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Implementing Food Reserve Programs for Famines Induced by Drought and Disease in Somalia

Somalia's Food Crisis: Introduction

According to Gettleman (2008), Somalia “has been in chaos for 17 years.” People are starving because of food shortages due to prolonged dry periods, lack of arable land, and especially civil unrest and proliferating mafia-like piracy along the entire lengthy coast. How can the seemingly insurmountable agricultural obstacles of this arid country be overcome? This paper seeks to address some of Somalia's problems by offering unique solutions.

By utilizing newer “high” technologies in agricultural greenhouses called “vertical farming”, teaching all Somalians (especially the adults) peace keeping and conflict resolution strategies, and focusing on reaching those who need it the most, it is suggested here that the problems of Somalia could be addressed. I suggest in this paper that civil wars, piracy and lack of arable land are the three most significant problems in Somalia. First, we begin with a brief history of Somalia and then we will look more carefully at the development problems in agriculture and food aid before we discuss solutions. Of particular significance for Somalia is the problem of displaced persons inside and outside the country.

Somalia's History

Somalia, in the Horn of Africa, is the least developed, war torn food deficient country in the worst position of all underdeveloped nations in the world today (FAO, 2008). Between January 1991 and August 2000 there was essentially no working government and complete lawlessness. Even the Australians came in 2004 to try and bring some stability to the area, unsuccessfully. Early on in the 7th to 10th centuries, Muslim Arabs and Persians traded with Somali Nomads and Oromo pastoralists along the 1,880 mile long coast (The World Almanac, 2008).

The British colonized and took over Somalia in 1839 and before the end of the 19th century the Italians had taken over a large part of Somalia. In 1940, the British invaded Italian Somaliland and in 1950 Italian Somalia became a UN Territory. In 1960, both parts of Somalia became a unified independent nation, but has never known stability or economic self-sufficiency. Many of the problems Somalia has today stem from the colonization period when natural resources were neglected and marine communities were left undeveloped.

In 1991, what was once British Somalia tried to breakaway until warlords overthrew the dictator Mohamed Siad Barre. Ethiopian troops then took over the south and since that time there has been nothing but strife and starvation for the people of Somalia.

Even the UN troops pulled out of Somalia on March 3, 1995 never to return. It was hoped that when the General Mohammed Farah Aidid died in August 1996 that peace might come, but it didn't. The civil wars continue to this day which also impacts the effectiveness of food aid shipments. The UN distributed some relief, but a widespread relief effort has been thwarted by piracy.

It is now to the point in Somalia that any shipment, whether it contains food aid or weapons, the shipments never reach the shore. Pirates using speed boats surround the ships and hijack the cargo by dinghies. According to the New York Times, there are over 1,000 highly organized pirates who were mostly fishermen from the north in previous times (Gettleman, 2008).

Exports are livestock, bananas, hides, fish, charcoal and scrap metal totaling \$241 million (a 2004 estimate) with imports of \$576 million, manufactures, petroleum products, food stuffs, construction materials with major trading partners: UAE, Yemen, Oman, Djibouti, Kenya, India and Brazil.

In late 2007, the UN classified Somalia as the worst humanitarian crisis in Africa (FAO, 2008). However, Somalia and the other nations in the region have been suffering for a very long time. Somalia has a history of violence, war and neglect because of the many colonial powers fighting over the land from the British to the Italians to the French. Largely unexploited reserves of uranium and iron ore, tin and bauxite, copper, salt, and natural gas.

Somalia's Culture and Economy

It is hard to make sense of how parts of Africa have been suffering for so long. Why don't more people care about Africa? It seems like a lot of resources are going into Somalia (and much of that is pirated) and not a lot are going out (to increase the GDP). Somalia is very limited by scarcity of natural resources (that have been developed) and since independence the people have yet to find ways to become economically sufficient. In 2007, agriculture imports were 32.9% of the total imports with sugar making up 20% of that figure and cereals 5%. Main exports are goats, and other livestock with some cash crops.

Other exports include livestock, bananas, hides, fish, charcoal and scrap metal totaling \$241 million (a 2004 estimate) with imports of \$576 million including manufactures, petroleum products, food stuffs, construction materials with major trading partners of UAE, Yemen, Oman, Djibouti, Kenya, India and Brazil. The economy of Somalia is largely based on livestock and crops, such as durra sorghum, maize, millet, sesame and beans. Commercial growers produce bananas, sugar cane and cotton mostly produced on land with controlled irrigation (Encyclopedia Americana, 2004).

A typical home diet for a Somalian family (adapted from Abraham Moss High School, UK, web page on "Food and Somalia") might consist of some meat fried in ghee and spiced with turmeric, coriander, cumin, and curry, and eaten with basmati rice for breakfast, lunch, or dinner. A springy pancake type bread, anjara is consumed. Black sweetened tea is consumed four times a day. Samusa, deep fried triangular shaped dumplings filled with meat or vegetables is also a staple. Vegetables include potatoes, carrots, peas, green pepper, spinach, and garlic. Fruits include bananas, dates, apples, oranges, pears, mango, guava, coconuts, beans, and fruit juices. Homemade cakes are eaten as snacks. People who are in the midst of famine are dependent on food aid and often seek refuge in another country. Many, many Somalians have found refuge in other countries, such as Kenya, Yemen, the USA and the UK.

Overall, like some other undeveloped nations, the educational attainment of the majority of Somalians is very low. Many have no formal schooling. Only 8% have a tertiary education (Report of the Somalia Commission of Inquiry, 1997).

