



Somalia's climate fragility trap: Practical pathways for policy action

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- Somalia faces severe climate-induced shocks, such as recurrent droughts, floods, and land degradation, exacerbated by poor governance, insecurity, and economic instability. These environmental shocks have led to food insecurity, displacement, and intensified conflicts over scarce resources.
- Somalia's weak governance structures, inadequate financial and institutional capacity, and limited infrastructure hinder its ability to manage climate risks and deliver basic services. It is challenging to implement effective climate adaptation strategies and maintain public service delivery.
- The impacts of climate change, particularly on water and land resources, have worsened existing tensions between communities, leading to increased conflict. Ongoing political instability and militant groups' control of key regions further complicate efforts to manage these resource-based conflicts.

This policy brief recommends decentralised governance, adopting climate-smart agricultural practices, and comprehensive water resource management strategies, including rainwater harvesting and solar desalination. It also emphasises the importance of social protection systems, such as cash transfers. Additionally, the brief recommends establishing resource-sharing agreements and early warning systems to prevent conflicts and securing international climate finance to bolster long-term resilience.

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Somalia is highly susceptible to climate-induced shocks

Somalia is highly susceptible to environmental shocks and has suffered greatly because of climate change (World Bank, 2024). Over the past decade, the country has experienced close to 30 climate-related hazards and has become hotter and drier (see Figures 1 and 2). Indeed, the country's deteriorating socio-economic outcomes over the past three decades are linked to the worsening state of its natural capital (land, subsoil assets, and water), which overwhelmingly supports livelihoods and economic activities (International Monetary Fund, 2024). The country relies significantly on climate-sensitive activities such as agriculture, which accounts for more than 75% of its GDP and 93% of its exports, with 65% of the population relying on livestock (World Bank, 2022b; Green Climate Fund, 2024a). Agricultural productivity is low due to farming practices, and domestic cereal production (mainly maize and sorghum) meets only 22% of the population's needs, leading to significant food insecurity, with nearly half of the population undernourished (Green Climate Fund, 2024b). One of the biggest environmental issues Somalia faces is land degradation due to deforestation driven by charcoal and fuel demand, desertification, soil erosion, and overgrazing (Federal Republic of Somalia, 2020). While inappropriate land use, poor livestock, and agricultural practices have played a role in land degradation, natural disasters such as droughts, river floods, and cyclones pose the greatest risk to the country and its people. The country's climate variability is closely linked to the El Niño Southern Oscillation patterns, which lead to recurring floods during El Niño periods and droughts in La Niña years (World Bank, 2024). As shown in Figure 3, Somalia has a high probability of physical exposure to climate-driven natural disasters (8.9/10) while displaying significant socio-economic and demographic vulnerabilities (8.2/10), including high levels of poverty and deprivation, dilapidated infrastructure, widespread insecurity, and a high number of internally displaced people (European Commission Disaster Risk Management Knowledge Centre, 2025).

FIGURE 1: Somalia's mean temperature change

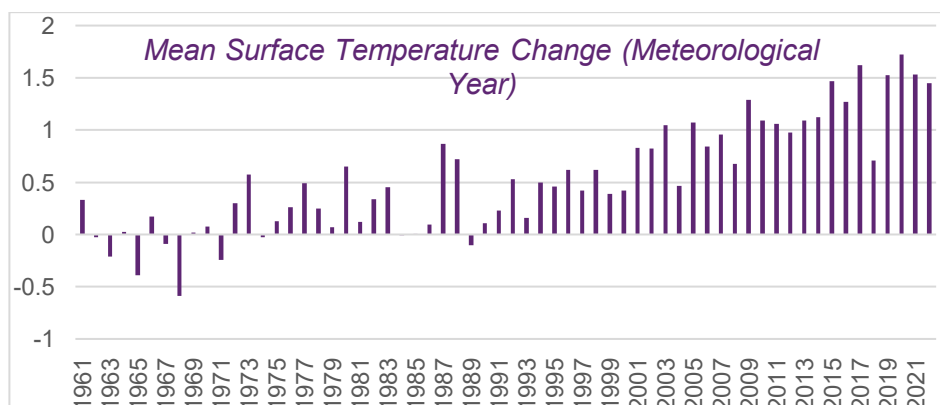
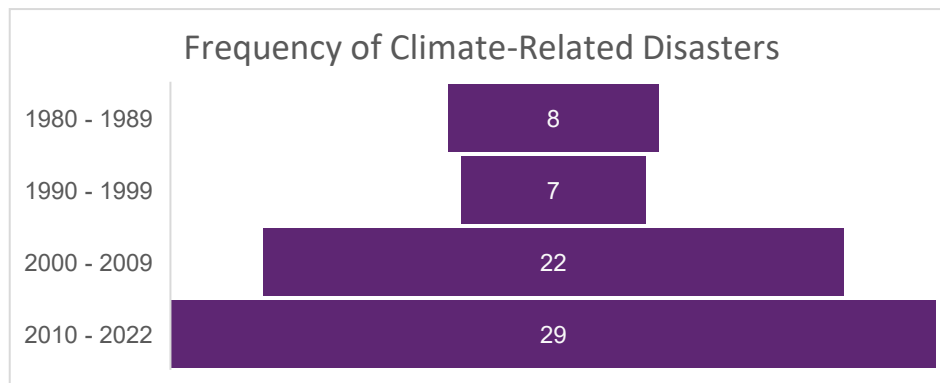


