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Somalia, Climate Change

### **Somalia: Ways to Combat Hunger and Poverty**

How can we stop world hunger and poverty? Hunger is a global issue. To examine it in one country, I'll be focusing on Somalia. 6.5 million of its citizens face food insecurity and poverty. Because Somalia is predominantly a desert and scrubland environment, the country faces many droughts and does not have enough farmland for its population. Knowing this, vertical farming, sustainable energy production, i.e., wind and solar power, and the Thumamm project could help solve Somalia's poverty and hunger.

The average family in Somalia is eight people. With such large families, feeding them can be a challenge. Most children are undernourished. Their diets include maize, sorghum, rice, wheat, pasta, and oil. Children need proper nutrition, and as the current Somali diet includes very few vitamins, underdevelopment in children is prevalent. "A healthy and balanced meal globally costs approximately six (6) times more to purchase compared to an energy-based diet" ("Nutrition-Sensitive"). Therefore, Somalis choose the food they can access because they do not have the money for healthy, balanced meals.

Somalis can find most jobs in agriculture, livestock, and marketing. For livestock workers, according to the Salary Explorer, the average pay per month is 81,000 SOS, which is equivalent to 142.23 USD. With such low pay, the average Somali family cannot access education, healthcare, and clean water. Less than half the population has access to education because of the cost of tuition and supplies, among other reasons; less than 30% have access to healthcare ("Challenges In Healthcare For Somalia"), and only 52% have access to clean water because of the high prices placed by limited regulation from private water companies ("UNICEF") and droughts. Another reason why Somalis do not have proper resources is because of the political conflict but also clan loyalty.

The political conflict in Somalia also affects the country's state and its people. This conflict goes back to 1840-1960 when Somalia was under colonial control from Italy and Britain (Mollie Zapata par. 3). Britain controlled the north, and Italy controlled the south. Ethiopia also took control of the Ogaden region of western Somaliland in 1897 (par.3). In 1899-1920, Somalis soon sought to push out Ethiopia from the Ogaden region and later tried to push out the European colonists. Mohammed Abdille Hassan led the religious-based wars during that time. From 1941-1949 Britain was in control of Southern Somalia because they had taken over it from Italy; however, in 1949, the United Nations gave back South Somalia to Italy with the promise that they grant independence to them in 10 years. Once South and North Somalia gained independence in 1960, they joined to form the United Republic of Somalia. Somalia had a president Aden Abdullah Osman Daar and a prime minister Abdriashid Ali Shermarke. Aden ruled until 1967, then Abdirashid took over; however, in 1969, he was assassinated.

At the time, the military leader Mohamed Siad Barre took over by a coup and turned Somalia into a dictatorship. Mohammed joined the Soviet Union ("Why did Somalia fail?" 1:45). In 1977, he tried to remove Ethiopian control in the Ogaden region. However, Ethiopia had diplomatic relations with the Soviet Union, so the war backfired, and Somalia could not take control of the region. In 1978 Somalia's population grew by 1 million because Somalis in Ethiopia fled to Somalia ("Why did Somalia II" 2:10). However, the food and water supply decreased, which caused the people to rely on aid. In 1988, Barre and the Ethiopian dictator made a secret deal where they would cease hosting insurgencies of one another. (Somlai: a country study pg.194) The deal caused the Somali National Movement to fight back against Barre. Barre responded to the resistance with human rights abuses and genocide of Isaaq tribespeople. "In response, Western aid donors froze assistance to the government," said (Menkenus pg. 2). Further

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worsening the country, and by 1990, a civil war broke out. Then, in 1991, Barre fled Somalia, causing the government to collapse.

In 2004, Somalia was over the wars and ready for peace. Hence, the government agreed to join the Transitional Federal Government in August 2004 to administer five years of political transition, which would take place in Mogadishu (Mollie Zapata par.2). However, many of the clans and people around Mogadishu did not agree with TFG, so they resisted. In early 2005, Mogadishu was under clan-based warfare, and the Islamic Courts Union with Alshaab was rising. From 2006-2011, the TFG and Alshaab went back and forth with who controlled Mogadishu. A famine arose during this conflict, and the country relied on aid. Somalia also was going through a severe drought, worsening the famine. Alshaab would block the aid coming to help, minimizing the number of people getting food and medical care. To this day, Alshaab is still a threat to the Somalian people. According to Sky News (0:07), farmers and clans are joining to fight Alshaab.

The conflict in Somalia can be linked back to Climate Change because violence arises when resources are low. Colonists caused the early stages of the conflict in Somalia; the terrorist acts from the last decade could be from climate change, however. Madeline Romm had written in *A Climate of Terror?* "While climate change may not be a direct 'root cause' of terrorism, it is recognized as a predominant destabilizing force that fosters an enabling environment for violent extremist organizations." The FOA is a United Nations organization that uses agriculture to stop the violence. This organization is currently working in Somalia to help set up dairy systems and work with farmers by giving them the resources needed to farm. They found that agriculture is an "engine of stabilization and recovery and contributes to the social fabric of trust" (FOA).

