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Somalia: Breaking the Cycle of Drought and Displacement

Since 2010, Somalia has been plagued with constant drought, significantly worsening food insecurity, and perpetual migration. Somalia's economy and livelihood depend heavily on agriculture and herding, which both depend on rainfall. Climate change has made rainfall patterns increasingly irregular leading to drought, widespread crop failure, livestock deaths, food shortages, and displacement of communities. Millions of people in Somalia rely on rain-fed farming and livestock. In early 2026, approximately 6.5 million people were projected to face crisis level food insecurity or worse, including about 2 million people experiencing emergency levels of hunger (Lawsontancred). This paper will examine how climate-driven drought has increased food insecurity and migration in Somalia since 2010; it will explore the country's environmental and economic background, analyze the impacts of drought, and propose solutions for improving conditions.

Somalia is located in the "Horn of Africa" and has an extremely dry and barren climate because of limited rainfall and constant droughts (ACAPS). Many Somali households consist of 6-7 people and practice pastoralism or herding: raising livestock like goats and cattle while tending to crops like sorghum and maize (Kasidi Mugera and Yoshimura). Both pastoralism and crops rely heavily on rainfall, putting Somali families in dangerous and deadly drought cycles. Rainfall in Somalia occurs primarily during two seasons: "Gu" the season from April to June, and "Deyr" the season from October to December (Alim et al.). When these seasons don't produce as predicted, crops cannot grow and grazing for livestock ceases to exist. This has led to frequent drought cycles that damage production and reduce food availability for communities in Somalia. In some areas "up to 60% of herds" (United Nations-Somalia) have died from starvation and drought. Somalia also faces structural issues, which contribute to its vulnerability to drought. Somalia has also endured years of political instability, which results in weak institutions and barely any infrastructure development. With almost no government support, irrigation systems, water storage, and agricultural support is limited (Steets et al.). Families have to rely on rainfall instead of effective water harvesting systems. Somali families often depend on livestock for their livelihood, both as a food source and economically. Animals provide meat, milk, clothing, and money. However, during droughts, grazing disappears and animals die in large numbers. Losing this main source of income and food often pushes these families into poverty and starvation. Furthermore, many Somali households are already experiencing poverty, limited healthcare, little education, and scarce employment, so when drought occurs repeatedly, households exhaust their coping strategies and are forced to migrate to larger cities that cannot support so many people (Alim et al.).

One of the most immediate impacts of drought is the loss of food production. Failed rainy seasons cause withered crops and fertile land to disappear. As agricultural output declines, food supplies become scarce and prices rise making it difficult for families already in poverty to afford basic necessities. For instance, recent droughts have quickly reduced crop yields and killed livestock, disrupting the country's central system. In December 2025, agricultural yield fell far below average, pushing "around 1.7 million children under the age of five to face acute malnutrition" (Lawsontancred). The consequences are critical; Millions of people in Somalia are facing severe starvation each year. In the first six months of 2026, Somalia saw a 32% increase in children being admitted to stabilization centres with severe acute malnutrition and complications, compared to the same time period in 2025. Moreover, approximately 1.9 million children

under the age of five are projected to experience acute malnutrition in 2026, including around 493,000 children expected to suffer from acute malnutrition (Pires). Children are particularly vulnerable when it comes to drought. When families cannot access enough food, children often experience stunted growth, weak immune systems, and famine (Kasidi Mugera and Yoshimura).

Water scarcity further intensifies economic stress. As water sources dry up, communities must travel long distances to obtain water or purchase it at an inflated price. Fewer resources mean rising costs, which reduces families' ability to survive. Somalia's limited irrigation systems, water storage, and agricultural support leave families heavily dependent on rain and vulnerable when water sources dry up (Steets et al.). In Baidoa, the major Somali city is hosting over 1.6 million people, half of them being displaced. The city cannot support that much influx, causing 1 in 5 families to lack access to water, and prices have risen to a point families cannot pay (Sheikh Nor and Faruk). As droughts continue and water sources become less reliable, families are forced to spend more time and money obtaining water, leaving fewer resources available for food and other necessities.

When livelihoods and food sources collapse, migration becomes a necessary part of survival. Many families leave rural areas like Southern Somalia, where drought is constant, and move to urban areas or camps where aid is available (Amnesty International). Many cross borders into neighboring countries like Kenya or Ethiopia. Large-scale displacement has become increasingly common. In fact, between 2021 and 2023, more than 7.8 million people in Somalia were forced to leave their homes (Steets et al.). In 2026, tens of thousands of people were forced to move within Somalia as crops failed and water sources dried up (ACAPS). The migration creates additional social challenges. Displacement camps or new areas often lack adequate housing, sanitation, healthcare, and employment. Communities accepting these displaced families may also struggle to support large groups of displaced people, especially 7.8 million of them at once, pushing even more communities into poverty and overcrowding.

