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Kenya, Factor 4: Animal Health

### **Kenya: Implementing Animal Health Practices Through Education**

Picture living in a poverty-ridden country where nearly half of the country's 43 million people live unable to meet their daily nutritional requirements(Rural Poverty Portal). Sub-Saharan Africa is the region with the highest prevalence percentage of population of hunger. One in four people in Sub-Saharan Africa is undernourished. This results in 1.5 million people in need of food assistance in Kenya(World Food Programme Fighting Hunger Worldwide). One contribution causing this drastic malnutrition is the excessive amount of livestock deaths. Kenyans rely on their livestock considerably, but prolonged drought has killed a countless sum of livestock(Our Work in Kenya). Much of Kenya's land is considered arid due to the rarity of rain. The rarity of rain makes it difficult to grow crops and raise livestock. Kenya also lacks advanced technology, therefore most Kenyans depend on animal and human power alone. Countless countries and organizations around the world have contributed a great deal of funds to Kenya, but even with other countries' assistance, thousands of Kenyans and their livestock are dying each day from malnutrition and diseases. In order to reduce the malnutrition and disease epidemics in Kenya, the Kenyans need to acquire the knowledge of how to care for their own animals more efficiently. This, in turn, would improve upon the overall food security problem in Kenya, and would establish a more efficient economy. Problems with epidemics would lessen, therefore reducing deaths in both Kenyans and their livestock. Comprehending additional statistics about the environment and culture of Kenya is imperative before establishing varying resolutions that may be fabricated.

Kenya is located in Sub-Saharan Africa along the equator. Kenya's most populated city and capital is Nairobi. Kenya is classified into three differing regions: the fertile highlands, the tropical coastal area, and the dry plains area. The tropical coastal area is typically warm and humid with breezes being moderated by from the ocean. In northern Kenya the land consists mostly of the area classified as the dry plains. Savanna grasslands distinguish the dry plains. In the dry plains, the temperatures are usually hot and humidity is low. The most populated region in Kenya is called the fertile highland. The fertile highland makes up less than one-fourth of all the land in Kenya, but is home to over seventy-five percent of Kenya's population. Although Kenya sits on the equator, temperatures are not always hot, but some areas can be quite brisk. The substantial temperature difference is because of elevation, but in all of Kenya the sun is strong and dry spells are often an issue. These dry spells can be the cause of drought, which may limit how much water is available for each family to use(Country Info - About Kenya.)

The average family in Kenya consists of six children because a large family is a priority to numerous Kenyans. The women are not only expected to nurture their children, but are also expected to help around the farm by assisting in the care taking of any livestock and by helping plant or harvest any crops. An average Kenyan diet consists mainly of maize, potatoes, and beans. Meat is not ordinary in a Kenyan's diet, because the majority of cattle are raised for their milk. Typically, Kenyan's clothing is hand-made from cotton. The women usually wear cotton dresses, while the men wear cotton shirts and pants. Education in Kenya is highly valued. More than four-fifths of Kenya's population is able to read and write, so the literacy rate in Kenya is high for sub-Saharan Africa. Nevertheless, the additional cost of supporting a child in school can be a huge encumbrance, particularly when children are needed to assist the family in helping around the farm. Although primary education is free, parents still have to pay the price for their children's food, transportation, uniforms and books. Multiple children in Kenya do not continue to go to school after their primary education is completed. Primary education only lasts for eight years, but is the only education level many Kenyans achieve(Ntarangwi.)

The country of Kenya struggles to furnish access to basic health care amenities and medical treatments to its population. This is especially a problem to the Kenyans who live in rural communities and who reside in densely, over-inhabited slums. In Kenya, almost seventy percent of people live in rural areas and two out of three rural farmers do not believe the land they own is sufficient for their children to stay and live(Wortham). The typical Kenyan farmer possesses approximately five acres. In the five acres of land, typical farmers may grow sugar cane, maize, plantains, and beans. The farmers cultivate the land by using insufficient technology and often have to rely on animal power. Livestock are often present on Kenyan farms. Chickens, goats, and cattle are typically raised for their meat, milk, and eggs. Prolonged drought has killed livestock and withered crops, leaving nearly four million people at risk of serious hunger. Animal disease and veterinary public-health problems constitute a major constraint on livestock production and safe utilization of animal products worldwide(Our Work in Kenya). Rural households rely on agriculture for most of their income. The rural economy, in turn, depends mainly on smallholder farming, which produces the majority of Kenya's agricultural output(Rural Poverty Portal).

