day as a result of hunger. Some of these die of starvation, but more die of simple infections that hardly require a doctor's visit in the United States. These infections become deadly in weakened, malnourished bodies. Even in 1970, pets consumed enough food every day to feed 12 million children (The Hunger Project, 47). Clearly, the world can produce enough food to feed everyone. Why, then, do twenty people die of hunger every minute ([www.stophungernow.org](http://www.stophungernow.org))?

Hunger is truly a problem for the entire world. To solve this problem, however, one must focus upon the individual issues of different areas of the world. One area particularly plagued by hunger is Ethiopia, an African nation approximately twice the size of the state of Texas. Ethiopia is located in eastern Africa, in a region known as the Sahel. Ethiopia, unique among African countries, was never colonized during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (with the exception of a failed colonization attempt by Italy during World War II). Despite its unwavering independence, Ethiopia and its approximately seventy-five million citizens are plagued with environmental issues galore, an unsteady crop of refugees, bloody regime changes, and, of course, colossal famine, much of which results from the aforementioned issues.

Families in Ethiopia are large; the fertility rate is 5.22 children per women (CIA World Factbook). The infant mortality rate, however, is nearly 100 for every 1,000 births (CIA World Factbook). Extended family often resides together. The prevalence of HIV/AIDS is fairly high, with about 4.4% of the adult population affected (CIA World Factbook). Knowledge of contraceptive practices is fairly limited, which may contribute to both the high number of HIV infections and the high number of children born per woman. In traditional Ethiopian society, marriage meant security. Women and men in families both carried heavy workloads, with women raising food and men earning money. More recently, famines and economic problems have scrambled this family structure. Now, many men can't be guaranteed work outside the home. Many women have more children than they can feed. Instead of having a large support system within the family, many Ethiopians are forced to rely upon food aid from the international community.

At one point, nearly all people in Ethiopia depended upon subsistence farming for survival. Most farmers grew teff, a cereal that is native to Ethiopia and is made into a flat, pancake-like bread. Farmers wouldn't grow immense amounts of food to sell—most food would be used to feed the family. That is not so at the present. Agriculture in Ethiopia has ceased to focus upon feeding its population. Instead, in recent years, Ethiopian farmers have been encouraged to grow cash crops such as coffee and qat, a mild narcotic, to stimulate the economy. The environmental situation, however, prevents these water-dependent plants from growing very well and, thus, the farmers do not profit. Crops like these are not suited to Ethiopian soil, nor are imported Western plants such as corn and wheat. Farmers, then, are obligated to use expensive fertilizer and irrigation systems to encourage these foreign plants to grow. In the past thirty or so years, global warming has affected the Sahel region immensely. Ethiopia has suffered from massive droughts, which are punctuated by devastating floods. Because of the droughts,

much of the topsoil has blown away; the land in Ethiopia lacks the trees and plants whose root systems normally hold the soil in place. The government's policy on land ownership, too, prevents much profit from cash crops, as all land is government-owned and only leased to farmers. The civil war with what is now Eritrea has also harmed Ethiopian agriculture. Presently, millions of Ethiopians depend on food aid from the international community. This is not only a burden upon other nations but a blight upon Ethiopian culture; native dishes cannot be made with foreign food. The few people who can grow food are unable to sell it because food aid is available for free. Because of this, their economy is standing still instead of moving forward.

To summarize, Ethiopia's barriers to food security lie in three areas. First and foremost, the environment in the nation is changing; this displaces many people from their homes and makes crops difficult to grow. Second, farmers plant the wrong crops, which produce poor yields, don't feed the population, and make the environmental problems worse. Finally, the political situation with wars, land disputes, and no land ownership makes farming even more difficult. All of these issues make Ethiopians depend upon foreign aid, which is a problem in itself.

