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Tanzania

The country of Tanzania lies in East Africa and is one of the poorest countries in sub-Saharan Africa. Tanzania borders the Indian Ocean, Kenya, Uganda, Rwanda, Burundi, Zaire, Malawi, and Mozambique (“United Republic of Tanzania”). It is a relatively large country with the total area of 945,081 square kilometers, which is more than twice the size of the state of California (“United Republic of Tanzania”). The capital is now Dodoma (“United Republic of Tanzania”). The population has been growing significantly. In 2010, it was reported that Tanzania had 43.2 million people (“Trading Economics”). For some time the population was growing at a shocking rate, but as of lately has started to decrease. The population is extremely young, with 42% under 15 years old, 55.1% under 65 years old, and only 2.9% over the age of 65 (“Trading Economics”). The motto of the country is “Uhuru na Umoja” or “Freedom and Unity,” like its motto the country has become a wellspring of diversity (“Goshen”). Tanzania has about every type of landscape. However, only two seasons: wet and dry. To gain the much needed food security in the country, Tanzania needs to incorporate the second part of their motto- unity. Kenya is known for Mt. Kilimanjaro, Lake Victoria (Africa’s largest lake), Lake Tanganyika (the world’s second deepest lake), and it’s wildlife parks (“Goshen”).

Walking into a farm family’s life in modern day Tanzania you could expect to see five or six people in the family. However the life expectancy at birth is only 42 years. One of the biggest factors is that there is only one doctor for every 22,900 people (“State University”). Although the calorie intake is high in Tanzania, with 87% of the recommended intake, malnutrition is also high (“State University”). Even though they get food, the nutritional value of their food is severely lacking, and that is the important part. In addition, access to water is also a problem for many people in Tanzania (“New Agriculturalist”). For most farmers, the average net income for a family farm is \$67 United States dollars a year (Maritz). However, for the few farmers who have technology is that of \$562 United States dollars (Maritz). However, compared to the United States average is \$77,169, this is still a very low amount (USDA Economic Research Service). The reason there is such a significant difference is because without technology the farmers are completely reliant on rainfall and cannot run as many crop cycles per year.

The average size of the family farm is anywhere from less than one to three hectares. Only 10% of the farms use tractors (“Agriculture”). Which leaves the other ninety percent using outdated practices, with 20% using ox ploughs and the other 70% using a hand hoe (“Agriculture”). Using these practices, 51% of the population was significantly below the poverty line, in 1991 (“New Agriculturalist”). Since then, things have become increasingly worse in Tanzania. When the farmers are using such outdated tools, it is easy to see why their food supply is not stabilized and why the farmers remain poor.

With the many different climate zones in Tanzania, a large variety of crops are produced. However, maize dominates through much of the country (“New Agriculturalist”). Like many countries maize is the most abundant crop grown. The cassava plant and rice are also grown in many areas of Tanzania (“New Agriculturalist”). In smaller amounts, drought resistant millet, wheat, and sorghum are also grown (“New Agriculturalist”). However, when using basic agricultural practices, none of these yield as high as they should.

Although many grains are produced, a large variety of vegetables, spice crops and fruit are also grown in Tanzania. In Zanzibar, large amounts of cloves are produced (“New Agriculturalist”). Coffee, cashew nuts, cotton, and tobacco are also grown in Tanzania (“New Agriculturalist”). The country also produces

sisal, tea, cotton, pyrethrum (insecticide made from chrysanthemums), and bananas (“New Agriculturalist”). However, many other fruits in vegetables are grown in small amounts. If the farmers in Tanzania used better agricultural practices, all of these yields would increase, therefore increasing the food stability.

