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Zambia, Factor 7: Animal Agriculture

Zambia: Expanding their Diets Through use of Animal Proteins

“Food is a moral right of all who are born into this world” Dr. Norman Borlaug stated. So why do we have so much trouble with people starving? Think about how many people in your community alone who go to bed hungry. How many people do you see sitting on the corners holding a card board sign begging for food or money? How many food banks or houses are around your community trying their best to help? Do you watch the commercials that come on saying a penny a day from you will help save a life? Now double the hungry children and adults, even triple it, some places around the world suffer from so many hungry people it is hard to count. There are about seven billion people in this world (Countries in the World). One out of seven people go to bed hungry (2013 World Hunger and Poverty Facts and Statistics). One out of eight people suffer from chronic malnutrition (2013 World Hunger and Poverty Facts and Statistics). It doesn’t need to be this way, with the knowledge of agriculture and more effective ways of producing food, no one needs to go to bed wondering if they will have a meal the next day. Africa is one place that needs help developing more effective ways to produce food and more specifically, the country of Zambia. Zambia has a population of about 15 million and faces many problems getting the supplies needed to support their people (Countries in the World). There was a time when Zambia was a wealthy country and the government gave generous support to their people. It provided health care, schooling, and other sources of help. Zambia has several copper mines. When copper prices were strong, Zambia became very wealthy. However, when the copper market crashed, more than half the country experienced poverty. Currently, three out of four people in Zambia are below the poverty line (World Poverty in Africa). In Zambia, they rely on crop agriculture for their main food source. About 72% of jobs in Zambia are agricultural-based (Food and Agriculture Organization of the United Nations). Even though so many jobs are based on agriculture, there is still not enough food for everyone because of the lack of agricultural knowledge. Malnutrition is high in Zambia, due to Zambia’s focus on crop agriculture instead of animal agriculture. Without the protein supply human bodies need, muscles and tissues are not able to repair themselves properly after an illness or injury. Muscles will also not be able to grow to their full extent. The human body structure needs proper nutrition to develop correctly. Animal and crop agriculture are both very important and are needed in a healthy diet. Adding animal agriculture to Zambia will help greatly. Without adding animal agriculture, people in Zambia will continue to suffer from malnutrition and stay a developing country. The introduction of an inexpensive and self-sustainable meat source, such as poultry, will change the lives of the people in Zambia.

Families in Zambia are similar but very different from the United States in several ways. In America, we have siblings by blood. However, in Zambia, they call anyone who shares their bed and meals their siblings (Rice). This is because there are over 600,000 orphans. These children are cared for by several orphanages. In Zambia, children call the woman who runs the orphanage “momma” (Rice). While in the United States, most children have their birth mother to call mom. According to Sarah Rice, a journalist who went to Zambia, “If the children were born from sisters, they would not define themselves as cousins, instead they would be siblings. If the children were born from a brother of a sister, they would be cousins” (Rice). In Zambia, there are so many orphans because one in eight adults suffer from HIV/AIDS (Countries and Their Cultures). The HIV/AIDS rate is so high that one in fifteen babies will not live to see their first birthday. The families who do not suffer from HIV/AIDS usually have around 4-6 children (Zambia Baseline Survey). On average, in America, there are two to three children per household. In Zambia, both parents work on the family farm so it is not unusual to see children, as young as five, caring for their infant siblings (Countries and Their Cultures). The impact of poverty is difficult to fathom.

In Zambia, there is an obvious gap between the rich and poor; there are very few middle class citizens. A rich man will have a large healthy family and will also have a large source of materials and goods. Houses in Zambia are symbols of wealth and usually are big homes with a swimming pool in the backyard. Whereas, the poor are just struggling to survive. The poor live out of sight of the rich in crowded little houses. Since the life style is so different between the two, crime is a growing problem. If more families can expand beyond subsistence farming, they will be able to grow cash crops to earn money. Then they will have the money to send their children to school and improve their own life style. They will be able to afford a house and bigger property. The lifestyle gap between the rich and poor will reduce as more people join the middle class and crime will decline as a result.