To make Ethiopia completely food secure, many factors need to be addressed. One of the most beneficial to address, however, would be its environmental crisis. Sustainability research, which would help Ethiopians learn to adapt their farming practices to their changing climate, would be particularly helpful. Again, the environment prevents Ethiopia from being food secure because of drought and erosion, complicated by attempts to grow nonnative, water-dependent crops. One might question the severity of the environmental crisis in Ethiopia: how can a little erosion cause so many problems? Statistics, however, don't lie. The vast majority of Ethiopians (eighty percent) are in the agriculture industry. Half of the population is under the poverty line (CIA World Factbook). Obviously, something is seriously wrong in the agriculture industry if these people can't make the money to survive. The average annual income in Ethiopia is, in US dollars, \$931. This is, too, for men, who have many more advantages than women. Women make, on average, only \$487 per year (Global Footprint Network). A new environment and old farming practices have combined to force some Ethiopians to survive on less than two dollars per day! While the income statistics are startling enough, they are not the worst of it. 46% of the Ethiopian population is chronically undernourished (Global Footprint Network). Millions upon millions of people cannot rely upon their occupations to support them; they must rely, instead, on famine relief from foreign nations. The hunger situation in Ethiopia needs to be addressed; by looking at it from an environmental standpoint, much of it can be understood and, therein, perhaps, solved.

Although Ethiopia is on a cycle of famine and relative success, global warming trends are only getting worse. In the past century, surface temperature over the globe has risen about 1 degree Fahrenheit—this according to the EPA. Precipitation has increased in some areas and decreased in others, hence Ethiopia's struggles with both droughts and floods. Perhaps most frighteningly, ocean levels have risen six to eight inches in the past century, mostly due to the melting of the polar ice caps (EPA). Although Ethiopia is landlocked, these statistics are a testament to the worldwide severity of global warming. Again, Ethiopia's main environmental problems are droughts, floods, erosion, and nutrient-depleted soil. Factors that indicate Ethiopia's environmental status include malnutrition rate, crop yields, and erosion rates. At this very moment, the situation for family farms in Ethiopia is, of course, awful; however, natural disasters such as their current flood really can't be prevented. Catastrophes aside, though, Ethiopian family farms are really suffering. The cash crop industry has effectively ruined any chance for subsistence farmers to be successful, especially when they attempt to grow imported, genetically engineered crops like corn and wheat. All of these issues make Ethiopia stand still instead of moving forward, because no nation so dependent upon foreign food aid can really experience success.

Improving Ethiopia's natural resource management and attempting to reverse what ills have already been wrought upon their environment would benefit everyone. First and foremost, it would preserve Ethiopia's rich culture and beautiful landscape for future generations. Second, and perhaps more importantly, it would allow the people of the nation to grow enough nutritious food to feed themselves and make money. Finally, it would set an example of success in the troubled region of the Sahel.

The importance of reducing Ethiopia's dependence on food aid cannot be stressed enough. The first step, then, to building a food-independent Ethiopia is to alert national governments, the United Nations, and private voluntary organizations to this fact. Naturally, food aid cannot be ended abruptly, particularly at a time of crisis; however, after the flood situation has been resolved, Ethiopia must begin to take baby steps toward independence. It is rather ironic, in fact, that a nation that has been independent for thousands of years depends upon the help of so many other nations. Three basic problems arise from foreign famine relief: one economic, one logistical, and one cultural. In the economic sense, food aid prevents local farmers from selling their crops. Theoretically, there would be no crops in a time of famine, but when relief continues after the famine has ended and farmers begin to get back on their feet, so to speak, a problem arises. Such a situation occurred in Ethiopia in the famine of 1984, when the United Nations was unable to send food until 1985. In the words of one observer, "The food arrived so late that, for many Ethiopians, the new rains had already ended the crisis. Much of the food arrived, ironically, 'as local farmers were bringing in their first good harvests in years.' Harvests that, unfortunately, were now worthless to those impoverished farmers because the country was flooded with free grain" (Rodale, 67). The logistical problem arises when the food tries to get from the country donating it to Ethiopia. Ethiopia, first of all, is landlocked. It has been since a civil war created Eritrea. Thus, any food given from a foreign nation (assuming, of course, that the nation is not within Africa—a fairly safe assumption) must be transported by land. The road systems in this part of Africa, and particularly in Ethiopia, are not very good. Thus, a good deal of food aid never reaches the region for which it was intended. It would seem that, although wasteful, this food aid isn't actually causing a problem—but sometimes, it does. In nations torn by civil war (like Ethiopia), the food can be hoarded to starve a certain segment of the population or sold to support a cause. If war and economic crisis weren't bad enough, food aid can have an insidious effect on a nation's culture. Ethiopians may have carefully cultivated their native plants for hundreds, even thousands, of years, but those traditions might die with the distribution of free foreign food. Why make pancakes out of teff when there's free wheat to be had? Although it hasn't spread to Africa yet, this is why the US's obesity epidemic is becoming global. A completely different problem, too, can result: famine relief comes in the form of food these people don't know how to cook. Whenever the US has a corn surplus, it's usually yellow corn, the kind used to feed animals. If Ethiopians don't know what to do with the corn sent to them, it's basically useless. For these reasons, native food must be grown in Africa to feed Africans.

