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Somalia: Climate Volatility

Somalia: Dependent on Drought

Somalia, located in Eastern Africa with a 3,025-kilometer coastline along the Gulf of Aden has been labeled "The Worst Place in The World" for its struggles with recent droughts, natural disasters, and large-scale outbreaks of diseases. ("Somalia." The World..., Jones). Somalia is populated by 11.7 million people with 5.4 million requiring assistance from humanitarian agencies and 2.6 million internationally displaced people ("Somalia." The World..., "Somalia." Oxfam. . .). While the fertility rate is about 5.5 children for women, the growth rate is only 2.21 percent with the average lifespan being 54 years ("Somalia." The World...). Somalia declared its independence in 1991; however, since then, the mixed legal system guided by a population of Sunni Muslims and a constant civil war has resulted in large scale debt and limited economic growth ("Somalia." The World..., "Somalia." Redworld. . ., Almendral, "Somalia." Oxfam. . .). Seventy percent of the land is used for agriculture with permanent pasture land accounting for 68 percent and arable land taking up 2 percent ("Somalia." The World...). In Somalia's desert climate a three-month monsoon season in the northeast of the country begins in December with temperatures increasing from moderate to hot north to south. The southeast monsoon season lasts for 6 months beginning in May bringing with it overall hot and dry conditions ("Somalia." The World...). These monsoon seasons however have become unreliable and have resulted in a drought lasting over a decade. Loss and damage to infrastructure, limited crops, loss of livestock, conflict, displaced people, disease, malnutrition, and starvation, can all be traced back to the root problem of drought ("Somalia." The World...).

In a traditional household, males retain the majority of the power through decision-making and financial support while women are responsible for providing food and supporting children ("Somali Culture - Family."). The most common source of protein is lamb or goat which is typically fried (Haq). Somalian culture has been influenced by western culture resulting in people wanting to be larger in size to symbolize health and prosperity. While being overweight is desirable, supplements high in calories, camel milk, which is high in fat, and tea, high in sugar, have been used to increase weight resulting in malnutrition combined with undernutrition as a result of prolonged drought (Haq). Ninety-eight percent of the urban Somalian population and 72.5 percent of the rural Somalian population have access to improved water sources ("Somalia." The World...). Children in Somalia have limited access to schooling with only 30 percent of all children having access to schooling, and only 17 percent of children who live in rural areas and who are considered internationally displaced people have access to schooling (Ejakait). Low access to learning opportunities as well as low assessment scores from those who can attend school has been caused by few people who are suitable for teaching as well as limited educational resources ("Education."). Children face additional health risks, as 23% of children are underweight and suffering from malnutrition resulting in a higher chance of childhood mortality ("Somalia." The World...). Currently, there are about 0.02 doctors available for every 1000 people and an estimated 3.2 million

people waiting for emergency medical care caused by a low expenditure of healthcare resources ("Somalia." The World..., "Somalia." World. . .).

Agricultural careers support 71 percent of the population, while careers in industry and services are responsible for the remaining 29 percent of the population ("Somalia." The World...). As a method to gain additional income or limit family expenses, Somalians will give their children to extended family members knowing the possibility of children being trafficked (Triolet). Across Somalia, only a third of the population has access to safe drinking water ("Somalia." World. . .). Improved cleaning facilities are available to 86 percent of the urban population and only 27 percent of rural Somalians ("Somalia." The World...). Throughout Somalia, there is a total of 15,000 kilometers of roads or about 0.061 kilometers of road per square mile which is significantly less than that of the United States which sits at 1.73 kilometers of road per square mile ("Somalia." The World...). Somalia's main import partners are China, India, and other mid-African countries supplying manufacturing, petroleum, and foodstuff products. Somalia exports consist of livestock, produce, charcoal, and animal products to mainly Mideastern countries ("Somalia." The World...). Agriculture in Somalia is a mix of produce crops such as bananas and sorghum, as well as animal products from cattle, goats, and sheep ("Somalia." The World...). One of the main agricultural groups is made up of nomadic herders who follow livestock for grazing (Almendral). The industrial sector has a growth rate of about 3.5 percent annually through its production of textiles, sugar, and wireless communication technologies ("Somalia." The World). Because of civil war in the country, infrastructure is limited or has been destroyed resulting in underdeveloped farm management ("FAO Somalia. . ."). Along the coastline, many people from other countries fish, and gather resources to be sold foreignly, however because of Somalia's disrupted government system, these goods are not taxed and provide no benefit to the Somali economy ("FAO Somalia. . ."). The first growing season of the year begins in April and lasts until June, and the second growing season begins in October and ends in December ("Agriculture. . ."). These growing seasons can fluctuate due to changes in seasonal rainfall ("FAO Somalia. . .").

