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Zambia, Factor 4: Animal Health

**Foot and Mouth Disease in Zambia**

Zambia is a country in southern Africa with a tropical climate. In recent decades, Zambia has fallen into the category of a poverty-stricken country. With a population of 14 million, close to 7 million live in poverty (Zambia Statistics). Poverty is even more prevalent in Zambia’s rural regions, particularly the northwestern, southern and eastern provinces. More than 80% of rural Zambian residents live below the poverty line, meaning that a large percentage of people are not making enough money to feed, house, and protect themselves and their families. The average household has 6-7 people, and the household is typically run by women (Zambia Baseline). Most men living in rural areas, work in agriculture or leave the household in search of better jobs (Rural Poverty). Diets rely heavily on maize, starchy roots, and livestock for meat and milk production. Because of the limited diet, many poor communities suffer deficiencies in iodine and vitamin A (Nutrition). Education is fairly limited for many of the rural areas of Zambia. This is in part because of transportation issues and also because of the pressure for children to help the family financially. Most of Zambia’s rural children are not enrolled in school and up to 40% drop out before secondary school (Education). Health care is also fairly limited. HIV, malaria, and malnutrition continue to be a massive endemic in Zambia. Many people die from these ailments in part because they are unable to get regular access to reliable health care (Poverty & Healthcare). There is also often a shortage of doctors in clinics. In rural areas, sometimes here is as few as .2 doctors per 1000 people (Zambia Statistics). In addition, it can be especially difficult for many Zambians in rural areas to find good health care due to geographic isolation (Rural Poverty).

Many rural Zambians are unable to transport themselves to bigger cities to get a regular paying job. Many participate in subsistence farming to get by. Additionally, since they have relatively little access to banks, many poor people invest their saved money in informal ways. Some Zambians buy livestock with their saved money. They do this so that when they need the money, they can sell their livestock and cash their savings (Melzer). Traditional farmers in Zambia often raise cattle and goats, as well as pigs and sheep. 84% of cattle in Zambia are raised by traditional farmers (Y Sinkala). Most farmers raise their livestock on communal lands, making it particularly difficult to determine exact farm size. There are three main ways of raising livestock in Zambia. The first being raising the livestock in or close to the village. This method involves a relatively little amount of movement of livestock and usually involves a fewer number of cows. Another method of raising livestock involves moving cattle between the village and a major food source. This requires herding livestock to and from the food source for a number of miles. The last method involves traveling with livestock from two main areas of resources. This usually results in increased contact with wild herds of buffalo in the region. These distinctive methods of raising livestock provide many barriers to the economic well-being of rural Zambians. Since cattle are often in contact with other livestock from other herds as well as wild animals, the disease is very easily spread. Many Zambians rely on selling their livestock to make money in these rural villages. However, if their animals are sick, they will not be able to sell locally, or to bigger markets. If farmers cannot sell their product, they will not be able to provide for their families, and may become food insecure.
One such disease is Foot and Mouth Disease (FMD). FMD is a virus that mostly affects cattle, but can also affect other hooved animals including pigs, goats, and sheep. FMD is highly infectious and results in painful sores on the animal’s hooves and mouth. Because of the blisters, livestock often lose mobility due to pain in their feet and lose weight due to their inability to eat without feeling pain. Additionally, FMD often results in decreased milk productivity, and can lead to premature births. FMD is highly contagious and it can survive in most fluids including water. It can also remain in cattle for up to 3 years (Y Sinkala). Wild animals can carry the virus, come into contact with herds, and spread the disease to herds that would have previously not come in contact with infected cattle. FMD will not directly kill livestock. Since FMD is not transmitted by insects, variables like climate change have a relatively small direct impact on FMD. However, climate change could result in droughts throughout Zambia. This may lead to fewer resources for both domestic and wild herds. These herds may come into contact at the limited number of natural watering holes and spread disease. In this way, climate change could pose an indirect threat to the spread of FMD (Kimaro).

In recent years, Zambia has battled with this disease to try and keep cattle healthy. The disease has caused up to 1.6 billion dollars lost in livestock annually (Y Sinkala). On a larger scale, countries that have an outbreak are often not able to sell any meat to global markets, for fear of further spreading the disease. This not only hurts Zambia’s economy but also prevents smaller, poorer farmers from gaining access to markets outside of their community. For rural farmers, the disease has greatly hindered their ability to sell, or even use their livestock in a productive manner.. A disease such as FMD greatly decreases the chance that farmers will be able to sell their cows, meaning that they will be unable to make a profit when they need it.

