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Kenya, Malnutrition

Accelerating Kenya through a Malnutrition Crisis

Among several developing nations, Kenya is one that suffers from malnutrition at an increasing rate due to the insecure food production in this country. With a population of 50.7 million people, Kenya has a limited population of 26.7% living in urban areas. The development of Kenya has struggled since his establishment of the country in 1963. Before this, the British government previously ruled, but decolonization of many countries in Africa by European powers led to an independent state that now has a Democratic representative government. There has been much progress in Kenya along with many African states, but the improvements are far from sufficient. Kenya is a developing country that still suffers from low literacy rates, high infant mortality rates, high birth rates, low life expectancy, and high death rates. All of these are a result of health issues prominent in Kenya. Even though Kenya is far from being economically, politically, and socially developed, it does take time to reach the development of such countries as the U.S. and Great Britain. The major first world countries we have today are a product of hundreds of years of civilization and organized society that many countries have only recently experienced. With this delay, we hope that as the world is growing and creating new technology and techniques, we are able to accelerate this process and help with the major problems in the developing world. This process is hard because of the obstacles the developed world has brought upon emerging nations including the major cause for malnutrition: limited access to food. With the economic dissonances between nations, wealthier countries export products for expensive prices, exploiting developing nations with less food for more money.

The struggling economy leaves a devastated economy with limited exports and imports. According to the food security portal, only 8% of Kenya is agricultural land, producing tea, coffee, and many cash crops such as rice, wheat, and cotton. Tea and cut flowers alone make up for 37% of total exports. However, many of these crops are not diversified and treated with many harmful fertilizers to increase crop yield. Small farms make up 75% of the agricultural production. Most of the imports include technology such as telephones or computers, and petroleum. Weather is temperamental in Kenya including tragic droughts in the Arid and Semi- Arid Lands of Kenya and the harsh El Nino phenomenon which has recently struck the country and created a crucial decline in agricultural practices with drastic alteration to the landscape, infrastructure, and overall health of the population.

Since the majority of Kenyans still live in rural areas, their daily lives exist in poverty and many live in slums. It consists of subsistence farming and local markets to obtain food and water but there is much room for the spread of disease because of the lack of sanitation. Although, it is common to have a telephone, and the literacy rate has recently increased to 90%, with the implementation of education.

Common foods consist of vegetables, grains, and meat but it is often hard to make enough money or to even grow these foods. The unemployment rate is 40% in Kenya due to the lack of secondary education, which is why many people live in poverty and have an insufficient intake of nutrients. Healthcare is not widely available because the ratio of medical professionals to people is very low and those living in poverty can't afford to pay for their own healthcare. Overall, the environment of Kenya leaves very little opportunity for better health with the obstacles of financial issues.

Malnutrition is the lack of obtaining enough nutrients to support a physical being either by not consuming enough food or nutrients. Particularly, Kenya's malnutrition issue stems from a unique set of causes leading to great distress and 47% of the population in poverty. The ultimate root to malnutrition is lack of agricultural production based on economic, social, and climatic shifts. There is enough food on the planet to feed the growing world population but unequal distribution of food has contributed to the lack of quantity and quality of food in poorer countries. Also, with 1.6 million people living with HIV and AIDS according to the Avert organization, the population is far more susceptible to illnesses like malnutrition. Recently, the 2007 election led to dismissal of a multitude of farmers, leaving the country with even less food. A major element of malnutrition is the deteriorating economy it possesses. This economy faces tremendous domestic prices for food that doesn't even allow enough imports to travel into the country and other costs like fertilizer only add to the basic expenses.