The current crisis is sometimes compared to the rapid spread of HIV/AIDS in Africa during the early 1990s. There is an urgent need to resolve these problems because many Somalians are suffering and dying. Somalia is largely a pastoral economy, with sheep, cattle and goats providing subsistence for the locals.

Somalia's Current Crisis

Who is most affected by these problems? Most affected are women, children and others, such as the elderly, and families who are landless and homeless, and squatters in the urban areas or refugees waiting to leave. The number suffering from malnutrition is increasing. Civil security is escalating. The unrest has created an economic crisis. Currency devaluation, disrupted trade market activities and hyperinflation of basic food and nonfood items intensify the poor performance of the Gu rains (Beckman, 2008).

Droughts, floods, inadequate or absent health services, and a highly volatile security situation has created an alarmingly low level of food availability. Maintaining a livelihood and a minimum level of health is an ever-present challenge. Famines and droughts severely limit the families' opportunities to obtain enough food. The political instability contributes to displacement, no permanent homes, thus placing the urban poor in a position of not being able to earn a consistent livelihood. The lack of clean water is also a huge factor. Contaminated water sources lead to widespread disease (FAO, 2008).

Perhaps the worst part of the current crisis is the cruelty of the civil war: a cruelty on both sides. Earlier this year in the *The Guardian* Black writes:

Gang rape and throat cutting - referred to locally as "killing like goats" - is prevalent. Incidents of gouging out eyes, beheadings and castration have also been reported. Amnesty's report is based on interviews with scores of traumatized refugees who fled the war-ravaged country, where 6,500 civilians have been killed in the past year. (<http://www.guardian.co.uk/world/2008/may/07/somalia.ethiopia>)

What is the fighting about in Somalia? It appears to be a fight between Fundamentalist Muslims and opponents from Ethiopia who have waged a war over a split in the country. Somalia once was two countries and

those two factions continue to fight. The legacy of the colonizing nations continue to haunt those who are trying to lead Somalia (World Almanac, 2008). Weapons arrive from all over the world to support killing in the Horn of Africa (Gettleman, 2008). Without a cease fire there is little hope for agriculture because most Somalians are either trying to find refuge outside of Somalia or living in fear without hope.

According to UNHCR (United Nations Refugee Agency) there has been a real “exodus” of Somalians over the past 20 years. In 1991 and 1992 alone, three million Somalians left their homes for other countries. Most sought asylum in Kenya, Ethiopia, Tanzania, Djibouti and Yemen. Fighting between the Islamist Court Union (ICU) who held control over the capital in early 2007 and the Traditional Federal Government or TFG, has escalated the flight of many people. Just in March and April of 2007 alone Mogadishu experienced the displacement of 400,000 people (Executive Summary, UNHCR report, 2007).

On top of these political problems are the droughts and floods caused by weather. Many Somalians are displaced externally – about 450,000, and another 400,000 are internally displaced according to the UNHCR that attempts to provide aid for all of them.

Somalia's Solutions: Vertical Farming

There are recent indicators that the drought, and flood and famines are worsening, this combined with skyrocketing food crises have created a dire food insecurity situation. The circumstances of the poor in Mogadishu, the largest city of Somalia, are worsening. Refugees continue to scramble to safer nations. The problem of increasing food production is a daunting one, even in areas where the scant agricultural resources are available. Most arable land is already being used for agriculture, and as the climate continues to change at an ever increasing rate, factors such as soil depletion, droughts and floods may well decrease the arable land now available.

Dickson Despommier of Columbia University has developed an approach to increasing food production which may successfully address the problem of scarce arable land. He has advocated, researched, and developed the concept of vertical farming (Kuang, 2008). The main idea is to place farms into high-rise buildings. These buildings would use hydroponic farming techniques, which utilize methods of growing crops without using soil. The power to operate these buildings will come from a process of converting sewage and waste products into electricity. In desert climates, solar collection panels can also be used to provide energy. Furthermore, if land that is currently used for growing crops was used to plant trees instead, more carbon dioxide could be removed from the atmosphere. And much of the work of running an maintaining a vertical farm is automated, so a large human work force is not necessary for the success of the operation.

Vertical farming structures such as these would be expensive to construct, but Despommier claims that the idea is economically viable and that investors are becoming increasingly interested (Keim, 2007). Technologies have already been developed which allow the incineration of waste products in a pollution-free manner. Another advantage of using sewage as a source of energy is that there is always an abundant supply of waste products to utilize; this resource is readily renewable.

No solution could move forward without key factors in place as well, such as political support, economic feasibility and local involvement. The Somalian people must be involved from the ground up in any solutions or experiments. Education is the key to any solution, including vertical farming.

Conclusion

This paper has briefly explored the current crisis in Somalia. This crisis, in many ways, is not new, however, the problem of long term food security issues has taken its toll on the people. Somalia has been burdened with many obstacles to self-sufficiency since Independence in 1960. With such a long coast, fishing could become an economic resource if the pirates could be controlled. Perhaps the United Nations could help with the pirates. Too many people in this world do not know about the problems that are happening in Somalia.

Any step forward must include education because if the Somalian people are not involved in their own solutions then they will continue to fight amongst themselves. Somalia has very little arable land. Somalia might do very well with vertical farming, an innovative method of growing food in high rises. Although the rural areas of Somalia would not want high rises in their villages, these ideas of growing food in buildings may be the future for many arid and semi-arid areas of the world. For the urban areas, where many rural people flock, vertical

farming may work in high rises.

Using sewage as energy, too, would cut down on disease and help the environment. Somalia's situation is dire. As we sit here today, children are hungry and mothers and fathers are forced to watch them die. Finding solutions to food production in arid areas is of utmost importance so that the many Somalians who are displaced can come home.

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