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### **Tanzania: An Analysis of Food Scarcity and the Role of Education and Technology**

Tanzania is one among the third world countries located on the eastern part of Africa. The economy of this nation depends on Agriculture on the most part and so agriculture is the backbone of the economy of Tanzania. Agriculture contributes to 25% in the economy and provides 85% of the exports. Furthermore, agriculture employs 80% workforce. All of this shows how dependent the Tanzanian economy is to the agriculture sector. However, topography and climatic conditions limits cultivated crops to only 4% of the land area.

A typical subsistence farm family would normally have about three or even more children, a father who is the head of the family and a mother. Some men prefer having more than one wife and they usually host the largest number of children. This does not only increase the population but it also brings hardships on how to raise the large number of children and provide for their basic needs. Most farmers in Tanzania practice subsistence farming which is producing enough for you and your family. It is mostly done on small scale since the people lack the technology and machinery to cultivate larger farms. Due to this, the families usually suffer when crops fail and that tends to happen most of the times leading to hunger. Most families would usually have a meal in the morning and then go to the shamba together. They would in most of the times carry water with them to help them kill their thirsts as they tilt the soil throughout the day. A hand hoe is usually used and so the work is harder and slower taking about two days for a family of six to cultivate one acre if all work hard and serious. Most of such families do not take their children to school since they lack money to buy uniform and stationary and also because sending a child to school means decreasing the labor power to cultivate the farms. Moreover, many villages have poor access to healthcare since there is shortage of skilled personnel like doctors to run them.

Small scale or subsistence agriculture can be of about four acres of land. On this piece of land a farmer would grow maize, beans, wheat, sorghum, potatoes, cassavas or vegetables according to the nature of the environment and the geographical features present. Because of the poor status of the population of farmers in Tanzania, most people would not employ someone else to farm for them and pay him at the end of the day since it has always proved to be money consuming. But apart from working as farmers, some also have other activities they do to earn a living like selling local beer which is in most cases done by women, made from crop produce such as bananas, maize or coconut. It sometimes happens that a farmer has a bumper harvest and would sell their produce in the market. But that does not often happen since no one would want to buy something they produce. However, some farm produce can be transported to the cities where they can be sold since there is no enough space in cities to practice farming. This provides money to the producers.

One of the major barriers to the development of agriculture is the poor technology used. Some of the major products of cereal crops are maize, wheat, sorghum and rice. According to the ministry of agriculture of Tanzania, the destruction of crops starts from the farms to where they are stored after harvest. It is estimated that, 30-40% of the produce is lost in the fields. This happens after attacks from mice which can dominate the whole field and harvest the food, different species of birds feeding on grains

flying to and from the farms every day, monkeys which have proven effective in maize destruction. Insect pests inflict their damage in stored products mainly by direct feeding. Some species feed on the endosperm (the inner part of the seed) and some feed on the outer parts. Those which feed on the inner part causes loss of weight and quality and those who feed on the outside result in poor seed germination and less viability. Grains lose value of marketing and consumption and planting value. Some of the most common destructive insects are the rice weevils and the maize weevil.

In villages, farmers would keep their harvest in small traditional warehouses. Sometimes they would smoke their harvest. The smoke keeps away the insects from feeding on the grain since it does not taste good anymore. But after smoking, the product does not have the same quality anymore. The quality goes down. This can only be used in small scale agriculture to store small amounts of grains since it is a long process and therefore does not suit for larger amounts of a product. This and all the above shows that there is poor technology in storing the products. There is also poor technology in harvesting, because farmers do not have machinery to help them out, they usually get tired and so leave most crops in the fields.

Another problem is the poor transportation system. Most of the transportation is done through road transport which is relatively cheap compared to others. Roads are in poor conditions to support movement of heavy loaded trucks transporting various products. This means that the products take a longer time reaching their destination than supposed and sometimes, by the time the product gets to the destination, it is already destructed.

#### Disadvantages of road transport

1. It is slower and hence takes a lot of time for products to be transported.
2. Insecurity. It is not safe. Sometimes the heavy trucks are attacked and robbed by thieves who usually hide in forests where roads pass through.
3. It can only support a certain amount of goods at a time and the amount is usually small.
4. Most of the accidents occur on the road and so it raises the possibility of the truck having an accident since there are a lot of road users.
5. Corruption also plays its part. Traffic police would normally charge you a mistake and order you to drop down something so that you do not get reported. Giving away a sack of rice to every traffic police you meet on the way leaves you with fewer amount of goods by the time you get to where you are going.

Another challenge is the lack of knowledge. People lack the knowledge on how to manage their farms and animals in the best way. The Maasai, for example, believe that the more cattle you have, the richer you are and I can say that they do have a lot of cattle based on that theory. But the quality of the cattle they have is poor. The number of the animals is also high, making infections spread easily and fast, killing many animals. The quality of the skin is also poor because of the tattoos that are usually marked all over the animals body to show whom it belongs to so that no one steals it or claims it as theirs. On the other hand, the heard is too big (usually more than one thousand cows) for the keeper to get all of them immunized and cured when sick or to generally provide them with a balanced diet which includes things like mineral salts sold in various places. Animal keepers also suffer during droughts when grass is scarce

with such a number of animals. This usually leads to conflicts after animal keepers graze their animals on people's farms.

Due to lack of knowledge, farmers stay behind too because of not knowing the different techniques on how to increase production. They would not know which plants can be planted together at what season and which cannot. Farmers would in most cases plant crops in the wrong season. Or sometimes farmers delay harvesting. This causes some destruction by insects, birds and the worst of all is rain which makes the grains start growing over again.