Zambia is making some progress in its preventative measures but still faces financial problems. Fencing was attempted once in the 1950s but was largely ineffective. This was mostly due to the lack of money going into maintaining the fences. Around 2.7 million annually is already spent vaccinating cattle in Zambia (Y Sinkala). While it is a lot of money it does not compare to the 1.6 billion lost in potential exports of livestock from the country. Zambia and the World Bank have taken the initiative to provide vaccines and surveillance to some farmers. There are currently veterinary centers in the Ssheke province funded by 50 million dollars from the World Bank in an attempt to prevent future breakouts (Zambia Vaccinates). These centers provide yearly vaccinations to farmers in the province, and have kept the incidence of the disease near zero. Additionally, Zambia has banned the movement of livestock near breakouts, in an attempt to quarantine the disease.

Outbreaks of FMD are not uncommon in the rural areas of Zambia. They have a clear negative effect on rural farmers’ productivity. While some conditions are improving and some vaccinations are being administered, there are still many problems. Part of the problem is finding a way to prevent the disease that is achievable for the farmers. Many of the farmers are accustomed to raising their livestock a certain way. Because of this many preventative measures that the government has arranged have been largely ineffective. This is in part because of little financial support, but also lack of initiative. Many farmers don’t know where to begin. Consequently, many continue to use traditional methods of raising cattle, which halts progress quickly. What the farmers need is a means of altering their traditions to better prevent FMD. Most farmers want to keep their herds healthy, but many don’t know how.
The spread of FMD is often promoted by some farmers, mostly by accident. In an attempt to escape the disease some farmers may move their herds to different places after exposure. This tends to spread the disease even further from the original breakout. Additionally, some farmers may illegally sell their livestock or contaminated meat, which risks spreading the disease, not only to neighboring areas but to the whole livestock market (Y Sinkala).

Zambia is slowly but surely solving its problem with FMD. Zambia must focus on the prevention of more breakouts while it is in an FMD free time. Organizations like the Livestock Development and Animal Health Project (LDAPH) could provide yearly vaccinations as well as surveillance of cattle. LDAPH is currently only in a few provinces of Zambia, but with more funding, and support, it could successfully be promoted to all rural areas in Zambia (Zambia Vaccinates). Vaccination offers a method that involves less change to a farmer’s lifestyle. If farmers can access the vaccine easily and regularly, then clinics have the potential to get rid of FMD. The surveillance programs of well funded veterinary centers could help identify cases of FMD, and stop them before they become too widespread. Clinics that are easily accessible for farmers and able to vaccinate local cattle would greatly decrease the chance of more breakouts starting or spreading. In Latin America FMD has been nearly eradicated using organizations like LADPH. Mass vaccination and surveillance programs in Latin America have played a large part in getting rid of FMD (Naranjo). By following Latin America’s example, Zambia may be able to get rid of FMD in the country.

In addition to providing medical means of prevention, institutions like LDAPH, and the government could educate local farmers about FMD. Farmers should learn how to identify the disease’s symptoms and know where they can go to get help. They should understand how the disease is transmitted and how they can prevent their cows from getting sick. If they understand the basic preventative measures, it may make prevention methods, like quarantine, easier to facilitate. In addition, educated farmers could prevent subsidiary spreading of the disease. Teaching farmers not to move their cows away from the disease, but rather to get their cows vaccinated, could greatly increase the productivity of the cows and their own profits.

Collaboration will also be an important factor in preventing FMD from spreading in Zambia. Collaboration between farmers in the commercial livestock sector and sustainable sector must work together. It is in their best interest to ensure that FMD does not return to Zambia. If the commercial sector can provide funds or education to sustainable farmers, there will be better communication between the two. This could lead to better business relationships for an FMD free future. Additionally, the government should work closely with organizations like the World Bank and LDAPH to ensure that their projects do not go unfunded. The government should also plan on collaborating with neighboring countries to get rid of FMD across the whole continent. All in all, preventing foot and mouth disease will require the poorest of farmers to work with the richest of politicians. If organized well, and sustained by cooperation and sufficient monetary funds, eradication of FMD is in the near future.

Zambia’s current condition is not the result of just diseases like FMD. However, diseases like FMD keep Zambia’s economy from being able to reach new markets. Solving Zambia’s FMD problem
could greatly improve its current situation. If Zambia can provide reliable and well spread veterinary centers in rural areas that can monitor vaccinations, teach farmers about FMD, watch for possible outbreaks, and react quickly to possible outbreaks, then Zambia has a good chance of getting rid of FMD. If Zambia can successfully get rid of FMD and prevent future outbreaks, it’s cattle industry can expand outside of Zambia. Not only will local farmers be able to have healthy cattle, but they will also be able to sell their cows to bigger markets in other countries, and make a profit. By gaining access to these global markets Zambia will be able to put money into other institutions, such as education, or fighting malnutrition.

Bibliography