Along with the many crops grown in Tanzania, many animals are also produced for consumption. Cattle, sheep, and goats are the primary animals produced (“New Agriculturalist”). However, unlike using lots and fenced pastures to graze and feed their animals, like we do in the United States, Tanzanian people use a much different way to graze their animals. They use “Ujamaa” or a communal land ownership system (“New Agriculturalist”). The herds of Zebu roam across the range, and their owners live the life of nomads. Although much of the land is rangeland, most of it cannot be used to graze animals due to tsetse fly infestation (“New Agriculturalist”). With this comes a very large problem, over-stocking and over-grazing resulting in land erosion. Added to this, is the fact that much of the pastureland is now cultivated for crops. Therefore, the life of the nomad following his Zebu is in great danger. As the land area for Zebu to roam and food sources for them decrease, they produce less food for Tanzanian people than they should. If this doesn’t change in the near future, it will only get worse.

The following constraints in the sector have caused major barriers to gaining food security: inappropriate technology, inadequate research and extension services, over-dependence on rainfall, low utilization of improved technologies, poor infrastructure, lack of financial services, limited processing technology and capacity, low and declining export prices, trade barriers, and HIV/AIDS (“New Agriculturalist”). However, they have yet to come up with a solution.

The inappropriate technology, inadequate research, and inadequate extension services keep Tanzania from improving the way they operate. It also holds them back from keeping up with the rest of the world. The over-dependence on rainfall keeps the farmers from producing maximum yields and maximum planting rotations, all of these significantly decreasing the amount of food that is produced in Tanzania. Without using the improved technologies, it makes it impossible for the Tanzanian people to improve their food security or way of life. Poor infrastructure hurts profits for small farmers also. It makes it nearly impossible to sell goods outside of the local area, because transportation is so difficult. Without having financial services it kills many farmers chances of improving how they operate. They do not make enough money to invest on improvements; without financial aid, they cannot improve the way they operate. Even if the farmers produced more crops the processing technology and capacity is not able to support it. Actually, it isn’t even capable of handling the current situation. As their export prices continue to decrease, Tanzanian people become poorer and poorer. This limits their ability to become a country with food stability. The trade barriers also limit their ability to reach food security because it kills any chance of working with others to improve sales. Although many might not think HIV or AIDs has an impact on food security, it actually can cause many problems in reaching food security. As the government, relief organizations, and other countries see the extreme problem with these diseases, they focus less on improving food security and more on fixing the diseases. With all of these problems, Tanzania is rapidly declining in every aspect.

Although the country of Tanzania believes in education for all and has made policies regarding education, the current educational level of Tanzanian people is low. The literacy rate is actually decreasing at the rate of 2% per year, with the illiteracy rate in adults estimated to be 32% (Bhalalusesa). Without literacy the education in all areas cannot improve. The enrollment levels are also decreasing, as well as the fact that many who do attend school drop out before completing the fourth grade (Bhalalusesa). This amount of education doesn’t even provide them the skills they need to be considered literate. The political support is also decreasing causing less people to become educated. The amount of teachers is also very inadequate (Bhalalusesa). Not to mention that there is a lack of accurate and reliable data (Bhalalusesa). Like in many poor countries Tanzania also has the problem of reaching all communities. Tanzania has problems

reaching some communities, plus they have the mobile communities, which follow their moving cattle herds (Bhalalusesa).

Although most Tanzanian farmers are not trained with any current practices, other countries are striving to implement training programs throughout the country. Currently the lack of training comes from two main problems: cost and distance to town.

The government of Tanzania provides no extension services in the country. Actually, it hampers the existing extension in the country and places barriers on it. The Ministry of Agriculture Food Security and Cooperatives provide the only extension in the country.

Although measuring the knowledge of someone is never an easy task, there are many ways to do this, especially when it comes to farmer's knowledge. To measure current knowledge you must get to know the Tanzanian farmers and how they operate. Also, looking at the tools and trade they use is another way to measure current knowledge.

The first way to measure any knowledge improvements would be to compare test results. Although this is a very traditional way to measure knowledge, it gives immediate and direct results. However, to be able to see if they are making progress, the farmers in Tanzania would first need to take a test before any improvements are made. This poses some problems. First you would need a test that suits the purpose. Also, this could delay improvements. Overall though, it would be a very good measurement.