Malnutrition is one of the major health problems in Zambia. About 68% of the population suffers from malnutrition. The life expectancy in Zambia is really low. Men are expected to live 51 years while the average life expectancy of women is 54 years. That is about 20 years shorter than the average life expectancy in the United States. Zambia's main source of food comes from a crop called maize, or as we know it, corn (Food & Daily life). Maize is used to make a meal the Zambians eat every day known as nshima (Food & Daily life). Nshima is very easy to make. First, the maize is ground up into flakes. The ground up maize flakes are then poured into hot water and stirred very quickly. When the thickness of the mixture is the consistency of mashed potatoes, the nshima is finished. Nshima is usually served with a relish of meat or vegetables (Food & Daily life). However, in rural areas, meat is not available on a regular basis (Countries and Their Cultures). In these areas, nshima is served with beans, vegetables, or dried fish (Countries and Their Cultures). Nshima has no taste and the people rely on the relish to make the dish taste good. In Zambia, there are three meals a day; breakfast is nshima served thin and sometimes with a little bit of sugar, lunch is nshima a bit thicker with a relish, and lastly dinner is nshima served thick with a different relish (Food & Daily life). Sometimes they will have a dish called ifisashi which is green vegetables in a peanut sauce (Food & Daily life). They also will eat a dish that consists of crushed maize and a bean dip known as "samp" (Food & Daily life). In Zambia, grasshoppers, caterpillars, cicadas, flying ants, and termites are delicacies and the kids love to go out and search for them (Food & Daily life). Overall, they need a more balanced diet to prevent so many problems with malnutrition.

One of the biggest reasons malnutrition is a problem is because education is not a high priority in Zambia. Most families and orphanages do not have the money to spend on schooling. Some children are able to attend primary school which goes from first to seventh grade (Countries and Their Cultures). However, many who were able to attend primary school are unable to continue to secondary school (eighth to twelfth grade) since it is even more expensive (Countries and Their Cultures). If a child finished primary and secondary school, they are allowed to go to a government-funded university. Not many children make it to college, though, because of the expenses. Since education is not one of Zambia's greatest priorities, the adult literacy rate is 87% for males and 75% for females (Countries and Their Cultures). Children only have a 55.3% literacy rate (Education and Literacy in Zambia). Traditionally, females are at a disadvantage in this situation because parents are more willing to send a son to school rather than a daughter. Females usually work from home and do not participate in jobs that require the ability to read and write. If the people in Zambia can get the education they need, problems such as malnutrition, water scarcity, and health problems will reduce.

Healthcare is another problem in Zambia. At one time, when Zambia was a wealthy country, healthcare was provided to everyone in the country (Countries and Their Cultures). Now the hospitals have many problems. They are under staffed and the number of patients is multiplying quickly. The only medicine that is mainly provided is to treat HIV/AIDS. The maintenance and modernization of hospitals have been lacking because of limited funding. Even though the hospitals are not of the best quality, the government

has set up an immunization program for the rural areas. Medical personnel come and give routine immunization shots to children under five years of age. This will help future generations overcome the HIV/AIDS health problem. Now rural areas need to focus on their diet to decrease the number of people who suffer from malnutrition.

Most of Zambia is geographically isolated from the rest of the world and in some parts of itself. This makes it difficult to trade goods and distribute the supplies such as, medicine, food, and essentials needed in certain areas. Since areas do not have access to trade, they have to rely on subsistence farming. Subsistence farming is farming enough food to supply for their own family. The extra crops are not sold, are stored for later use. In most rural areas, water supply is very low and meat is a struggle to get. These are only a few barriers to quality food supplies the people in Zambia have to face.