Agriculture continues to play an important role in Kenya's economy. Agriculture contributes to half of the country's exports. Seeing a multitudinous amount of Kenyans relying on agriculture to survive, unpredictable rainfall patterns are an earnest concern for the future. There is specific issue in which recent droughts have been magnified by local deforestation. Kenya's forests have minimized sixty percent in twenty years, for wood is being cut down for fuel and land is attempted to be used for agriculture. Agricultural practices are also a concern for the future, for farmers don't pay attention to seed spacing. Farmers just throw the seeds all over the soil. This method of farming is very incompetent. Many farmers also do not fertilize their crops. On top of Kenya's agricultural issues, unemployment in Kenya is excessively high, creating a strong competition for jobs in the agriculture industry. Wages tend to be low, working conditions are substandard, and there are hardly benefits for the average Kenyan worker. At the same time, inflation continues to drive up the cost of living(Willshaw). Therefore, gaining adequate nutrition is more difficult because so many Kenyans struggle to provide for their family. "Of the children under 5, eighty-four percent are deficient in vitamin A, seventy-three percent in iron and fifty one in zinc; a quarter of children have inadequate iodine intake. Many households cannot afford a nutritious diet, and an estimated 1.8 million children are chronically undernourished; high stunting persists (thirty-five percent)(World Food Programme Fighting Hunger Worldwide.) This such statistic is sickening, for local food markets containing nutrient rich food are not difficult to locate in Kenya.

Poor animal health could potentially result in lack of animal production. Preventable epidemics would spread from animals to humans in Kenya. This, in turn, would cause the Kenyan government to halt all animal production substantially hurting the country's economy. Even if certain diseases only affected animals, the Kenyan population would still suffer. Fatal animal diseases could claim the majority of the Kenyans' livestock, causing there to be a shortage of animal products. In turn, this would result in families not being able to feed their family, causing a famine across the county. Poor animal health can be blamed on the lack of vaccination. On average, only thirty-five to forty percent of the country's national cattle herd are vaccinated against the three main diseases; Rinderpest, Contagious Bovine Pleuropneumonia, and Foot and Mouth Disease(International Fund for Agricultural Development). Positively, animal health is improving, but very slowly. Not only will improving animal health in Kenya make the economy increase, but will allow food to be more available to everyone. Improved animal health is essential for Kenya to develop, for households will be able to become more resilient and prepared for the emergence of probable disasters.

"Changing climatic conditions affect animal agriculture in four primary ways: feed-grain production, availability, and price; pastures and forage crop production and quality; animal health, growth, and reproduction; and disease and pest distributions(Agriculture)." The ideal environment for livestock production is one which comprises temperatures and various conditions for which the animals do not need to change their behavior to maintain a continual core body temperature. The livestock's quintessential

core body temperature varies only from 4°F to 5°F. If an animal's core body temperature diverges more than 4°F to 5°F, it will cause stress upon the animal and death may even occur. Stress can harm an animal's fertility and may cause it to not be able to produce milk, meat, or eggs as efficiently. "Regional warming and changes in rainfall distribution have the potential to change the distributions of diseases that are sensitive to temperature and moisture, such as anthrax, blackleg, and hemorrhagic septicemia, and lead to increased incidence of ketosis, mastitis, and lameness in dairy cows(Agriculture)."

Temperature change causes an animal's core body temperature to fluctuate, for temperature can range vastly from day to day, not only in Kenya, but around the Earth. "Higher winter temperatures increase insect populations due to overwinter survival and, coupled with higher summer temperatures, increase reproductive rates and allow for multiple generations each year (Agriculture)." In turn, numerous generations of insects carry diseases which may infect animals, deteriorating their health.

There are measures farmers and their families can take to improve animal health. International Livestock Research Institute researcher Delia Grace recommends ways to improve animal health, "These [include] wearing gloves, protective clothing, cleaning the cattle shed regularly, making sure children do not come into contact with manure and boiling milk(International Livestock Research Institute.)" The Kenyan government can appoint animal production and veterinary personnel in large metropolitan areas and also place them in major agriculture communities. Communities can accept the help they are given and describe their own problems to the personnel appointed by organizations, such as The Kenya Animal Health Services Rehabilitation Program. These personnel will then help the communities develop plans on how to improve upon their animal health issues. Nationally, developed countries can give financial aid to organizations which will aid to improve the animal health crisis in Kenya.