Also, there are few skilled personnel to run and control the agriculture sector. This is nothing compared to the number of people who need the knowledge of agriculture. There is also a few numbers of teachers in various schools who teach agriculture apart from part of it acquired in Biology.

Natural calamities are yet another problem. Starting with rain. Rain is an important factor in agriculture development but too much of it results into floods which destruct the infrastructures of our country. An example of the floods which happened in Kilosa, Morogoro at the end of 2009. Morogoro receives about 1200mm of rain annually and has about 36 rivers. The floods happened after river Kondoa got flooded as a result of heavy rains. The effects of the floods were vital because of the environmental destruction and cultivation of crops on the mountain slopes. This led to death of people, animals and destruction of roads, railway lines and crops. This signifies hunger on the year to come since all the crops have been spoiled.

Another natural calamity is drought. This is due to the global warming effects. This comes after a lot of poisonous gasses (also known as the greenhouse gasses) which tend to melt the ozone layer. Droughts cause plants and water bodies to dry out and hence no food for the people. Droughts have made women walk for hours in search of water, which risks their lives since some are usually raped. Apart from that, girls stop going to school because they have to help their mothers get water. Actually, about one billion people in the entire world have no access to clean and safe water. African people spend forty billion hours searching for water. This limits the time they could use to work and take care of their families and if there is no water for the people, there is surely no water for irrigational purposes. Drought in Tanzania affected 85% of the crops in Shinyanga region. This included maize, sorghum and groundnuts. Hunger was expected to last for six months' time according to Presbyterian World service and Development urgency.

Market also challenges agriculture in various ways. In Tanzania, there is more importation of goods from abroad than exportation. This is not good for our economy. Due to the low quality of the products produced in Tanzania, when the products are assembled in the market, consumers tend to buy those from other countries. This reduces the national sales and therefore dropping the income in the agriculture sector. Also farmers and pastoralists are forced to sell their produce in lower costs because of the competition at the local market.

Agriculture is also affected by other major issues such as population growth, urbanization, energy demand and pollution. The fast growing population does not equal to the amount of resources available. Tanzania's population is about 42,746,620 people according to the CIA World Fact book. This means that there is a lot of competition over the resources available. It also means that the agriculture sector should produce more to reach the requirements of the growing population. People also tend to be migrating continuously to urban or big cities like Dar-es-salaam. Generally, agriculture production takes place in rural arrears since they are not populated compared to the urban arrears. However, many people

especially the youths tend to migrate to the cities thinking that life is easier there than having to work in the fields. This drastic change affects agriculture since the youth are the working force who works on the production since they are still strong and with new ideas. But instead, the youth go to town leaving the young and those who are too old and slow to work on the production. With the production working at a slower pace, there is less produced to sustain the demand. Energy demand also affects agriculture. With the growing population, the demand for power also increases. This means that power which is on one hand supposed to be running industries and machines is channeled to the people who need it but to this day, power has always been a problem to the people of Tanzania. Playing its part, pollution has caused land infertility and water contamination. The dirty water is not safe for drinking and irrigation. Environmental pollution on the other hand stimulates the spread of waterborne diseases such as cholera which cause deaths of people who are the workforce in agriculture. The unfertile land is also not fit for cultivation of crops. Furthermore, water pollution kills marine organisms such as fish which are highly demanded in the world market.

Investing in education, training and extension for improved implementation of agricultural research and technology can be effectively addressed by first of all making sure that the studying conditions are improved. This does not only include building nice classes, but also providing teachers which are professionally skilled to teach for the better understanding of the students. Moreover, the teacher's houses should be in nicer conditions too. I recommend both local and foreign investors to invest in various agriculture sectors such as mining is as to help the country gain more income. Women have also been working hard to fight hunger since they are the ones who know the pain of losing someone you love because of no food. Some women have started up organizations to help one another out in various ways to keep their families moving on. This shows the great effort and courage from women in raising their families and fighting hunger. Doctor Reginald Mengi has also contributed a lot in helping the people who have been affected by hunger. One of the ways to help solve the situation is also by people building up organization who would be working on a certain project. Say planting a garden and develop as time goes on. This can also be a good way to solve the problem. I also recommend the government and the ministry of agriculture to be able to solve this problem by 2015 although it is not an easy task and does not show any hopes of being completed in the three remaining years to 2015.

My suggestion on the appropriate role of communities, the national government, cooperation's and other organizations is that the communities should play their role to keep the environment clean since the government cannot do this alone. The government, on the other hand, should listen to the opinions of the citizens and fight corruption. The government should also implement laws which give the natural environment so that any person responsible for any illegal action could be sent to prison and judged accordingly. Cooperation's should assist us financially. This can be achieved by loans being granted to small women and men or student organizations so that they fulfill their plans for fighting hunger.

Rural families can be involved by being educated on the various effects of environmental pollution, forest fires and burning charcoal. Moreover, youth should be educated that going to town does not solve the problem and that they can always work together to develop their local arrears to be like cities but nit crowding into cities. Since most of the families in urban arrears have jobs to do, I would encourage them to work hard to make sure that their families do not starve.

Hunger, as simple as it may seem to be, causes the deaths of about five million children every year. More than one billion people in the world are actually suffering from hunger. About seventeen million children are born underweight annually which is the result of inadequate nutrition before and during pregnancy. As if all that is not enough, hunger kills more people every year than malaria, tuberculosis and Aids combined.

As a conclusion, hunger is a global suffering. Let us work together to fight it.

