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Somalia, Factor 2

Somalia: Managing Water Scarcity and Adapting Farming Practices to Reduce Water Supplies with Improves Irrigation technologies and Conservation Practices

Driving next to fields, I expect to see freshly grown corn crops in southern Indiana along the Ohio River, but I only see dried up stalks and husks and realize that we have less than half the season to go. The hot, dry summer here in the United States this past growing season can only make me think of the dusty cracked nutrient deprived soil Somalia is currently facing due to years of drought. Having lived on a farm all my life, I have the feeling that when harvested, the important crop will run short of the expected harvest. Driving next to the brown, dried out, dead crops in southern Indiana, only pains me to think of the dry, dead season that Somalia is facing, as well. I am confident that my friends and family will have a better season next year and will also spend the winter months brainstorming ideas about what to improve, if we have a second rainless summer in 2013. Our agriculture businesses and educators across the country are always looking for ways to improve, with the encouragement and support of the government, unlike many of the countries of the world that, like Somalia, that are under financial and government stresses that inhibit growth and education.

Somalia, a country located in the Horn of Africa, is inhabited by 10 million. Majority of the Somalia's population is both African and Asian. Called the Land of Punt, or "God's Land," by the ancient Egyptians, due to mention of the frankincense and myrrh resource by the Bible. Out of the 193 nations in the world, Somalia ranks 88th in population with forty-five percent under the age of fifteen (Somalia) Many Somali's do not live to see age sixty-five (Somalia: Population). Only thirty-three percent of Somalia's population resides in urban areas, the other sixty-seven percent live on farms, in the drier parts of the country. In 2006, the nation faced the Al Shaba government, Africa's most feared militant group. Controlling a portion of southern Somalia, Al Shaba claimed to affiliate with Al Qaeda (Somalia.). In August 2011, the militia run government had been replaced by the new federal parliament (A New Parliament Convenes). Somalia, which ranked as one of the poorest, most violent, famine stricken, warlord driven countries in the world for twenty-one years, has a long road of recovery ahead (Famine Is Over but Danger Remains For Many). Somali's lives changed again during 2011, when a drought set in over the country. This drought caused citizens to resort to killing livestock, while they were plagued with fertile farms turning into fields of dirt, causing malnutrition and death rates to rapidly increase, and only allowing the inhabitants to trek across the even drier desert lands (Famine Is Over but Danger Remains For Many).

After having no rainfall for two years, the 2011 Somalia drought was categorized as the "worst humanitarian disaster" in the world (Somalia Drought Is "Worst Humanitarian Crisis":UN). Due to the severe climate change, spike in food prices, and a brutal civil war, millions of Somali's have fled to their neighboring country, Kenya (Somalia Drought "One of the Largest Humanitarian Crises In Decades"). A refugee camp in Kenya is housing tens of thousands Somali's and is having trouble to help all those in need. The United Nations Children's Fund estimated two million malnourished children are in the camp, and in need of serious medical attention (Somalia Drought Is "Worst Humanitarian Crisis":UN). Volunteers of UNCF told reporter Luc Van Kemenade, that up to two thousand Somalian refugees cross the Ethiopia border each day. Each family of the two thousand has their own story about what they had to do to survive the desert walk and drought conditions at home. One man told the UNCF about how he had been a farmer since being a child, and had never seen such conditions. Having nowhere to turn the man and his family choose to leave their home, farm and animals in the awful heat (Somalia Drought Is "Worst Humanitarian Crisis":UN).

Somalia is a family farming nation, where approximately 1.7% of all land is cultivated and only sixty-nine percent remains permanent pasture (Somalia: Agriculture). The typical family farm has a short three month rain season where the main crops, corn, cotton and sesame, are grown. The typical farming style is either dry-land farming or rain-fed dry-land farming, although along the Shabeelle and Jubba River, bananas and sugar cane are the main commercial crops. In 2001, the United Nations appealed for food for more than half a million people in Somalia, due to a severe drought (Somalia: Government). Also in 2001 5.3 million head of cattle were accounted for in the whole nation allowing for the trade of live animals, hides and skin to become other significant Somali exports (Somalia: Agriculture). Best known for its failed state, Somalia's government took over sector division and territory rulings, although it has the strongest out of its neighbors, Ethiopia and sector. Disrupting the maintained economic stability, the government cleared out the stable system of law and politics.

