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Egypt, Spoilage and Wastage

Egypt: The War Against Waste

Two hundred and twenty-three million. Currently, there are two hundred and twenty-three million undernourished people all throughout Sub-Saharan Africa (“Hunger”). Unfortunately, they cannot turn to their closest neighbors in Northern Africa for aid, because over one-third of food there is lost or wasted as claimed by the United Nations (“Egypt on Track”). Much of this food loss is caused by inefficient farming practices while a smaller portion is due to the Egyptian culture. These large numbers are very alarming considering the growing populations in most northern African countries, as is the case with Egypt. The waste results in largely inflated prices for healthy and nutritious food all throughout the country that many families cannot afford. However, almost two-thirds of this waste could be prevented by making a few changes in the way food is farmed and distributed to the millions in need.

Egypt is not a small country as it holds a population breaching one hundred million and covers a total area of over one million square kilometers. The large population within Egypt requires a large food supply. However, due to the current level of waste, many people are malnourished, and even more go to bed hungry. Despite this, the country still wastes around one-third of all the food it grows (“Total”; “Egypt on Track”). Given that almost 50% of citizens earn less than eighty-four dollars a month, many families cannot afford the inflated prices caused by the waste (“Egypt Tightens”). Furthermore, although the vast majority of people in Egypt live within 20km of the Nile River and its delta, 57.3% are considered rural (“Egypt” [The World Factbook]). Farmers in the fertile Nile Valley generally work farms two and a half feddans in size, which is about the size of two football fields with both end zones. Altogether, 7.2 million feddans of the country are cultivated. Over 500,000 of these feddans are used to farm cotton and rice, the two most important export crops alongside citrus fruits (El-Sherif; “Egypt.” [The Observatory]). In the past ten years alone, crop production has increased by 20%. However, the population has increased by slightly more, thus actually increasing the need for the food that is so commonly lost and wasted (El-Sherif). Abdelfattah Elsis, the president of Egypt, has been trying to solve his country’s food waste and inflated food price problems through the use of bread cards and new government facilities, but the country had to unfortunately cut many families from the bread card program as it could no longer afford the price of its efforts (Balch; “Egypt.” [The World Factbook]; “Egypt Tightens”).

With the rise of urbanization due to the development of the country, many families are shrinking and growing apart. According to one report, “in previous generations larger families were the norm throughout the country, today family size has decreased in urbanized areas” (“Egypt.” [CultureGrams]). Currently, most urban families are only having two to three kids, whereas most rural and farming families will usually have up to five children. In almost all urban areas, most people, rich or poor, live in apartment buildings; although, European style homes can still be found throughout the Nile River Valley serving as mementos from the colonization Egypt experienced. Most homes are built from brick or concrete as wood and trees are scarce. Cereal grains, bread, fish, chicken, and tomatoes are staples in the average Egyptian diet. Traditionally, the oldest son is usually expected to provide food for his family

from the open market. (“Egypt.” [CultureGrams]). Egypt produces massive amounts of these staple tomatoes although, it is estimated that for every 1000 kg of tomatoes grown, 560 kg are lost (“Egypt on Track”). Slightly more boys than girls attend school from the ages of six to fifteen, resulting in literacy rates of 82% for men and 65% for women (“Egypt.” [CultureGrams]). Although families may be able to afford to send their children to school, they cannot always afford enough nutritious food. In the city of Al-Marg, “school workers say families often send children to school without enough food for the day. Many are anemic, and some have trouble concentrating in class” (Elrasam). Due to its large amount of wasted food, Egypt has to import nutritious foods from other nations, which creates a low supply for its demanding citizens. A decrease in supply results in high prices for healthy foods, which necessitates people to purchase cheaper sugary foods instead.

As a sign of wealth, many families do not eat all that is on their plate to show that they can afford to leave it behind, even if they really cannot (“Egypt.” [CultureGrams]). This makes up a substantial portion of the third of food waste created by consumers alone. This combines with the two-thirds wasted by producers before it even reaches the consumer to nearly eleven billion pounds annually¹. Although the Egyptian government claims it will reduce food wastage by 50% in the next five years, it is unclear how it plans to do so since it lacks a publicized plan of action (“Egypt on Track”). Even as the food needs in Egypt increase, the amount of waste is worsening as 45-55% of fruit and vegetables are lost or wasted, and the quality of these and other perishable foods is suffering greatly. The Food and Agriculture Organization, or FAO, claims that many crops in Egypt are damaged, “bruised, or left behind in fields due to poor post-harvest handling practices and poor harvesting skills,” and quite a few “crops [are] sorted out because of the lack of awareness for standards and quality” (“FAO”) Most Egyptian crops are not farmed using disease-resistant strains and thus are susceptible to many diseases that can take out multiple farmers fields at once (“FAO”). Furthermore, crops are often stored in open air structures called shounas, where animals and other pests can easily access the food while it is also at the mercy of the weather; rain, wind, and extreme heat (Balch). Certain poor farming practices and cultural norms are leading to a lot of preventable food waste within Egypt.

The vast majority of people in Egypt get their food from markets. The oldest son is commonly sent to the market to bring back food for the family. Since most of these food markets are established temporarily in the open air, food is often spoiled before even reaching the consumer. While the simplicity of these markets allows them to be near everyone and anyone, the lack of refrigeration and protection for the food leads to much more waste than a permanent indoor supermarket (“FAO”). The accessibility of food in Egypt comes at the cost of millions of pounds of food every year.