Global warming is the first and most significant issue Somalia faces when it comes to fixing its food insecurity. This is, of course, a global issue with no easy solution; its effect on Somalia, however, is disproportionate to the country's contribution to emissions. While Somalia's emissions are low, 0.03% of global emissions (National Determined Contribution pg. 2), they are still being impacted. And neighboring countries' emissions are also low: Kenya and Ethiopia are 0.4% and 0.2% (World Bank). The top 10% contribute to 25% of global emissions (Fiona Harvey). This affects the weather patterns by causing the global temperature to rise. For Somalia, this causes long-term droughts and arbitrary floods. In 2021 alone, "between January and June, 68,000 people were displaced by drought and another 56,500 by floods," according to the UNHCR. Moreover, cataclysmic weather events and drought trends have been increasing since 2021. Furthermore, while the highest emitting countries, the US 11% and China 27%, face their own issues related to climate change, they have yet to see the large-scale displacement Somalia is already facing.

Fortunately, local solutions for climate change in Somalia are abundant. Renewable energy like wind and solar are sustainable solutions instead of fossil fuels. The Stimson Centre explains that "Somalia has the highest resource potential for onshore wind power in Africa, and the country experiences 3,000 hours of sunlight per year with daily solar radiation ranging between 5-7 kWh/m<sup>2</sup> per day, which equates to strong solar photovoltaic electricity generation capacity." Stimson Center also said that Somalia "could potentially produce up to 45,000 MW from wind and 2,000 MW from solar power." The arid desert land is the prime location for solar and wind energy. Compared to France, which is 1.2 times smaller geologically, it potentially produces 13,000 MW from solar and around 19,000 MW from wind. France ranked 7th for GDP in 2021, while Somalia ranked 153rd. These numbers show that Somalia could benefit from sustainable energy production by producing cleaner energy and raising the economy.

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Moving Somalia into wind and solar power is expensive, but it could happen with the help of the Power Africa East Africa Energy Program (EAEP), Solargen, and other organizations. EAEP works directly with the government(s). They assist the governments with skills, building, and framework development to plan for the new power supply. A 150 million-dollar project is already starting to give 7 million people sustainable, cleaner, and lower-cost electricity, said the World Bank. Mohamed Dubo, the director of the Somalia Investment Promotion Office, said that Somalia's wind speeds are the fastest in the world. With extended periods of the sun, Somalia could make substantial energy and sell the excess, providing revenue and jobs. Solargen is a solar power company that provides affordable solar power access to businesses in Warsheikh, Somalia, creating thousands of jobs.

Another solution to climate change and hunger in Somalia is vertical farming. Vertical farming is vertically inclined surfaces or integrated in other structures that grow crops. Typically, these are located in greenhouses, warehouses, or even skyscrapers, but it potentially can be any other building. These buildings create a controlled environment for the crops. It is a delicate process that includes artificial temperature, light, water, and humidity control ("Vertical Farming"). Vertical Farming uses little to no soil and 90% less water than traditional farming. Vertical farming can also feed the schools in Somalia. In a neighboring country, Zambia, the government and World Food Program use hydroponics, another form of vertical farming, to boost school meals ("Are vertical farms the future"). In 2022, Somalia partnered with Hydroponics Africa to use hydroponics in Mogadishu and Baidoa. This program has already fed 200 families in Somalia (Somalia Hydroponics farming). Switching to Vertical Farming from Traditional Farming will positively impact many parts of the county.

A third solution to help minimize hunger and poverty in Somalia that is sustainable is the Thummam Project. A single company, Agritom, has started a business that sets up the equipment to grow thummam. Thummam is a native plant in Somalia that can grow in rough conditions and typically feeds animals. When thummam is not being used as a germinating plant it can stop desertification. Because of the fact that thummam is used to feed the animals it can be easily exported and that'll grow the economy. However, there are a few cons to this solution; to germinate thummam, it will have some requirements of irrigation. Also, most information of this project only comes from a single source that is selling a specialized production of Thummam farms.

These new solutions will produce jobs nationwide, increasing economic growth and development while decreasing poverty. When the economy grows, the people grow. These solutions will take time and could be better. With all the funds and resources needed, the conflict between terrorist groups and the government, and having to change some of the ways of life of the Somalian people, like their foods and traditional farming, but also knowledge that clan loyalty is a very important thing to Somalians, will be a challenge. However, the challenge will be worth it in the long run.

Considering the impact of climate change, poverty, and hunger in Somalia, only some are aware. Even in Somalia, most Somalians, especially in the rural areas, are unaware of how to help with minimizing these issues. On a country-wide level, organizations like The Somali Greenpeace Association, which Hassan Yasin co founded in 2019, seek to spread awareness and action at the personal level. A few projects the Somali Greenpeace Association does is partnering with the African Youth Initiative to speak with youth about climate change. Another organization that spreads awareness is UNMAS. UNMAS launched the Safe Ground Campaign to raise attention on the ongoing conflict, along with resources for its survivors. Their focus is mainly on the youth. Afterwards, the children play a football game. UMAS found that sports are a good way to engage with the youth. Introducing future generations to these issues is very beneficial. The Somalian government is integrating climate change education into the school curriculum through the National Climate Change Education strategy. The new curriculum will teach the youth about

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climate change and allow everyday people and the government to learn about climate change. By spreading information to everyone worldwide, the information disseminates to reach Somalians and Americans alike.

In conclusion, world hunger and poverty are immediate problems the world has to fix. Somalia is a hunger- and poverty-stricken country, with 8.2 million people on humanitarian aid, increasing yearly. Climate change is affecting these people's homes. The regular droughts and flash floods are destroying farmland, displacing people, and keeping children from being children. Nevertheless, switching to wind and solar power, vertical farming, and taking up the Thummam Project could minimize the number of people going hungry and suffering from undernutrition. Somalia's economic growth could increase, creating jobs and developing the country.

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