Because famine relief is clearly not helping Ethiopia move forward, national governments and other relief agencies need to take a different path. Relief agencies, instead, should help provide Ethiopian farmers with better, more environmentally sound farming practices and the crops to help them succeed. Presently, much of Ethiopia depends on money from growing rain-dependent crops like coffee and qat. Ethiopians can, instead, turn to the drought-resistant crops upon which they subsisted for thousands of years before the era of cash crops. Teff, as was previously mentioned, is one such crop. Other grains, such as quinoa, millet, and amaranth, originated in Africa and can survive the droughts that have become so common to the region. Even though people in the United States are unfamiliar with these grains, they are much more right for Africa than our foreign yellow corn and wheat. These crops, too, won't require costly fertilizers as corn does. These crops would grow successfully and, in turn, return health to the soil. Corn, on the other hand, only depletes the soil. The species of plant alone doesn't make the difference, though; farming practices are equally important. Ethiopian people must get back into the tradition of smaller gardens. Plantations, which are necessary for cash crops, do not allow the soil to regenerate. Furthermore, growing such large quantities of a single crop makes the crop extremely susceptible to

disease and pests. If, say, the millet crop were destroyed, a family could fall back on their other grains, whereas a coffee plantation could be destroyed completely by pests and drought and the family could be left penniless. A second farming practice that would be particularly beneficial is called alley cropping. In this system, fast-growing leguminous trees are planted between rows of crops. Legumes are plants whose roots release nitrogen into the soil, thus acting as a natural fertilizer. In one alley cropping study, a 2.5-acre plot planted intermittently with leguminous trees gained over one thousand pounds of nitrogen (Rodale, 115). Their leaves, which eventually would fall into the gardens, release even more nitrogen. Not only do the trees act as fertilizer (which, with soil like Ethiopia's, is benefit enough), they also shade the plants from the harshest sunlight. As yet another benefit, these trees grow quickly enough to be pruned for firewood. Ethiopia has lost much of its tree cover in recent years; this is do mostly to global warming and drought. A combination of drought-resistant plants and leguminous trees puts Ethiopia on a fast track to famine recovery. One might wonder how millions of impoverished people can learn such farming techniques. The answer: there are hundreds, even thousands, of aid workers in Ethiopia and the rest of Africa. They teach modern medicine; they distribute food. Why shouldn't they teach farming techniques and distribute plants as well? By implementing these techniques, first and foremost, people will have food to eat. These drought-resistant crops will be able to survive the changed climate of Ethiopia. There will, though, be many secondary benefits. When trees are replanted, soil loss will be reduced. The reintroduced nitrogen will enrich the soil. Other nations won't be burdened with feeding yet another starving nation, because one nation will already be fed.

When Americans think of Ethiopia, many come up with an image of a malnourished, pot-bellied child with flies buzzing around its face, an image they've seen on one television commercial or another. Sad as it may be, this child probably cannot be saved. By the time the commercial is over and the charity telephone number has been dialed, that child is probably long gone. Frantic shipments of famine relief corn that should have fed livestock in the United States will not save Ethiopia. Steps need to be taken so that Ethiopia doesn't need this aid in the future. Because of radical climate change due to global warming, Ethiopia goes through constant cycles of flood and drought that have caused famines in the past. Ethiopians need to adapt to this climate change; without doing so, they will never leave the painful, costly cycle of famine and famine relief. Instead of simply putting food in front of the hungry people, the world must give Ethiopia (and other famine-riddled nations) a way to feed itself. Instead of giving Ethiopia genetically-engineered, nonnative plants, which require intensive fertilizer and are susceptible to disease, why not give them a chance for success? By using native, drought-resistant species and innovative farming practices that enrich the soil, both the environmental and food crises can end. Volunteers can help implement these farming practices and use donated plants for a few years—by then, the farming practices will be understood by the formerly starving rural population. Not only will food become more plentiful, but Ethiopia's culture will be preserved, whereas with famine relief, it's only destroyed. With these simple steps, Ethiopia can beat drastic climate change and become food secure.

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