Will anything change to improve the detrimental state of this struggling African country? The Government of Kenya has implemented the Vision 2030 plan which addresses the three pillars of economic, social, and political issues. Overall, this is working to improve all of Kenya and create a more developed world in which many problems will automatically be solved with these improvements. Supply, price, and income related policies are meant to improve the quality of life for those throughout Kenya along with directly and indirectly effecting agricultural production. This plan is slowly making progress to restore the country but it is long term and could take many years to fully take effect. This food is exported and used to feed the population, but does not contain the necessary nutrients needed as well as being chemically treated, having harmful effects on health. . This plan lays out the three social, political, and economic pillars and then has subcategories and all of the programs associated with individual problems. Malnutrition falls under health and agricultural related issues. One program, known as the Fertiliser Cost-reduction Initiative, is working to decrease the price of fertilizer through the economy so that more food can be produced with chemicals such as phosphorus and nitrogen for less money. They plan to do this by increasing bulk purchase of fertilizer and hopefully creating fertilizer plants in Kenya for a more accessible amount. Also, education is a key element in decreasing malnutrition by showing ways to obtain those nutrients through projects like the Community based Information system. The purpose of this entire initiative is to accelerate the growth of an industrializing economy from many aspects which all work interchangeably. So as the economy improves, so does the social and political aspects of Kenya. But this plan is constantly progressing and implementing new ideas too hopefully achieve by 2030.

Yet, there has been an intensifying demand for natural pesticides such as pyrethrin from flowers or

genetically modified organisms (GMOs). GMOs are the genetically engineered organisms that are made by scientists in order to specialize genes for what is in demand. Since the Green revolution, this has been largely popular in developed countries, enhancing genes like drought-resistant and larger yield crops but also cross breeding of different plant species. Crops like the rainbow papaya have dramatically improved the economy and give humans the ability to allow all the benefits we could want from our food. This allows us to cultivate crops in larger areas and climates and select the amount and in some cases, what our food even looks like. In developed countries, there is much controversy on the safety of GMOs but in many developing countries, there are not many options that they have access to. The reasons for skeptical concern arise from the lack of research and knowledge about the effects of GMOs on human health, other crops, and the environment. GMO's have recently been implemented because they can improve crop yield, strengthen the economy, and alter genes to increase nutrient intake. Crops like golden rice have been created to make vitamin A and other nutrients available but GMO crops do require a considerable investment to access the technology. This method is achievable and has expanded throughout Kenya to save it from the growing malnutrition crisis. In this case, once the deposit is made to receiving the GM technology, a more substantial amount of food and wider range of food are available for the population. There are also more jobs available and a wider export of crops that will advance the economy to lift many out of poverty. With the rise of GMOs came the increase in pesticides and fertilizers which would also help with agricultural production. Pesticides keep away harmful organisms to a crop and fertilizers boost the development of the crops with the use of harmful chemicals. Pesticides and fertilizers apply plants with the sufficient amount of nutrients to encourage faster growth and easier to obtain than productive soil. Yet, these fertilizers and pesticides will increase eutrophication and can ruin the remaining soil for plants to grow. The destructive chemicals can kill other organisms and ruin the population and develop new strains of diseases and pests through pesticide resistance. The effects can be catastrophic especially if the pesticide is not specific and non-persistent. The chemicals increase pollutants and impose danger to humans as well. There have been events that show the very harmful effects that crop- enhancing technologies can do such as the incident of DDT that drastically affected a whole food web of organisms. Although, with these chemicals there is a risk involved with many of these methods to maximize the health concern of malnutrition in Kenya, but the benefits outweigh the costs. This solution would be a very helpful solution to the increase of malnutrition in Kenya.

Although, solving this malnutrition situation starts with education. Socially, children and farmers should be the ones first educated on ways to prevent and go about correcting the flaws in the food industry of Kenya along with household issues that can be easily corrected with little time. Farmer's main focus should to be educated about the Arid and Semi-Arid Land care and prevention of damage from sources such as natural disasters. Since arid and semi-arid land makes up most of the land in Kenya, the land is essential to produce agriculture and figure out how to have a steady and predictable agricultural solution and plan. To prepare for weather issues, there can be a strategy of planting the crops like corn after the El Nino season. Cover crops as well can help preserve the soil and protect future crops while the normal cash crops are to be grown later in the year. Also, drought-resistant GMO crops can be used to prepare for the unpredictable rainfall along with the benefit of having a constant growing season while also have a larger water supply for the people rather than needing fresh water for agriculture. Therefore, implementing these techniques starts with the education to the farmers of Kenya, and that will eventually create a steady flow of food to Kenyans in addition to improving the economy.

