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Ethiopia, Factor 4: Animal Health

Agriculture is the world's most important industry. In every country on every continent around the globe, there are people farming to produce the food that we consume each day. With over nine billion people in the world, all needing a source of nutrition, farmers work diligently 365 days of the year in order to provide people with the produce they drive to the store to purchase. We in America are privileged to have not only advanced farming equipment, but also health regulations to insure the safety of our food. However, other nations around the world are not so lucky. Due to their lack of resources, inadequate equipment, and limited health care availability, agricultural practices become hard to complete efficiently. This is why many developing countries, such as Ethiopia, depend on livestock for their livelihood. Although many factors weigh into the economic problems of Ethiopia, it will be through the betterment of animal health that their overall economy can be drastically improved.

Daily life in Ethiopia is very difficult for most of its inhabitants. With the average family living with only \$1 a day, money problems are a common issue ("Ethiopia-Family"). This lack in funds also leads to fewer education opportunities for students ("Ethiopia-Cited"). With the average family size being seven to ten people all living under one roof ("Ethiopia-Family"), many families do not have the ability to send all of their children to school. However, in the past fifteen years, the percentage of students attending school has been increased by 500% ("Ethiopia Cited") due to the fact that the government banned all fees put on education to make it more readily available for large families ("Ethiopia-Cited"). These massive families made of mothers, fathers, grandparents, single aunts and uncles, and children all living together, are composed in hopes of accumulating enough money to share with their entire family ("Ethiopia-Family"). As the second largest Sub-Saharan country in Africa, Ethiopia is experiencing rapid population growth ("Ethiopia-Family"). With this increasing population, the demand of food is greatly increasing, but the production of food is slim to none.

One reason for the lack of food production is the extreme unavailability of farm land. A typical farm in the United States is 441 acres, making anywhere from \$60,000 to \$81,000 a year ("Agriculture Fact Sheet."). Ethiopia doesn't have that privilege. "The average farm size is considered by many to be too small to allow sustainable intensification of smaller agriculture" (Gebreselassie). In this statement, the author explains that the average farm is too minature to support even the smallest agriculture operations. With 87.4% of rural households operating on less than four acres, the average farm only generates about 50% of the income needed to sustain a life out of poverty (Gebreselassie). Food production is also declining due to the poor agricultural practices made by the Ethiopian people.

Due to their lack of modern equipment, the Ethiopians use several poor agriculture practices that lead to their shortage in food production. Practices such as irrigation, hybrid crop usage, "short-cycle" planting, and fertilization are all greatly misused. For example, in Ethiopia, only four percent of farmers use some form of an irrigation system due to its high cost. In order to install even basic irrigation systems such as drip-feed systems or micro sprinklers, farmers have to apply for financial aid, which less than one percent receive (Kassie). Also, only three percent of Ethiopian farmers use hybrid crops. The use of these crops help nourish the soil for future years. By not using them, essential nutrients are taken out of the soil and never replaced (Ethiopia-Agriculture). Another misused practice is "short-cycle" planting, which is harvesting crops every three months rather than every five months. This technique was created to quicken crop production for a single year, however, in Ethiopia, farmers are using this practice every year and several times a year in order to attempt to feed the entire population. This technique only destroys what fertile soil is left, and decreases crop production every year. Lastly, a major flaw in Ethiopian agriculture

practices is their lack in fertilizer use. With the rising population, demand for food continues to increase. This means that farmers can't afford to keep their fields fallow, or out of use for a season. This constant use dries up the nutrients in the soil and without applying fertilizer, the once healthy soil turns into mere dirt. Consequently, Ethiopia's several attempts to produce more food, in reality, only decrease the amount of food they receive each year.

All of these food production issues can be traced back to a lack of knowledge. Ethiopian farmers live and grow off of their land using the same practices that the generation before them used. They have yet to adapt to the many new methods and technologies that we in America use today. Like mentioned earlier, some technologies, such as irrigation systems, are too expensive for the poverty stricken people to perform (Kassie). However, other practices such as short-cycle planting, can be altered or completely avoided if the people became more aware of its harm on the soil. Putting new agriculture education systems to teach the farmers healthier ways to produce crops would help end this crop production issue. Unfortunately, new education programs have yet to be instated in Ethiopia, causing the food shortage to continue.