Countless children are detrimentally affected by the waste as it makes sugar a much more affordable option than nutritious fruits and vegetables. The high price of healthy foods leads to the overconsumption of cheap sugar-filled treats and therefore malnutrition. The environment is also suffering greatly from the waste Egypt creates. Cairo’s Manshiyat Naser district is commonly referred to as the garbage city. There, numerous poor families live and work separating the trash from items that can be recycled. An average of fourteen thousand tons of waste is delivered each day with half estimated to be organic waste, ranging from thrown out food, to dead plants (Elrasam). The fact that it takes a district of over 50,000 people to sort through one city’s waste, when around 90% of it could have been recycled or eaten, shows the

¹ Based on the estimated 50 kg or 110 pounds per person annually.

severity of Egypt's problem ("Cairo's"). The rapidly growing population, lack of accessible freshwater, and limited suitable farmland, will cause the loss of food in Egypt to get worse if it is not solved soon ("FAO").

One way Egypt could solve its problem until another more sustainable solution can be instituted is through the use of climate controlled shounas. These new buildings would be equipped with air-conditioning and humidity control which would keep food safe from animals and other pests. Such storage facilities have been successfully implemented by Blumberg in Senegal, Nigeria, and the Democratic Republic of the Congo. In 2015, 105 of the storage sites were installed in Egypt to hold government purchased crop. While these have been effective in reducing some waste, many Egyptians fear that because they are government controlled, the shounas could be corrupted and grain only handed out to those in high positions or with money, rather than to those in need. Moreover, even though the shounas have the ability to clean, dry and bag grains, they are far away from most major processing plants and the roads and railways connecting them are not in good condition (Balch). To create a more effective system, roads and railways would have to improve, or more shounas would need to be implemented closer to major processing plants. Furthermore, to get the public's approval some would need to be constructed for communities and put under their control. While this is not a sustainable solution it has the potential to work for a short period of time until more sustainable solutions are established.

One of these sustainable options would be to encourage urban gardens through funds and seeds distributed by the government. Public support would be needed to both ensure the planting and care of the gardens and to push the government toward this solution through marches and other demonstrations. If the gardens are properly taken care of through composting and seed retention, they should continue to produce food for several years. Urban gardens would use previously wasted space such as the tops of the many apartment buildings in cities. They would reduce the distance food would have to travel to get to the consumer, effectively reducing the two-thirds of food that is lost during transport to the consumer.

In addition, by growing their own food, communities would find new respect for the crops and their growers and choose not to waste what is on their plate. However, it is important to take into account that this practice is a part of a social norm and many may choose not to change. For this reason, it is essential to educate the Egyptians on how much food is actually wasted in this way each year. Additional needs for urban gardens can make them much more expensive depending on geographic location. Among these needs are soil composition assessments. It is widely recommended to have the soil tested before beginning the farm, and new water lines must be installed to reach the gardens ("Urban"). Fortunately, Khalid Al-Hanafi, Egypt's supply minister, has been given a large budget by the government to reduce food waste (Balch). As a whole, and in comparison to the budget, the urban gardens are relatively cheap. With the help of the government and cooperation of the citizens, they could be implemented all across the Nile River Valley, saving a lot of food and money for the country and its citizens.

A second even more sustainable option would be to promote education. As mentioned previously, there are many poor post-harvest practices such as harvesting crops at the wrong time, over fertilizing crops, and waiting for the economy to change in their favor ("FAO"; "Egypt on Track"). Many farmers in Egypt are unaware of the correct time to harvest individual crops and as a result, many are picked too early or late. For example, if grapes are harvested too late they can mold, have tight clusters, or have a low sugar

content which leads to them being discarded in vineyards. Furthermore, fertilizer is widely overused in many parts of Africa, and Egypt is no exception. Over fertilization can hurt the crops, resulting in even more lost product. Finally, farmers in Egypt, like those in any other place, do not want to harvest when they will not make money. For example, tomato farmers do not harvest tomatoes when the market price falls below the harvest cost (“Egypt on Track”). The tomatoes that then go on to rot in the fields cannot be sold to the consumer. These simple practices and misunderstandings could be solved with communication and teaching, resulting in billions of pounds of food saved every year.

Recently, the FAO and Italian government sent representatives into Egypt and many other African countries to educate farmers on crop loss. Through this single class in Egypt, twenty-five agricultural engineers were taught in hopes that they would spread their knowledge with other farmers around them (“Egypt on Track”). While this has proved useful for some, the information has yet to reach many of the farmers in the country. If more classes were held all along the Nile River and made more accessible to the average farmer, the information could spread much faster and at a very small, one-time cost. Farmers would be able to pass the information on to one another creating a much larger chain reaction. If just one other class was held, the information would spread twice as fast and this increases greatly with each additional class. With the students able to become the teachers, the process and the knowledge it carries would sustain itself just as basic farming did through thousands of years.

By implementing many new shounas across Egypt, and making them more appealing to the public by transferring their control to communities, the country would be able to temporarily reduce food wastage and spoilage. Meanwhile, urban gardens and farms could be constructed, while farmers are educated on how to maximize profit from their crops. With these two self-sustaining practices in place and funded, by both the government and agricultural organizations from around the world, Egypt's food waste could be cut tremendously, and food would become more available for the many citizens currently not able to afford it. Furthermore, extra food produced by the country could be exported to the two hundred and twenty-three million malnourished people in Sub-Saharan Africa helping to end malnourishment and hunger all over Africa. The food that would once have been wasted or lost, can easily be saved to aid the ones in need. On the eve of overpopulation and the exhaustion of the planet's resources, humans need to become more efficient in their ways of living, and Egypt, is just the start.

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