In the rural areas of Zambia, farming is very important. Their main food source relies on farming only. Farmers mainly focus all their attention on maize. Sweet potatoes, cassava, millets, sorghum, and different types of peas are also planted, though just not as often (Countries and Their Cultures). Most farms consist of subsistence farmers with small fields and low crop yields (Countries in the World). Males and females both work on the farm. Mothers usually wear a “shitangas” which carries the baby on the mothers back while she is doing hard labor in the fields (Countries and Their Cultures). Most villagers have a small plot of land which is used mainly for growing maize. All land is bought from the government. The government sells sections of land, but it keeps the most valuable areas. The land considered valuable is any section with mines or mineral-rich areas (Countries and Their Cultures). Sometimes the government gives land to tribal chiefs who then distribute plots of land to their followers or tribe members.

Typical families in rural areas do not have access to meat on a daily basis. This causes major problems because meat is an important part of a healthy diet. Since the main food source in Zambia is corn, many people do not get the nutrients that are needed and suffer from malnutrition. Symptoms of malnutrition can include low birth weight, stunted growth, underweight body mass, muscle loss, breathing difficulties and many more maladies (UNICEF). This problem is in a continually worsening state. Animal agriculture would help Zambia greatly. If the farmers learn more effective ways to care for the animals, meat would be more available to these people in the rural areas.

There are a few issues that need to be considered when adding animal agriculture to a society. Both water scarcity and predation can be detrimental to an animal population. Water scarcity is a major issue in rural areas of Zambia. Adding animals to the community will increase the need for water. However, there are steps to take that allow more efficient ways to use and conserve the little water they have. There are many predators in Zambia including lions, leopards, spotted hyenas, wild dogs, and many smaller animals too. The solutions to predation vary depending on the type of predator, geographical regions, and the situation. Water scarcity and predation can be big issues that should be considered.

Farmers in Zambia rely on rainfall to water crops. If farmers could catch the rainfall through rooftop structures or rock outcroppings and store it in holding tanks, their growing season could be extended. The rainfall could also be used for much more. Besides irrigation water for crops, the people can use it for drinking, washing dishes and/or clothes, and to supply the water needed for animals. Capturing rainfall would provide many different advantages to rural farmers.

Poultry is one of the best solutions to malnutrition. Adding chickens is the cheapest, quickest, most effective way to get animal agriculture into Zambia. Poultry can provide dual sources of protein through both meat and eggs. Adding eggs to the everyday meals of the people in Zambia will improve their diet. Chickens are very easy to care for and require little maintenance. When the chickens get older and the egg production slows down, they will be butchered for meat. This will also give the people of Zambia more of a meat selection. Poultry is one of the best meat sources for people in areas like Zambia.

In Rhode Island Massachusetts around the 1890's several breeds of chickens were crossed (Omlet). These many breeds included the Buff Cochin, Langsh, Black Red Malay, Hamburg and Rose combed Leghorns (Omlet). When all these breeds were combined they created the Rhode Island Red. The Rhode Island Red was made for both meat and egg production. The Rhode Island Red was eventually sent to the UK and became very popular (Omlet). They are active yet quiet and relatively hardy animals. The Rhode Island Red is a very good fit for this situation. They are used for both egg production and meat consumption. They produce extra-large brown eggs 5 times a week. Reds handle marginal diets and poor housing conditions better than other breeds and still continue to produce eggs (Rhode Island Red). This means they are a suitable fit for an area that doesn't have a lot of money or time to spend on taking care of chickens. Since the people rural areas of Zambia spend most of their time out in the fields and working, they do not have a lot of time to constantly make changes to the chickens housing. They also do not have the money to give the Rhode Island Reds a proper diet. However, the Rhode Island Reds will still provide the people with the eggs and meat needed to supply them.

Predators will be one of the major issues when adding a new animal. Some predators will eat the chickens when others will just go for the eggs. Some of the predators include African striped weasel, bat-eared fox, striped polecat, side-striped jackal, serval, mongoose, greater cane rat, African palm civet, and the ground pangolin. If the chickens are put in a closable coop at night, predators will not be much of a problem. Most predators hunt for food at night. If the chickens are in a secure area then they will be out of reach from the predators. These coops can be anything from a cheap little hut to a very expensive house like structure for the chickens. There are many options for different coops but one is needed to keep the predators out.