Addressing this drought-driven food insecurity and displacement in Somalia requires a combination of solutions: (1) **delivering humanitarian aid**; (2) **building agricultural resilience to climate change**; (3) **developing weather prediction and communication systems**; and (4) **investing in water infrastructure.**

One of the most immediate responses to drought-related hunger is **emergency food aid and assistance for displaced populations.** Organizations such as the World Food Programme, World Health Organization, United Nations, and Food and Agriculture Organization already distribute food supplies to populations in Somalia. These programs have helped prevent famine during crises such as the severe drought in Somalia in 2022, closely averting famine for millions (Lawsontancred). However, humanitarian aid is often limited by lack of funding. In recent years, reductions in international funding have forced organizations to reduce the number of communities receiving assistance, such as Somali communities, leaving many families vulnerable and on the brink of famine. Stronger social protection systems could help families cope with the effects of climate change and severe drought. Programs such as cash transfers, food subsidies, and emergency employment, similar to forms of assistance available in the United States, could provide financial support during periods of crisis. These programs could reduce the need for families to migrate, allowing them to recover and settle in their communities. Governments must also improve urban planning and infrastructure to support people who have already been displaced. Expanding housing, sanitation, healthcare, and employment opportunities in cities could help displaced people integrate more effectively while reducing continued displacement and poverty.

Another possible solution is **improving agriculture resilience** so farmers can adapt to unpredictable rainfall and barren land. Governments and international organizations should expand programs that promote climate-resilient agriculture. This could include distributing drought-tolerant seeds, training farmers in sustainable farming techniques, and investing in agricultural research to help farmers adopt practices that increase productivity under difficult climate conditions. Crops such as sorghum, cassava, cowpeas, millet, and tepary beans can survive with less water and could therefore be useful in drought prone areas. Soil conservation practices can also help keep crops fertile and more resilient to a lack of water. In addition, diversifying sources of income can reduce the vulnerability of families when agriculture fails. Encouraging alternative sources of income, such as trade, small businesses, and digital skills, can help families maintain economic stability even when agriculture fails.

A third solution is **expanding early warning systems and climate monitoring systems** to reduce the effects of drought before a crisis becomes severe. Similar to warning systems used for events such as tsunamis or tornadoes, drought warning systems can monitor weather patterns and communicate potential threats to communities. Governments and aid organizations should collaborate with meteorological and weather agencies to improve weather forecasting and disaster response in poverty stricken countries such as Somalia. Early warnings would allow farmers to adjust planting schedules, governments to collect and distribute emergency resources, and humanitarian organizations to prepare and distribute aid supplies in advance. Better forecasting and communication could also help protect crops, livestock, and other essential supplies by giving communities more time to prepare for drought conditions.

Although all three proposed solutions could help, one solution stands above all else: **International donors and the Somali government should prioritize building wells, reservoirs, and rainwater harvesting systems in drought-prone rural communities.** The other solutions are important, however, without sufficient water, many of these measures cannot fully exist without communities having dependable access to water.

Investing in **water infrastructure** is essential for reducing the long-term impact of drought and providing communities with reliable access to water. International donors and the Somali government should prioritize building wells, reservoirs, and rainwater harvesting systems throughout rural, drought-prone communities. Boreholes, which are deep, narrow holes made in the ground to access groundwater, can also provide reliable water sources during dry seasons. Improved irrigation systems can allow communities to access groundwater more efficiently rather than depending entirely on unstable government water systems. Community-based water management systems can help ensure that water resources are distributed fairly and properly maintained. Reliable water access would protect both crops and livestock during severe droughts, reduce the likelihood that families will be forced to migrate in search of water, and strengthen the economic stability of drought-prone rural communities. These investments could also encourage Somali government officials to develop more effective systems for managing future droughts (Kasidi Mugera and Yoshimura).