With this shortage of food and money, the diet of the Ethiopian people lacks many key nutrients needed to support a healthy life. With the miniature farm sizes and the unavailability of many foods, "... almost half the population is undernourished" ("Nutrition Country"). The majority of the people in Ethiopia do not have the ability to access the fresh fruits and vegetables as easily as we do in America ("Nutrition Country"). In turn, they must find more readily available sources of food. The average diet consists of cereal grains such as maize, sorghum, and teff, root crops like sweet potatoes and potatoes, and oil seeds ("Nutrition Country"). Notice, that in this diet, there is no major source of vitamins, minerals, or protein, which are all three a necessity for good health.

In order to help solve this problem, America, as well as the Ethiopian government have a few options as to how we could help save the lives of these malnourished people. The best and most obvious answer would be provide the people with fruits, vegetables, and other nutritious foods that would supply them with the minerals they are lacking. However, with the poor agricultural practices mentioned earlier (Kassie.), along with the lack of resources to keep the food fresh, this would be a difficult task to accomplish. This being said, without the direct nutritional sources in hand, the next best option would be to give the people supplements.

As a national government, Ethiopia could work to provide its people with supplements that will balance their nutrition and increase their overall health. For example, the people of Ethiopia lack nutrients such as iodine, Vitamin A, and iron ("Nutrition Country"). Iodine is a very important mineral for adults because it helps with bodily functions such as metabolism and proper use of the Thyroid gland. However, that is not why this is so urgent. Iodine is also needed in the body because the thyroid hormones allow for proper bone and brain development during pregnancy and infancy ("Office of Dietary Supplements.") With the current number of infant deaths per year being around at 136,000, proper pregnancy health is very important. In order to change this deficiency and help raise the live birth rate in Ethiopia, the federal government could begin by ordering iodized oil capsules to give to the people.

Local governments could help to solve the nutrition problem as well. In order to supply its people with nutrients such as Vitamin A and iron, it could open up food banks, much like in America today. Bringing in and giving away food rich with Vitamin A such as carrots, dark leafy greens, or dried apricot (Whitebread), and foods that supply the body with iron such as red meat, pork and poultry ("Iron Deficiency Anemia."), would help to end the poor nutrition of the people. Bringing in these multiple kinds of meats would also help make up for the lack of protein in the Ethiopian diet.

The insufficient amount of protein is due to the lack of animal products produced in rural areas. In Ethiopia, animals are considered a very valuable asset. Those families who are too poor to own working animals are considered “lower than poverty” and are often ridiculed. Due to this social dilemma, even starving families will often not kill their animals for meat and protein (“Nutrition Country”). Without their work animals, families are believed to be unable to survive.

With animals held at such a high regard, most families in Ethiopia raise their own livestock. Today, there are over 57 million poultry, 31 million cattle, 23.4 million sheep, 17.5 million goats, 5.5 million horses/mules, and 1 million camels in the country (“Ethiopia-Agriculture.”). However, on a typical farm, most families have only a few animals at a time. Even in small numbers, livestock animals are vital to the life of any person in Ethiopia. Due to their strength and durability, animals are often used to pull plows for farming, as well as carry supplies such as water from rivers to homes. (“Ethiopia-Agriculture.”) Without their animals, people in Ethiopia would be even farther in their economic depression than before, making the health and safety of their animals very important.

Animal health is vital to a happy life in Ethiopia. However, accessing health care is incredibly difficult. With ninety percent of the livestock in Ethiopia being raised in the highlands, not many veterinarians are able to reach hurt or ailing animals on short notice (“Ethiopia-Agriculture.”). The majority of veterinary clinics are located in the towns thousands of feet below the highlands, making travel both up and down treacherous and unsafe for the doctors. Also, due to the lack of college education, there are very few veterinary practices at all (“Center for National Health”). With the medical experts in low numbers and a great distance away, disease and injury are the causes of thousands of animal deaths per year.