With Somalia's poverty stricken rates increasing and as droughts continue to worsen, managing water scarcity and adapting farming practices to reduce water usage is crucial. Somalia, only guaranteed two years of rainfall out each five year period, is extremely in need of assistance (Famine Is Over but Danger Remains For Many). Educating young children on effective agriculture practices in extreme heat conditions is the beginning of a successful chain. Teaching children how to effectively manage what little water they can obtain to feed their family, animals and crops is key. The goal with this system is to efficiently educate the younger generation on an irrigation system, in order to save their dry land and save the malnourished generation.

Along with climate and temperature affecting the agricultural life in Somalia, the government is another big factor. Due to warlords and famine, Somalia lost one million people alone in 1991 (Somalia Profile). After the collapsed of the Siad Barre regime in 1991, Northwest Somalia left and declared Republic of Somaliland, as its new name (Somalia Profile). Just after the Republic of Somaliland declared itself, NATO entered Somalia, due to the long-standing absence of authority, and pirates became a massive threat to international shipping from Somali (Somalia Profile). By the 2000's, Somalia's confidence in the government was growing back. In August 2011, the first formal parliament in twenty years took over all warlords and terrorist groups. Running the feared dictators out of the nation, Somalis came back into the government hands.

After reading about how the 2011 drought demolished many families' hopes and dreams of a sustainable farm, I did some research on what alternative practices will sustain the heat of the African country. Somali farmers are receptive to new ideas and always looking for a better way to practice agriculture. Alternative methods, without using a large amount of water and still producing healthy products are what I researched. My plan of action is to start with educating the people on the agricultural methods that their soil and climate conditions allow. This is the only way to start rebuilding the agricultural practices in Somalia. Regulating the alternative practices with the government and working on the three sub sectors is the second in the plan of action. Developing seawater greenhouses along the Somali coast line to protect the Somali crops, such as corn, is the last step in my plan of action. This is the hope behind family farming in order to raise crops in such dry conditions. Somalis could also own their own greenhouse system and still have profit to help improve their agricultural knowledge and maintain a happy, healthy family.

Using a Seawater Greenhouse system, takes less than five dollars per square foot (The Future of Farming: Eight Solutions for a Hungry World.) Where can these greenhouses go? Somalia is known for having the longest coastline in Africa. Building seawater greenhouses along the coast will turn the abundant supply of seawater into freshwater for the crops (The Future of Farming: Eight Solutions for a Hungry World.) Using water from the Gulf of Aden and the Indian Ocean, Somalia's destroyed crops will grow plentiful without expensive desalination process to be used for the crops (The Future of Farming: Eight Solutions

For a Hungry World). The greenhouse process creates an environment that is humid enough for any plant to grow and live a healthy life. The greenhouses could sit on the coastlines taking seawater and condensing it into freshwater for watering. As water travels down a honeycomb-shaped machine, the salt water evaporates and cools, humidifying the air inside the honeycomb shape (The Future of Farming: Eight Solutions for a Hungry World.) Then as it travels throughout the greenhouse, the air heats back up, before reaching the second evaporation, which supersaturates the water (The Future of Farming: Eight Solutions For a Hungry World.) Lastly, the air moves back into the condenser, pulling the freshwater out, sending it into an underground tank. This tank is to store the water for plants when temperatures reach high degrees. Primarily the job of the greenhouse is to save enough water for dryer rain season or hotter summer.

How does this benefit the family farm? Being at such a low price per square foot, families could easily grow into using smaller seawater greenhouses on their own farms. What about living far from the seawater coastline? Somalia, along with being the coastline of the Indian Ocean, it has two rivers that run through the dry African nation. Using these two rivers, many small farmers will be able to use the water from them, and cut out the saltwater process of the greenhouse. Mainly the small farmers would use the greenhouses for the underground storage tanks. Knowing they have security on their produce will allow them to feel safer when long time periods of no rain fall and dry temperatures fall over their homes again.

To conclude, the solution for a big problem is simple: to educate and improve one nation, save millions of lives, and aid those in need. The small cost for a big help, knowing that if Somalia does not have the average rainfall, it will survive and bounce back from the heat. Using simple technologies, Somali's can grow healthy produce, earn a successful living and happily support their families. Somali's will be able to conquer the fight over drought and bad harvest, using the seawater greenhouses. Along with creating a stable government these solutions will promote the strong holds of Somalia and help build the reputation of Somalian crops that are internationally imported every day. Using the large amount of natural resources beyond the coastline, this in turn will increase the overall income of Somalia. The Seawater Greenhouse will lead to a safe and stress free drought season for Somalia, resulting in the best harvest since 2001.

