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Ethiopia, Factor 4: Animal Health

Ethiopia: Animal Vaccinations

Animals are the lifelines of Ethiopian farms. They are used for food, hides, and work. Without vaccinations these animals are prone to deadly diseases; diseases that are completely preventable. This causes great upset to family farms. Families lose food, money, and vital equipment when an animal is lost. Vaccinations keep animals healthy, ensuring that newborns live, work animals don't catch a preventable disease, and that animals will be kept around longer to breed. These things are all extremely impactful to a small family farmer in Ethiopia who is more worried about if their newborn calf will make it because it caught a disease that would have been prevented if it would have been vaccinated. Vaccinations play a key role in the advancement of Ethiopia's farms betterments, and creating self-sufficient food.

Ethiopia is a landlocked country in Africa. It is surrounded by Sudan, Eritrea, Djibouti, Somalia, Kenya, and South Sudan. It is 1,104,300 square kilometers in size, and is slightly less than twice the size of Texas. The climate is a tropical monsoon with wide topographic-induced variations. Ethiopia's terrain is a high plateau with a central mountain range divided by the Great Rift Valley. With a high population, this makes Ethiopia the most populous landlocked country in the world (CIA World Factbook). The population in Ethiopia is 94.1 million people. There are more than 77 ethnic groups located in Ethiopia. The largest is the Oromo group; they comprise approximately 40 percent of the population. (Encyclopedia). There are also 77 different languages spoken in Ethiopia, with the national language being Amharic. Amharic is the native language to 30 percent of the population (Encyclopedia). With all of the different languages that are spoken in Ethiopia, it makes for a hard language barrier for effective communication.

The country has a central plateau, which is surrounded, by three deserts (Countries and their Cultures). This makes farming a difficult task. Ethiopia gets little rain; so growing crops proves to be difficult. Ethiopia is filled with impoverished families, due to the fact that the economy cannot keep up with the population growth. The birth rate is 36.9 births to every 1,000 women. Whereas the death rate is 7.9 deaths to every 1,000 persons. The mean age for a woman's first birth is 19.6 years old. In 2014 29.6 percent of people were living below the poverty line (CIA). This makes it extremely hard to feed and take care of a family, especially because there are so many mouths to feed and nourish and not enough means to support the family.

More than 80 percent of the population is located in rural areas, thus making Ethiopia an agricultural based country. Only 15.2 percent of Ethiopia's land is arable, making crop farming difficult (CIA). The main crops and animals raised are cereals, coffee, oilseed, cotton, sugarcane, vegetables, khat, cut flowers, hides, cattle, sheep, goats, and fish (CIA). All of these exports are directly impacted by animals and their health. For example, if you have a whole field of cotton to plant and your cow just got sick, it will be extremely hard to get your crop in. Because the soil they have in Ethiopia is so dry and hard, it would take a human twice as long to plow the land than it would a strong healthy cow.

Healthcare is hard to come by in Ethiopia. There are only .03 physicians for every 1,000 people, and only 6.3 hospital beds for every 1,000 people. Also, the risk for getting a major infectious disease is very high in Ethiopia (CIA). This makes it hard for people to get the care they need when they are sick. On the other hand, the low physician to patient ratios indicates that not many

people seek medical care from the doctors. Due to the fact that many of the citizens live below the poverty line, many of them cannot afford or have the means to be able to go to the doctor even if the need arose. Many people are living with HIV and AIDS. In 2014, 730,300 people in Ethiopia were living with either HIV or AIDS, and 20,000 people died from HIV or AIDS (CIA). People in Ethiopia suffer from other horrible diseases or infections as well. For example, bacterial and protozoal diarrhea, hepatitis A, typhoid fever, malaria, dengue fever, meningococcal meningitis, rabies, and schistosomiasis are common diseases here (CIA). Many of these cases go untreated or undocumented because people do not have the means or money to get medical help.

An average Ethiopian family is much larger than the typical U.S. family. The children take care of their parents, which makes for several generations living in one household. That also makes for a lot of people to feed, and obtain proper nourishment. Women are responsible for cooking, buying and selling food, and carrying water. Men are responsible for plowing, trading of goods, butchering animals, herding, and other farm tasks. (Countries and their Cultures). These large families allow for many hands to work on the farm and provide for the family. A typical diet of an Ethiopian is injera, a unleavened bread, dipped in stews. Meats, specifically beef, are eaten with injera. On special occasions, a dish called kitfo is made. Kitfo is beef that is eaten raw or slightly cooked (Countries and their Cultures). Often, they do not always get the nourishment that they need, especially because the family sizes are so large and money is hard to come by.