Chicken coops can range from pretty cheap to very expensive. The cheapest way to take care of chickens while still providing them with shelter and the basics needed is to allow them to be free range chickens. This means that during the day the chickens are allowed to roam outside in a non-fenced area. This will cut down on the cost for fencing. It will also cut the amount of food that the chickens need since the chickens will roam around eating insects, weeds, and anything else they can find. Even though they will get a lot of their food from the outdoors, they will still need a stable food source. This can be some slightly ground up flakes of maize or left over nshima. Free range chickens still need a shelter to be in at night. The chicken coops can easily be made out of the same material that is used to build houses in Zambia. The coops will just be made at a smaller scale than the houses. Since the Rhode Island Reds lay eggs they will need a nesting area in their coop. This can be made of baskets, containers, mud, or just about anything. This will allow the chickens to lay their eggs in a consistent spot. It is also easier to find the eggs. However, since the chickens will be able to roam freely, it would be a good idea to check around to make sure they didn't lay eggs on the ground around the place. The size of the chicken coop and how many nesting areas that are needed depends on how many chickens the family has. Since the Rhode Island Reds lay about five eggs per week, it would probably be good to have one or two chickens per every member of the family. If there is a family of six then about six or seven chickens are needed. If the family gets a few more chickens than needed to supply their family, they would then be able to sell or

trade the left over eggs and get some extra change or supplies. Over all adding chickens would be very beneficial to the people in Zambia.

Heifer International has been working in Zambia since 1986. They started by working through the Christian Council Of Zambia but in 1997 they registered with the Zambian government as a NGO. Since then they have been working with partners “to empower needy but viable communities to achieve dignified sustainable livelihoods through capacity building in integrated agriculture, enterprise development, gender equity, good governance, providing appropriate livestock and other resources while mitigating the impact of HIV/AIDS and climate change” (Heifer International). Heifer has supplied Zambia with cattle, goats, chickens, and bees. One of the biggest things Heifer tries to do is “empower families to turn hunger and poverty into hope and prosperity” (Heifer International). The Heifer Foundation has said, “Our animals provide partners with both food and reliable income, as agricultural products such as milk, eggs and honey can be traded or sold at market” (Heifer International). Heifer gives a family an animal and the education needed to take care of that animal (Heifer International). Then the family shares the information they learned and passes the first female offspring to another family. This process continues over and over again until the whole country is populated with animals. Heifer is a really great foundation that is changing lives all around the world.

In Dr. Norman Borlaug’s last words, he said “Take it to the farmer”. Agriculture is why the United States is so successful. We figured out how to have a stable and reliable food source. In America, some people think food comes from a store because most people do not have to work on farms or make their own food. In our society, we are not stressed to find food and people have time to dream, create, and invent. Without agriculture, we would never have the medicine, electronics, sports, advanced education, art, music, luxuries of travel, or other things we take for granted. We would still be searching for wild berries or tracking down a deer. Our American settlers began the tradition of farming, ranching, and providing the community with good nutrition and food. The United States is a developed country now because we do not have to worry about food. New agriculture technologies like rooftop structures used for collecting water or having chickens to provide food has helped our country greatly and can help others, too. Farmers, through technology and specialization, are able to produce higher yields on less land. Beef production has improved because of genetic studies. In America, without productive agriculture, poverty in our country would be a huge problem. If other countries such as Zambia used these ideas with animal agriculture, they will start to develop. With good nutrition people will have better health, with better health people will have more energy to create new ideas. Perhaps Heifer International could try to include other animals such as sheep and pigs. The people in Zambia will then be able to stop worrying about providing food for the table with proper nutrition. It would be a great change for people in Zambia to be able to add a chicken to their nshima or have a boiled egg. With the availability of food diversity, families in Zambia will be able to grow healthier and think better. Now their focus can be on other problems such as healthcare, water scarcity, and becoming a country with less poverty. After these problems are solved, they can then start dreaming, believing, and inventing. Just by making a few little steps in the right direction a whole country will change.

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