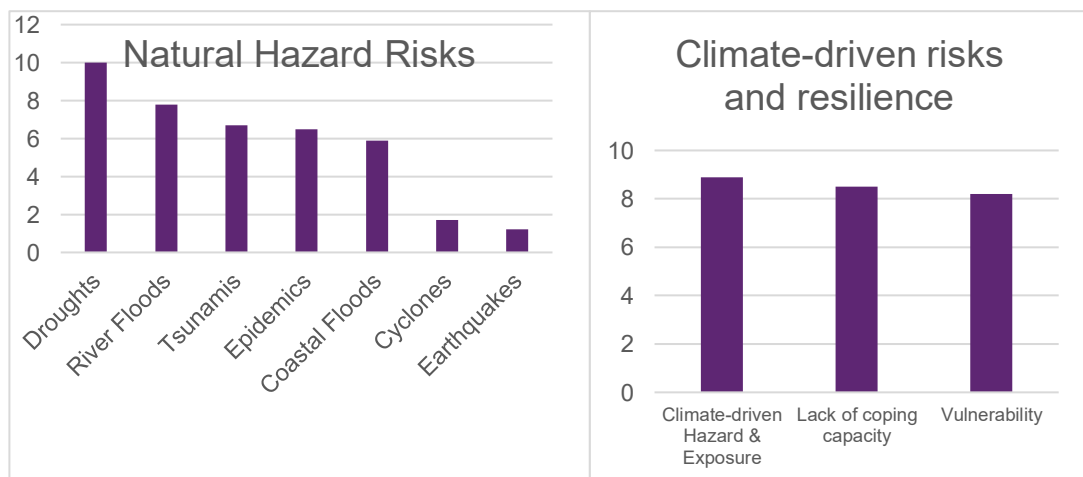
FIGURE 2: Frequency of climate-related disasters



Note: The period from 2010-2022 was included deliberately to cover the latest available data.

Source: World Bank Climate Change Knowledge Portal, 2025²

FIGURE 3: Climate change indicators for Somalia as of 2025



Source: The European Commission Disaster Risk Management Knowledge Centre, 2025 2nd Edition³ and IMF Climate Change Dashboard⁴

Due to climate change, Somalia recently experienced a remarkable five-season (2020-2023) drought – the longest in its history. The drought intensified food insecurity, reduced water and rangeland resources, and decreased crop production and livestock productivity (FEWS Net, 2023). Unfortunately, the droughts were followed by El Niño conditions, which triggered significant riverine and flash floods, displacing more than 1.7 million people (around 10% of the population) as of mid-November 2023 (ReliefWeb, 2023). These devastating floods have reduced water availability, damaged physical, health and sanitation infrastructures, and significantly increased the risk of waterborne diseases (ReliefWeb, 2023).

¹ <https://www.fao.org/faostat/en/#data/ET>

² <https://climateknowledgeportal.worldbank.org/country/somalia/vulnerability>

³ <https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Risk-Facts-Figures>

⁴ <https://climatedata.imf.org/pages/country-data>

Somalia's fragility trap

Somalia faces significant, long-standing, and complex economic, political, and security risks and inadequate coping capacities. Its economy is susceptible to macroeconomic shocks caused by weak economic fundamentals and depleted human capital. The agricultural sector, critical for food security, employment, and foreign exchange, is highly vulnerable to environmental and external demand shocks.

Due to Somalia's undiversified exports and high dependence on imports for domestic consumption, the country suffers from a persistent (structural) trade deficit, which is more than 75% of GDP, while the current account deficit is around 14% of GDP (Central Bank of Somalia, 2023a; World Bank, 2022a).