One vital organization, which educates local Kenyans by teaching them efficient livestock keeping methods, is called The Kenya Animal Health Services Rehabilitation Program. Additionally, The Kenya Animal Health Services Rehabilitation Program helps the Kenyans' implement efficient livestock practices with their own animals allowing for a hands-on learning experience. This program is aimed to improve the distribution of animal health services to livestock owners all over the country of Kenya. This was to be done through a strengthening of the management structure of the Department of Veterinary Services, where the institutional arrangements had remained virtually unchanged for many decades. Considerable support for the major activities of the Department of Veterinary Service was also to be provided by the project. The Kenya Animal Health Services Rehabilitation Program provided considerable support which was directed at controlling the main endemic cattle diseases, such as; Rinderpest, Contagious Bovine Pleuropneumonia, and Foot and Mouth Disease(International Livestock Research Institute.)

The Kenyan Animal Health Services Rehabilitation Program was solely victorious in Kenya attributable to the conscientious work by the Department of Veterinary Officers (DVOs) and their staff. The Department of Veterinary Services (DVS) was designated to manage the Kenyan Animal Health Services Rehabilitation Program. "The aim was to make DVS more cost effective, provide a better standard of animal health to livestock owners and to introduce modernized management practices, this involved including field staff in management decisions(International Fund for Agricultural Development.)" Although a few set goals fell short, the project was successful in vaccinating an array of cattle herds in Kenya. Without such vaccinations diseases could conceivably be transmitted from animal to human, and seeing that there are almost six million cows in Kenya alone cattle diseases must be contained before an epidemic commences(AHDB Dairy - Datum World Cow Numbers.)

Essentially, the Kenyan Animal Health Services Rehabilitation Program, or organizations similar, must continue. To be able to better Kenya's poor animal health situation, proper management of projects put on by the program are indispensable. Equally, the program needed better communication amongst everyone,

and with that single factor the program's goals could have been easily achieved. "Future Kenya projects must have an emphasis on management strengthening, even if requiring outside consultancies. Where possible multi-donor projects should be avoided in countries like Kenya where project implementation capacity has been shown to be limited. Where multi-donor projects have to be implemented they should be simple with clear cut agreements on the role of each donor(International Fund for Agricultural Development.)"

Currently, Feed the Future is an additional program aiding in Kenya's poor agricultural practices. This program was founded by the United States' government, but works closely with the Kenyan government. "Feed the Future is helping Kenya capitalize on these opportunities in agriculture to meet the country's food security and nutrition challenges(Kenya.)" Feed the Future is using education as an instrument to instruct the local Kenyans on disparate methods they can apply to varying agricultural tasks. "Feed the Future's training activities promote women's leadership in business and producer organizations, particularly in horticulture crops where women predominate. Feed the Future is also engaging Kenyan youth in farming, processing and trading to relieve high levels of youth unemployment(Kenya.)"

Organizations such as Feed the Future and the Kenyan Animal Health Services Rehabilitation Program are in a continuous need for public support to persist with their aid in countries such as Kenya. The common man can donate to organizations by assorted methods. Monetary contributions are unfailingly appreciated, but equally items such as clothing, shoes, toys, etc. are valued as well. "USAID partners with a variety of organizations – from small businesses and local in-country organizations to universities and international NGOs – to support and implement a wide range of development programs around the world(Kenya.)" Contributing to organizations such as Feed the Future and the Kenyan Animal Health Services Rehabilitation Program is as easy as opening up a laptop. People world wide can contribute to feeding the hungry starting in countries such as Kenya.

The government of Kenya is relying too much on other organizations and countries to help aid in Kenya's human and animal health crisis. The animal health crisis in Kenya will not be solved immediately. Time and effort are necessary to improve upon vaccinating and providing healthcare to livestock in rural areas. This devotion will need to be available at a fairly low cost to the livestock producers, for they barely have enough money to feed themselves. Systematic health care practices livestock producers can achieve must be taught slowly with complete cooperation from the teaching and learning position. By doing so, the livestock producers will be able to better grasp the concepts of their measures to keep their livestock's health at a quality level. The Kenyan government could then establish a law obliging any individual who would want to own any sort of livestock to become competent in implementing fundamental animal health practices. Organizations and countries all over the world have to be straightforward with the Kenyan government about what their priorities are and what their priorities should be. Kenya, as a country, requires ultimately to grow into a self-sufficient country by absorbing facts from other developed countries on how to do so. The deaths resulting from malnutrition in both livestock and humans is uncalled for. Innocent lives should not be affected each day by food insecurity. No child should go to bed hungry every night, while an obese child in another country goes to bed every night with a swollen belly. To assist in making Kenya a food secure nation, developed countries need to get technology updated to a point where Kenya can produce the predominant volume of food independently. Difficulty is to be expected in overcoming environmental issues in Kenya to aid in creating a country where the natives do not have to worry about where their next meal may come from. This challenge may seem impracticable, but it can be accomplished with supplying Kenyans with the correct technology and education. A food-secure Kenya is not impossible, for it can and will someday be attained.

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