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Nigeria, Factor 8: Spoilage of Food

### **Nigeria: Reduce Spoilage and Waste of Food to Improve Trade**

Nigeria is the most populous country in Africa. It is  $\frac{1}{3}$  larger than Texas, it is located on the Gulf of Guinea in west Africa. Nigeria is bordered by swamps and mangrove forests and has hardwood forests in land. The country has 14 million small farmers. The average farm size is 1 hectare (2.471 acres), and in the North the farm is around 3 hectares.

Nigeria's main agricultural exports are cocoa beans, rubber, sesame seeds, and cocoa butter. These main products are exported to the US, UK, Canada, France, and Germany. Livestock farming (agricultural practices in Nigeria includes the rearing of animals for production). Crop rotation (the practice of growing a series of different types of crops in the same area in sequential seasons. This practice gives tremendous benefits to the soil.

Also, shifting cultivation is another practice used in Nigeria which is areas of land getting cultivated temporarily, abandoned and then allows itself to revert to their natural vegetation. The cultivator then moves to another location. Fish farming is the raising of fish in enclosures, usually for food. Commercial agriculture, crops such as wheat, maize, tea, coffee, sugarcane, cashew, rubber, banana, and cotton are harvested and sold into world markets. Lastly, poultry farming, is the raising of domesticated birds such as chickens, turkeys, ducks, and geese – the purpose is to use the meat or eggs for food.

Additionally, food spoilage plays a big role in Nigeria because this country is a very reliable source of crops to other countries. As families produce food they have to quickly freeze it or keep their production under suitable temperatures so it won't spoil. If the food spoils before the family gathers all of the amount that they need, this will cause them to not have enough food to sale to buyers that export for to other countries. There are some inappropriate technologies that are used in Nigeria to keep the food safe such as: careless harvesting and inefficient post-harvest handling practices, bad roads, moribund rail systems, bad market practices and inadequate or complete lack of storage facilities, packing houses and market infrastructures. Effectively, the families will not earn a sufficient income to purchase food that have been imported into their country.

Accordingly, spoilage will cause the food to not have adequate nutrition instead make you become ill. However, the common status of food spoilage in Nigeria is 40%, which was reported to have a food poisoning outbreak. Food spoilage is more severe on the financial side rather than illnesses. This cause them to throw away food (which is one product that they could have used to improve financially) and start over again.

Thus, the women are not being degraded in this particular country. They have most of the same job as the men (such as working in fields, markets, and etc). The trend for food spoilage is improving. Now only 24% of Nigeria's food is lost or wasted between the farm and the fork. This is still a problem but it has improved greatly over the years, now the food has recently hit high prices and global food demand countries to rise.

Not to mention, researchers use polymer to tell whether the food is spoiled or not. They use percentages to indicate how much food has been spoiled. These measurements has indicted that the food spoilage has changed for this particular country. The percentage for spoiled food was 40% in the 1900's now it has reduced to 24%. It has changed because now Nigeria has started to store their food in enclosures with

more suitable temperatures. They have started exporting products faster as well. Because of potential change for my rural farm, the situation is improving a lot.

Furthermore, the government and non-governmental organization workers are active in some parts of Nigeria as trainers to ordinary citizens of this developing country. This program has trained 1.6 million farmers in about 31,000 villages. It strengthens supply chains, identifies manufacturers and distributors to serve as a focal point for making the technology available to farmers in rural areas. Improving this factor will increase the amount of quality of the food greatly, causing more countries to want to buy more of the food that they have. Also it will have the right amount of nutrition it needs. You won't have to throw it away or become sick or have food poisoning faster eating it. More of the food will be sold so this means that the income for my family will increase tremendously causing us to have more products.

However, if I preserve the environment sustainably the percentage of food waste and spoilage will reduce even more. This will lead to economic development causing unemployed citizens to apply for jobs. If they apply for jobs and start working this will decrease poverty. The economic development process will be beneficial for women because they too will be able to work, conducting a sustainable income for their home as well as the men.

Moreover, climate volatility, water scarcity, and pollution will affect food spoilage and waste and the well-being of my family plus the decades ahead. Climate volatility will make it unsafe to plant products because they will spoil very quickly if not treated under the right climate. Everyone needs water to plant crops and if it becomes scarce then I won't be able to maintain healthy crops and the animals that I use for food will become dehydrated and die. Pollution will cause all my crops to become wasted or spoiled because of the chemicals in the air. If this continues to happen, my family will become poor. The food and food sales would dramatically decline in the decades ahead.

Alternatively, to improve food security for my rural farm I would freeze dry all of the meat that I process for exporting. They also could store them in bulks so they can maintain cold temperatures while in the boxes so they will not spoil. For the crops they could put them in bulks and ship them faster to other countries so the marketplaces can quickly put them in a sustainable environment that they need to be in. Also, many Nigerians store food in a small pot and put the small pot inside a large pot (that many Nigerians have) then put water in the sand between the two pots. Evaporation then occurs through the surface of the larger pot. This evaporation process creates a drop in temperature of many degrees, cooling the inner pot and helps keep the food fresh and safe from harmful bacteria. More appropriate technologies that are practiced are drying, smoking, frying, salting, bagging, heating, fermentation, biogas extraction from cow manure and blanching.

In conclusion, food spoilage and waste can be prevented in the future with the technologies that we have today and will invent in the future. If Nigeria's government had a more adequate financial system, they could build machinery around major crop plantation and make it faster and easier to maintain fresh crops as well as meat. You can prevent spoilage by being more cautious with your crops and animals that you nurture for food. Make sure that your production is in packages and boxes that has a suitable temperature that won't make them spoil. Freeze drying products will improve your household income. Also you will sell more products that have a good amount of nutrition, which will make your sales skyrocket to the top!

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