Famine results from three distinct factors; the production of food, access to food, and government response ("Famine in Somalia. . ."). Somalia has all of these factors causing 11 million of their people to be suffering from famine (Ki-moon). Drought caused by overly high temperatures and lack of rain has prevented large-scale crop production and productive livestock from supporting the income and nutritional needs of the Somali people. Because of this famine, many people have attempted to search for sustainable food sources ("Somalia Drought. . ."). This drought has affected Somalia since 2011. During this time, Somalia has been limited in its rainy seasons, with only one typical rainy season (Riddell). Famine in Somalia can be originally attributed to lack of rainfall due to the warm water on the Indonesian coast which takes moisture from countries in East Africa and brings with it strong winds further drying out Somalia (Almendral). Throughout all of Somalia, there are no rivers, leaving people dependent on rainfall or boreholes. Somalia is mainly flat, so does not have any highlands that retain moisture (Almendral). For those who attempt the journey in search of better access to food and water, success is limited and often results in orphans who are frightened and facing starvation (Ki-moon). Because of the civil war in Somalia, men leave women and children alone to survive. The desperation of these women and children put them at an increased risk for trafficking in exchange for basic living necessities (Almendral). The goal for many refugees is to reach camps in the neighboring countries of Kenya and Ethiopia, however, death is common, and because of the influx of people moving to these camps, about a

quarter of the country's population, there are not enough resources to assist all of these people (Ki-moon, Almendral). The livestock of refugees is susceptible to death by thirst and starvation while in search of reliable resources (Ki-moon). In addition to the covid-19 outbreak, these drought conditions and weakened immunity due to dehydration and malnutrition have resulted in cholera, diarrhea, and measles outbreaks (Riddell). Limited governmental oversight has resulted in overgrazing, soil erosion, and deforestation, which has added to the challenge ("Rebuilding Resilient . . ."). Additionally, locust swarms have destroyed the limited crops that have been able to survive (Almendral). The death of livestock has caused Somalia's largest industry to decrease by 70 percent (Almendral). Because of the limited availability of water and fertile land, civil war has erupted between Somalia's nomadic and settled farmers ("Rebuilding Resilient . . ."). The schooling that internationally displaced children receive is typically received from temporary places provided by non-governmental organizations, however, because these children face many unforeseen movements, continued education is challenging (Ejakait). Not only do internationally displaced children suffer from a lack of educational opportunities, children from families who practice conventional livestock herding face an additional barrier of education while constantly moving across the country ("Education."). Once men reach working age, they go away from their families in search of work in cities, however, even in cities limited jobs are resulting in people turning to anti-government groups for financial support ("FAO Somalia. . .", Riddell) When drought occurs, the first to die are crops followed by sheep, goats then camels, eventually forcing people to move elsewhere in search of food (Almendral). This food scarcity has resulted in inflation of food prices, keeping food out of reach of those desperately in need ("Famine in Somalia. . ."). Inconsistent exports resulted in a waste of food and additional lack of food in other countries ("Somalia." Redworld. . .). To keep livestock alive, farmers have attempted to purchase supplemental goods, however, they have only built up debt further limiting access to food (Riddell).