Children living in rural areas are typically too far away from schools to obtain an education. On the other hand, children living in urban areas start schooling around the age of five, if they can afford the fees. Girls face discrimination, physical abuse, and the stigma that they are incompetent in school (Countries and their Cultures). This makes it very difficult for women to pursue an education. Universities in Ethiopia are free, but admission is very competitive. The acceptance rate is 20 percent. (Countries and their Cultures). Most children do not reach this level of education. This is due to the fact that many people are raised in farming oriented families. Without people getting higher education, or any education at all, it makes it extremely hard to make advances in technology that is taken for granted in the United States.

Ethiopia's health care systems are far below the average for sub-Saharan African countries. Government spending has increased, but it is not sufficient for their growing population. In 2010, only 1,806 doctors were practicing in Ethiopia, which is less than one physician for every 10,000 people. This is not nearly enough. Due to this shortage of medical care, many Ethiopians turn to traditional healing methods and medicines (Our Africa). Ethiopia also has a huge problem with combating AIDS and HIV. Nearly one million people living in Ethiopia are carrying one of these two diseases. There has also been an increase in antiretroviral treatments to combat AIDS and HIV (Our Africa).

A typical Ethiopian family farm is operated on less than two hectares (approximately 5 acres). The country lacks the facilities for fat cattle to be slaughtered, so cattle are mainly used as work animals on the farm. Cattle are also used for their hides, which is the second largest export in the country. In 2005, production of cattle hides was at 65,100 tons; sheepskins, 10,800 tons; and goatskins, 16,100 tons (Encyclopedia). One of the main issues with raising livestock is disease. As stated in the Ministry of Agriculture's health strategy paper, "There are no well-developed, adequately funded and coordinated emergency preparedness and contingency plans for exotic, emerging and re-emerging diseases. The prevention and control of zoonoses and foodborne diseases is poorly addressed and the veterinary service is not providing front-line services" (Ministry of Agriculture, 2013). This shows the lack of veterinary practices in Ethiopia. There is also a lack of vaccines causing animals to die of preventable diseases.

Ethiopia faces many barriers to improve its status. There is little to no access to vital vaccines for livestock, there is very little access to veterinarians, and there is poor regulation of diseases. Also, it has been estimated that 70% of Ethiopia's landmass is cultivable, but only 12 percent of it is getting cultivated (CIA). This leaves a lot of potential land left unutilized. This land could potentially create more jobs and more food to feed the country. Another major problem Ethiopia faces is the fact that the population is growing at such a fast rate there are not enough jobs to compensate for them. This leaves many people out of work and unable to provide for their families.

Animal health is vital to the turnaround of Ethiopia. The Ministry of Agriculture states that there are "direct losses due to mortality and indirect effects due to slow growth, low fertility and morbidity related reductions in productivity — particularly among young animals and reproductive females. These losses have significant economic, food security, and livelihood impacts" (Ministry of Agriculture, 2013). With proper vaccination of livestock, Ethiopia's overall animal health would skyrocket. This would have a direct impact on the economy due to the fact that Ethiopia is an agriculture-based country. Animals would be able to work and live longer due to better health.

Animals are dying of diseases like foot-and-mouth disease, African horse sickness virus, lumpy skin disease, camel pox, along with many others. While it is not known how some of these are being contracted, (Norwegian School of Veterinary Science 2013) It is known that if these diseases were combated with vaccinations animal health would be astoundingly better. This would impact almost every family in Ethiopia. This impact is due to the huge impact animals have on family farming in Ethiopia. Animals are used as a key role in on a farm. That is why vaccinations are so important. A farmer could potentially lose his entire crop, or worse, if part of their herd was taken out by a preventable disease. With vaccinations, farmers would not lose as many of their animals, which are the backbone of farm operations in Ethiopia.

The status of animal health is improving, but they are nowhere close to the end goal. The Ministry of Agriculture states, "... the Government of Ethiopia has embraced standards set by the World Organization for Animal Health (OIE) and the Performance of Veterinary Services (PVS) Pathway. The coverage of veterinary services has improved over recent years as the government has made progress towards meeting its ambitious target of providing an animal health clinic for every three villages" (Ministry of Agriculture, 2013). This end goal shows their awareness of the problem, but progress is slow. With the project that is described below, progress would be stimulated, and further advances in veterinary medicine throughout Ethiopia would be made.

A project that would undoubtedly be beneficial in the progress of Ethiopia's animal health would be one in which every time an American bought a vaccination, a dewormer, or any other animal medication, they donated \$5 to Ethiopian animal health. This \$5 donation would be used to create veterinary care boxes. The boxes would contain the necessary vaccinations, boosters, dewormers, and the proper equipment for five head of cattle, goats, sheep, or a flock of poultry. Vaccinations for five head of animals should be sufficient due to the fact that they don't keep very many head compared to here in the United States. The boxes would then be shipped out in climate-controlled boxes, which would keep the medicine cool until it reaches the veterinary clinics in Ethiopia. The benefit of shipping the vaccinations to Ethiopia versus creating them there is that it will have a quicker and more direct impact.