Adding to the concept of education, children are also crucial in the dispersal of nutritional practices. It is essential to have proper nutrition, especially in the most influential years of life because of issues with development, such as stunting. To be educated about malnutrition is the first step to improving health, and children's education can create a healthy, educated society. That basic overview of nutrition should be included into the curriculum and available to the public. Kenya Vision 2030 has the intention of the Mainstreaming of Early Childhood Development Education (ECDE) program which includes establishing resource centers while recruiting trained teachers for proper education to all. High education in general can allow for the practical and more advanced usage of land and agriculture as well as the everyday activities, such as water, that can pose a threat to survival of the population. Education forms a gateway to connecting with the rest of the world through international relations and also creates a more independent country without the need for foreign organizations.

Furthermore, there is a lot that can be done about malnutrition by the citizens of Kenya, but to carry out the actions of management and to start the process, other countries and organizations need to help out and steer Kenya in that direction. This already has happened with the vision 2030 plan and organizations which are very helpful, because Kenyans need to be taught and guided not just bombarded with money and first world innovation that is insignificant to those that lack even basic needs.

The condition of Kenya is alarming and should be a priority for transforming this society to become stable and improved. Malnutrition is a very large issue and it must be fixed from the root. Farming techniques and economic changes all can help and change the way all citizens live, and even inform us on how to fix other global issues. These problems don't just extend to the borders of Kenya, but also to the entire globe because we have to continue to learn and prosper from the problems and how we solve them. This must be a global effort, with everyone contributing in some way because even the smallest contribution or change can make a difference.

Vision2030, Kenya. "Progress (2016 March): Public Sector Reforms." Kenya Vision2030, www.vision2030.go.ke/494/progress-2016-march-public-sector-reforms/.

"HIV and AIS in Kenya." AVERT, 14 Sept. 2017, www.avert.org/professionals/hiv-around-world/sub-saharan-africa/kenya.4

Maina, Jemimah. "El Niño in 1997 and 2015 – Learning from the Past." Care Climate Change, 6 Apr. 2016, careclimatechange.org/el-nino-kenya/.

“Emergency.” UNICEF Worldwide, www.unicef.org/kenya/emergency_19640.html.

“Food Security Report (Prepared by Kenya Agricultural Research Institute.” Food Security Report (Prepared by Kenya Agricultural Research Institute | Food Security Portal, www.foodsecurityportal.org/kenya/food-security-report-prepared-kenya-agricultural-research-institute.

“Kenya.” World Food Programme, www1.wfp.org/countries/kenya.

“Kenya - Agriculture.” Encyclopedia of the Nations, www.nationsencyclopedia.com/Africa/Kenya-AGRICULTURE.html.

Global Edge, globaledge.msu.edu/countries/kenya/government.

“Kenya Population (LIVE).” *Kenya Population (2018) - Worldometers*, www.worldometers.info/world-population/kenya-population

A Brief History on Kenya | Republic of Kenya | The Embassy of the Republic of Kenya, www.kenyarep-jp.com/kenya/history_e.html.

“Kenya.” *OECD - Kenya (KEN) Exports, Imports, and Trade Partners*, atlas.media.mit.edu/en/profile/country/ken/.

Acker, Rene Van, et al. “Pros and Cons of GMO Crop Farming.” *Oxford Research Encyclopedia of Environmental Science*, 11 Dec. 2017, [https://greentumble.com/pros-and-cons-of-using-agricultural-fertilizers/](https://environmentalscihttps://greentumble.com/pros-and-cons-of-using-agricultural-fertilizers/)

“Pros and Cons of Using Agricultural Fertilizers.” *Greentumble*, 15 Mar. 2018, greentumble.com/pros-and-cons-of-using-agricultural-fertilizers/.

<http://www.our-africa.org/kenya>