To combat the inactive government, the Transitional National Government was created, however, this did not effectively combat the issue and the Transitional Federal Government was created with success ("FAO Somalia. . ."). The United Nations Operations in Somalia attempted to aid this crisis through agreements among local people, and increased job opportunities, however, this was not successful as it did not put an end to disagreements or disarm groups (Healy). Globally, some people have attempted to help with donations to create irrigation canals and roads, however, this had limited impact due to the small scale of the donations ("Rebuilding Resilient . . ."). In an attempt to find water, boreholes were drilled down to groundwater reserves, however, this water was placed into the reservoirs which typically are used for rainfall collection (Riddell). While residents of Somalia leave for Kenya and Ethiopia in search of vital resources, there is only so much that these countries can offer. The available refugee camps are overcrowded with many additional people waiting to get in. Kenya and Ethiopia have been better equipped to supply food for their people, these countries still have seven million residents facing limited access to food (Ki-moon). Overall, global organizations view Somalia as being too far gone and have not provided the support needed (Almendral). In Ethiopia projects using specialized drought-resistant seeds, and irrigation to support these plants have shown to be successful. Additionally, additional infrastructure in rural areas has supported people who have otherwise been limited in their support (Ki-moon).

New solutions to implement into Somalia, require the redirection of available funds to support programs that have proven to be successful in countries with similar issues. Aid provided to infrastructures such as

roads and communication efforts would allow people to become more interconnected economically. Additionally, to limit the economic risk of markets, public intervention in the form of purchasing products by agencies will limit these fluctuations ("Famine in Somalia. . ."). To impact the government, Somalians can write letters to their government elected representatives with wants and questions about the government response to challenges such as drought, health care, debt, and inclusive policies (Ki-moon, "Preventing Famine. . ."). Women and children could be encouraged to participate in formal and informal government decisions ("Preventing Famine. . ."). Part of the issue is that farmers grow traditional crops that are not well suited for the growing conditions that are currently experienced. Through the Farmer Field Schools program, farmers learn about new crops that are better suited to the dryer climate such as citrus, peanuts, and peas. Farmers, because of this change, were able to use five percent more land than traditional crops (Riddell). Currently, the coastline is not used by local Somalians but rather people from other countries. People who traditionally farm could turn to fish as a means of income, and make use of the large and available coastline with the help of local and or governmental leadership in the management and training of farmers to become fishers (Almendral).

Somalia's current system of collecting and managing the available rainwater has proven to not be effective. Monetary and implementation support could be provided to Somalia by world organizations (Almendral). Currently, the World Bank has partnered with the Food and Agriculture Organization and the International Committee of the Red Cross to provide support for the programs they implement in Somalia ("Preventing Famine. . ."). Oxfam has assisted management in local communities, and development initiatives in Somalia for the last four decades ("Somalia." Oxfam. . .). Specifically, Oxfam has aided in making water more available and protecting vulnerable women and children ("Somalia." Oxfam. . .). The Food and Agriculture Organization has worked in Somalia to promote effective farming through the rehabilitation of irrigation, roads, and seeds ("Agriculture. . ."). The United States Agency for International Development's Office for Food for Peace has provided Somalia with monetary aid towards preventing malnutrition in 647,000 children ("Food Assistance. . ."). Currently, Relief web is working throughout Somalia to promote and provide health care resources such as screenings, supplies, and money for purchasing food goods and providing resources for training. Relief web has plans to implement health care resources and water purification resources throughout Somalia ("Somalia Drought. . ."). Mergy USA has also been active in Somalia in the building of wells and sanitation stations ("Somalia." Redworld. . .). While these agencies have been active in Somalia, the economy of Somalia has had a detrimental effect on the ability of agencies to support themselves amidst the rising food prices (Ki-moon). To implement learning opportunities for students, education must be available to students in affordable and suitable environments, however, it must also be negotiated and agreed upon by local communities and authorities (Ejakait). The Alternative Basic Education for Pastoralists association has provided flexible, mobile, and temporary spaces for Pastoralists and Internally Displaced Persons through an accelerated program ("Education."). Bar ana Baro is an organization that is focused on the education of young children and equal access to education for girls (Almendral).

The country of Somalia geographically faces an increase in challenges that prevents water retention. Because of this root factor, Somalians experience a multitude of additional challenges. Conflict, malnutrition, inadequate harvests, and damage to infrastructure can all be traced back to Somalia's drought as a result of climate volatility. Somalians are in desperate need of help if they are to survive in

their home country. Whether this help is provided by cultural change, monetary donations, or education, help is available to Somalians by international organizations who have proven their willingness to help in Somalia. The help from global organizations is vital as they provide sustainable solutions that will adequately address current challenges as well providing resources that can be implemented into the culture of Somalians for years to come.

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