Another way to measure the farmer's knowledge is by looking at how they operate their farms. Currently they use very simple practices. If they do increase their knowledge, you would see improvements in how they operate and therefore improvements in yields. This would be a very simple and time efficient way to measure their knowledge and it's progress.

Lastly, to measure Tanzania's farmer's knowledge is by the amount of farmers who graduate from school. Currently, Tanzania has the lowest number of graduates produced each year, having only 9,150 graduates annually ("Citizen"). However, if you see an increase in these numbers, it is clear that the knowledge is increasing.

Improving the education, training and extension in Tanzania's farmers will be no easy task. To do this Tanzania must cultivate innovations to gain success. To improve education, there are three major factors that need to change. First, the government must get involved and hire more teachers. Currently the student to teacher ratio is very high. If the amount of teachers increases, the education of the students will also increase. Second, they must improve the curriculum that is taught in the schools. Unless the curriculum is improved, any other improvements in the schools won't matter. Thirdly, to improve the education the number of students must also increase.

To improve the training of the farmers, Tanzania must have to first install more training programs throughout the country. Although they have some programs in place, there are very few and are hard for farmers to get to. Most Tanzania farmers want to be trained, but cannot afford to go to the few training facilities. If the number, and location of the facilities improve, the training of the Tanzanian farmers will also improve.

The extension program in Tanzania is extremely lacking. Currently there is no government support for the extension programs in the country, which causes them to be underfunded and lose credibility with the citizens (Bohn). Although schools are important to education for farmers, the true education that will cultivate innovations to feed the world will come from extension. Likewise, extension will provide many training programs for the farmer. Building support from the government is the first step. Once the

Tanzania government is supporting the extension program, the extension program will then broaden and gain respect with the Tanzanian people. However, the Tanzanian government cannot do it without help. Due to the fact that the Tanzanian government has never ran an extension service in its country, they cannot serve the country well running an extension program without the guidance from a country with a solid extension program.

After the government gains support and finds a country they can work with to improve their extension, they must actually use their extension program. It needs to inform and work with the farmers throughout Tanzania to succeed. The extension program also needs to work with the youth as well. For Tanzania to gain food security, they need to start with the youth. If the youth learn new practices as they emerge, and the values of agriculture, they will continue them throughout their life and improve Tanzania's food supply.

Research and technology are extremely lacking in Tanzania. In order to improve the country's food supply, their research and technology must also improve. Although having better education, training, and extension will make a huge difference, Tanzania must have the research and technology to back it.

To improve the research within the country, they must work with other countries to improve their research facilities. Then, they need government support to make the research feasible. Once, they have government support, they need citizens of the country to run the research facility. If the people running the research facility are from the country, their findings will be much more accepted in the country. Once the research facilities are set-up and the citizens are taught to complete the research, it can be put to use within the country to stabilize the food supply.

Improving technology is actually an easier process. To improve technology the Tanzanian people just need to adapt and use the existing technology that is used in the rest of the world. One of the main reasons the country does not have food stability, is because they use completely outdated agricultural practices. If they were to use proper fertilization, crop selection, irrigation, and cultivating practices the country's food production would improve greatly.

To change the country of Tanzania into a country with food stability, they must first work with a country, such as the United States, that has a strong extension program and current agricultural technology. Once they do this they can begin to build up their programs.

However, the new programs and support need to go to the people actually producing the food. Much of Tanzania's support goes to the people in the cities, which is not where it's crucially needed. The farmers and producers are the ones who need to be educated and learn all the new practice, because they will be the ones actually using it and fixing the problem.

Simply implementing 4-H, or organizations like it, in the farming areas can teach the future generations the essential skills they need to gain food security in the coming years. As the population around the world grows, it is even more important that all land is being used to its fullest potential in producing food. Starting with the new generations in a country like Tanzania with poor agricultural practices will not only benefit Tanzania's food security, but the whole worlds.

To gain food security in Tanzania, they don't need a miracle crop or some great new invention. The people of Tanzania need to cultivate the innovations already in use in other areas to feed the world.

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