In prioritizing access to water in small communities, farmers would have more reliable water for growing crops, livestock herders could provide water for their livestock during droughts, helping protect their food supplies and sources of income. Rural families would have greater access to water for drinking and household needs, potentially reducing the need or pressure to leave their communities when drought occurs, and thereby reducing displacement in larger quantities. Local government leaders would play an important role in deciding where water systems are built and helping maintain them, which solidifies

cultural significance and prevents conflicts over water resources. The Somali government would be responsible for helping coordinate projects, providing monitoring and supporting the long-term maintenance. Although this would require extra planning and resources, stronger rural water infrastructure could make communities more resilient to future droughts. International organizations would provide much of the funding and construction support to build these systems and in turn also support projects that provide long term benefits instead of only responding after a food crisis has already developed and communities are without resources to the point of famine: At least 20% of households in the area have no access to food, at least 30% of children under age five suffer from acute malnutrition, and/or the death rate per day exceeds 2 deaths per 10,000 people overall or 4 deaths per 10,000 children under five (Action Against Hunger USA). Overall, the recommendation would distribute responsibility among local communities, the Somali government and international organizations while providing the greatest benefits to farmers and families affected by the drought.

Somalia already has traditional systems for managing water and livestock. New infrastructure should strengthen rather than replace local knowledge. Wells, reservoirs, and rainwater harvesting systems can be adapted to local conditions and maintained by community members who understand the land best. The Somali government and international partners could provide funding, technical assistance, and training, while local communities could participate in construction and maintenance. This would make the wells and systems all over Somalia more sustainable and attainable for Somalia's struggling government systems and productive for international donors.

Improving water infrastructure addresses the cause of several problems at once. When drought destroys crops and reduces pasture, food becomes scarce and livestock prices and household incomes can fall. Families may be forced to migrate, increasing pressure on larger cities and overall displacement. Reliable water can help farmers continue producing food and allow herders to maintain their animals. This means the solution is not simply responding to hunger after it occurs. It is helping prevent drought from becoming a major food crisis in the first place. A great example of these systems and their effectiveness is Ethiopia. In 2024, Ethiopia's dry eastern regions communities invested in wells, ponds, and water harvesting systems to help farmers and herders survive drought. The rehabilitation of community ponds restored water for livestock, which improved animal health. In eastern Ethiopia, farmers using wells and irrigation were able to grow crops on land that had previously been too dry, improving both food production and community income. In a climate so similar to Somalia, water systems have expanded agricultural land access and allowed communities to depend on themselves (World Bank Group).

Overall, in the short term, wells and water storage systems can provide water for households, crops and livestock during dry periods or "drought cycles." Humanitarian food and nutritional aid must continue because families experiencing severe hunger cannot wait for new infrastructure to be constructed. However, these emergency programs should operate alongside water infrastructure projects rather than replace them. In the long term, water systems can increase agricultural productivity, protect livelihoods, reduce displacement, and strengthen communities against future drought shocks. Reliable water access can reduce the frequency and severity of the food crises that require emergency aid. Furthermore, investing in water infrastructure can allow for Somalian government systems to move from responding to drought emergencies and constantly being in distress toward building long term resilience and investing in other categories of management.

This plan is feasible but requires long-term commitment from: Somali government, international donors, and local communities. Funding for this plan would need to be divided among international donors, the

Somali government, and local communities rather than relying on one source. International donors, including foreign governments, development banks, and humanitarian organizations could provide the largest share of the initial funding because wells, reservoirs, irrigation systems, and rainwater harvesting projects require significant costs. Funding could be provided through grants specifically designated for drought resilience and water infrastructure rather than only short term aid. The Somali government could contribute a smaller portion of the funding through its national budget and could provide land, workers, and transportation. Local communities could contribute through labor, community water committees, and small fees for repairs, fuel, and routine maintenance. Local water committees could keep records of repairs, water use, and expenses, while the Somali government and international donors could conduct regular inspections and financial audits to reduce corruption and ensure that communities receive support. This shared funding system would make the project more sustainable and productive for all groups supporting it. This recommendation also does not require Somalia to create a completely new solution, Wells, reservoirs, rainwater harvesting systems, and irrigation systems are already utilized in Somalia and in neighboring countries. Instead, the goal is to expand and improve these existing approaches by making them community managed, better maintained, and specifically targeted in drought-prone rural communities in Somalia.

For decades, repeated failed rainy seasons, rising temperatures, and environmental degradation have disrupted agricultural production and destroyed the pastoral livelihoods of families in Somalia. As a result, millions of Somalis face hunger each year, and many families are forced to migrate in search of opportunities for survival. Although humanitarian assistance has prevented famine in Somalia before, a long term solution is crucial to address the causes of vulnerability. Strengthening water infrastructure can help Somalia build resilience against droughts for the future and invest in other strong solutions such as strengthening agriculture, expanding protection programs, and enhancing disaster preparedness. By investing in sustainable solutions, Somalia can reduce food insecurity, prevent large-scale displacement, and secure a more maintainable future for its people.

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