The most ideal addition to the box would be an expansion in veterinary medicine research and development. That way not only would my project have an immediate impact on animal health, my project would also expand veterinary medicine in Ethiopia. With all of the strides that

they're making to expand their veterinary clinics in Ethiopia, my project would stimulate that growth and help it thrive throughout the agricultural based country. Once they are thriving in creating more self-sufficient food for their people they will not be so dependent on the United States. Their population as a whole would also become healthier because they would not get sick from being exposed to sick animals. This is important because some of the diseases that can be spread from animal to humans can be potentially deadly or leave women infertile. Also because the animals are healthier when they are harvested for meat, or used for other animal products, they will be more nutritious for humans. For example, a healthy chicken will lay more eggs, thus giving the families more food to eat.

The veterinary clinics would oversee the boxes and distribute them to families and villages that are the most in need. Due to the fact that the veterinary clinics would be overseeing the boxes, they would be in charge of making sure the farmers know how to properly follow the instructions. They would go over the information with the farmers and families. This helps ensure that a language barrier would not create more problems for the treatment of animals. For example, giving too much of a dosage of some vaccinations could be lethal to the animals, thus creating a reverse effect for the farmers. Due to the fact that the clinics would be taking on so much responsibility, there would initially have to be an informational class or workshop at each location from veterinarians from the United States. This would ensure that the clinics know how to distribute the boxes, and how to help the farmers to the best of their ability. With the workshop or class that the clinics will provide, farmers who might not be able to read will be able to get the help they need while bettering their animals. Also this ensures that every farmer, no matter what education level they have, can raise healthy animals.

The boxes would completely revolutionize animal health in Ethiopia. The box would come with instructions on how to administer the vaccine, which would enable the family with a new skill set that could be used in other areas of the farm. Even if they cannot read they will get the skill set from the clinics who will help the farmers learn. This would revolutionize animal health because animals would live longer, thus working and providing for the family to their fullest potential. The farmers would also learn an important skill of creating self-sufficient food. They can employ those skills into all of their farming practices.

The United States would greatly benefit from helping Ethiopia improve their animal health. This is due to the fact that Ethiopia is responsible for 9.9 percent of animal-hide exports and 2.2 percent of coffee exports in the world (CIA). This number could increase with healthy animals. That is because animals are the key factor in Ethiopia's agriculture. Therefore, with healthier animals that live longer families would no longer have to worry about what they would have to do if they lost an animal. In fact, with animals that live longer and have lower infant mortality rates, farmers could focus more on growing more food for exports. Increasing exports would put money back into Ethiopia's economy, which they could use to reach their goal of having veterinary clinics for every three villages more attainable. This would increase imports in the United States, which will help stimulate our economy, thus bettering our economy at home as well as Ethiopia's.

Animal health in Ethiopia has a light at the end of the tunnel even though it seems like there is little that can be done due to the fact that Ethiopia is so impoverished. With help from the United States and an increase in veterinary medicine, Ethiopia's animal health can be completely turned around. Ethiopia knows what barriers they face, and they are coming up with strategies to solve them. Vaccinations are critical to ensuring long-living, healthy animals. Ethiopia can see the light at the end of the tunnel, and is taking great strides to achieve this goal.

Bibliography

Ministry of Agriculture. "Animal Health Strategy and Vision for Ethiopia." International Livestock Research Institute, 2013. Web. <https://cgspace.cgiar.org/bitstream/handle/10568/67247/LMP_animalhealth_2013.pdf?sequence=1>.

"The World Factbook: ETHIOPIA." *Central Intelligence Agency*. Central Intelligence Agency, 12 Jan. 2017. Web. <<https://www.cia.gov/library/publications/the-world-factbook/geos/et.html>>. "Ethiopia." *Worldmark Encyclopedia of Nations*. Encyclopedia.com, n.d. Web. <<http://www.encyclopedia.com/places/africa/ethiopia-political-geography/ethiopia#AGRICULTURE>>.

"Ethiopia." *Countries and Their Cultures*. Countries and Their Cultures, n.d. Web. <<http://www.everyculture.com/Cr-Ga/Ethiopia.html>>.

"Poverty & Healthcare." *Our Africa*. Our Africa, n.d. Web. <<http://www.our-africa.org/ethiopia/poverty-healthcare>>.

Gebreselassie, Samuel. "Future Agricultures Consortium." *Land, Land Policy and Smallholder Agriculture in Ethiopia*. Future Agricultures, n.d. Web. <<http://www.future-agricultures.org/74-publications/policy-briefs/83-land-land-policy-and-smallholder-agriculture-in-ethiopia>>.

"Norwegian School of Veterinary Science." *Combating key viral livestock diseases in Ethiopia*. 2013, November 15. ScienceDaily. N.d. Web. <www.sciencedaily.com/releases/2013/11/131115094313.htm>