Today in Ethiopia, contagious disease and parasitic infections, as well as malnutrition and starvation, are major causes of livestock death and it keeps worsening (“Ethiopia-Agriculture”). A recent Bure Woreda animal health survey tested 794 animals located in the Ethiopian highlands. Of these near 800 animals, there were 422 cattle, 300 sheep, 16 goats, and 56 equine. After testing urine, stool, and blood samples, it was discovered that these animals were crawling with diseases (Feleke). Illnesses such as Trypanosomiasis, a disease caused by a parasitic infection of the blood and tissue, Anthrax, a bacterial disease of sheep and cattle that affects the skin and lungs (*Dictionary.com*), and Lumpy Skin Disease, an infectious, eruptive, fatal disease of cattle shown through blisters on the skin (“Lumpy Skin Disease”) were discovered to be running rampant among the species. The causes of these illnesses, just like in many situations in the highland, were “open housing” or free range living, and the lack of separation of species. Having all species combined together caused the sickness to spread more rapidly (Feleke).

In order to destroy these diseases, better animal housing is a must. Any form of shelter would help these animals tremendously. Even creating small, lean-to shelters to keep animals out of weather conditions would help the cause. However, the diseases would be nearly demolished if vaccines and treatments were more readily available. This sickness could have been stop and destroyed rather than killing thousands of animals (Feleke). Along with diseases, starvation and malnutrition are also large causes of animal death.

Malnutrition is a major problem in the highlands. Due to poor agricultural practices, many farmers are not able to grow the food they need to supply themselves or their livestock. As mentioned earlier, with the lack of fertilizers as well as the overuse of fields, no ground has enough nutritious soil to produce a steady flow of crops (Kassie). Also, only 4% of Ethiopian farmers use irrigated land, which causes many crops to die due to dehydration (Kassie). This dwindling amount of crops leads to smaller amounts of food for the animals and humans alike.

In order to end this disease spreading and malnutrition, action needs to be taken. By increasing collegiate schooling, there would be more of an opportunity for students to go into the medical field. These new doctors not only could help people, but some could go on to become veterinarians. This would drastically

increase the availability of medicine, especially if practices were opened in the highlands. Also, improving farming practices by implementing irrigation systems and ending short cycle farming would increase crop production leading to more food for livestock. More food would improve nutrition and the overall health of animals in Ethiopia, which would also greatly strengthen the economy.

As Americans, there are several things we could do in order to help the people in Ethiopia. For example, by first funding the construction of schools, we could give the people of Ethiopia a chance to further their education in the highlands. Also, we could send over teachers and educators to jump start their programs. By increasing education, more medical professionals will immerge, helping to end the terrible diseases running rampant in the country. However, we can not help them unless they first choose to help themselves.

In local Ethiopian communities, every day people could work together to improve the health of their animals. Basic steps such as separating sick livestock from the herd, or cleaning out feeders every day could decrease the amount of diseases spread in the highlands. On a larger scale, the Ethiopian government could aid these sick animals, just as America could, by providing more educational opportunities in the highlands. Workshops on animal health could be provided for local farmers so people would have a general idea of how to properly care for their sick or injured animals. Also, purchasing larger quantities of medicine for the use of every day farmers could stop the disease spreading as well. Animals are vital to the economic health of Ethiopia. In order for the government to run a thriving country, they need to support the raising of healthy animals.

Animals are not only a great measure of social status in Ethiopia, but livestock are also used as a labor resource. Cattle, mules, horses, and camels are all used to transport goods and pull farming equipment ("Ethiopia-Agriculture."). This labor not only makes sales quicker and more efficient when traveling, but it also increases production. With the use of animal labor rather than human labor, plowing and planting time is cut down by 70%, allowing for earlier planting dates. By pushing forward the planting date, farmers get their crops in before the drought season ("Ethiopia-Agriculture"). More productive crops lead to higher amounts of exports, which in turn, boost the input of money into the country. Also, hides and skins from livestock is the second largest exporting industry in Ethiopia (Ethiopia-Agriculture"). The more animals that live, increase the number of full healthy hides that can be sent out of the country. The health of the animals directly impacts that financial state of the nation, so the healthier the animals, the healthier the economy!

The many economic problems of Ethiopia can be improved drastically through the bettering of animal health. With the difficulties of everyday life, the Ethiopian people and their the lack of money and education have very little access to the food and nutrients they need to live a healthy life. Also, with their small amounts of farmland, it is difficult for the people to get out of poverty. By increasing college programing and opening more veterinary practices in the highlands, animal health can be significantly improved.. This would increase animal exports, farm productivity, and the overall economy. In Ethiopia, agriculture is not only a profession, but a way of life. Agriculture supplies Ethiopia, as well as the rest of the world, the food needed to survive, making it the most important industry of the past, in the present, and for the future.

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