More than seven in ten Somalis are under the age of 30, and unemployment is around 20% (International Labour Organization, 2020). Due to insecurity, protracted political instability, and climate-induced shocks, underemployment is a widespread social issue in the country, which disproportionately affects women and young people (International Labour Organization, 2016). Rapid urbanisation and forced displacement rates remain stubbornly high (UNHCR, 2023). The situation has been worsened by the terrorist group Al-Shabaab, who retain control of some of the most fertile regions of the country (Krieger et al., 2020). The activities of this group have significantly undermined people's ability to engage in productive economic activities to the detriment of their livelihoods and food security (Krieger et al., 2020). Somalia scores poorly on almost all social and human indicators (International Monetary Fund, 2023). The country has high income inequality, an unfavourable age dependency ratio, considerable adolescent birth rates and one of the highest maternal and child mortality rates in the world (World Bank, 2022a). Somalia's capacity to cope with the above economic, political, social, and security issues is significantly compromised by numerous structural problems:

- Persistent poor economic performance,
- absence of effective economic policies,
- severely restricted government fiscal space due to one of the lowest tax bases in the world (domestic revenues are around 3% of GDP, domestic tax revenues account only for 2.1% of GDP, while public sector capital spending is around 0.2% of GDP [Central Bank of Somalia, 2023b]), and
- significant financial exclusion (credit to the private sector is around 20% of total banking sector assets or around 4% of GDP, one of the lowest in the world) and a widespread deficient legal and regulatory environment (Central Bank of Somalia, 2023b).

The country also suffers from inadequate infrastructure and political fragilities in the form of poor governance, prevalent clientelism, and weak institutions (Scek and Issa, 2019). As the challenges the country faces are both complex and mutually reinforcing, it is critically important to urgently address the observed weak state legitimacy and the absence of enabling institutions to provide essential public services to increase resilience to shocks, including the provision of social protection systems, but also to enhance the social contract between the state and the wider population.

Somalia's most recent conflict

The 2023 Laascaanood conflict

One of the most recent and deadly conflicts in Somalia erupted in Laascaanood, the capital of the Sool region, in early 2023. The fighting broke out between clan militias loyal to the Somali federal government and forces from Somaliland, which claim the region as part of a self-declared independent state (Haji, 2023).

Key causes

Disputed territory: Laascaanood is a contested area between Somaliland and Puntland, but many local clans identify more with Somalia rather than Somaliland's secessionist government.

Clan mobilisation: The Dhulbahante clan, which resides in Sool, Sanaag, and Cayn regions, opposed Somaliland's control, leading to clashes between their militias and Somaliland security forces (Haji, 2023).

Political struggles: The conflict intensified as local clan leaders declared their desire to join Somalia's federal government rather than remain under Somaliland.

Impact

Over 200 people were killed, and the fighting displaced more than 200,000 (UNICEF, 2023).

Hospitals and civilian infrastructure were damaged, worsening the humanitarian crisis.

While Somalia lacks the ethnic divisions that fuel conflicts in other fragile states, clan rivalries, competition over resources, and militant extremism continue to drive violence. Addressing these tensions requires inclusive governance, fair resource distribution, and improved climate adaptation strategies to reduce competition over scarce resources.

Climate change acts as a stress multiplier in Somalia

Somalia faces significant, long-standing, and complex economic, political, and security risks and inadequate coping capacities. Somalia is highly dependent on

agriculture and livestock, sectors that are extremely sensitive to climate variability. Climate change worsens these vulnerabilities in several ways:

- **Droughts and water scarcity:** Somalia has experienced recurrent and prolonged droughts due to changing rainfall patterns, which deplete water sources and reduce agricultural productivity. This has led to massive food shortages, livestock deaths, and community displacement (United Nations Development Programme, 2021). The droughts also intensify competition for water and grazing land, contributing to local conflicts among pastoralist groups.
- **Flooding and extreme weather:** In addition to droughts, increased flooding during rainy seasons has destroyed infrastructure, displaced communities, and triggered outbreaks of waterborne diseases (United Nations Office for the Coordination of Humanitarian Affairs, 2022). These floods further strain the fragile humanitarian situation, especially in urban areas.
- **Food insecurity and livelihoods:** Agriculture and pastoralism are key sources of livelihood in Somalia, but climate-induced shocks like droughts and floods significantly reduce crop yields and livestock health (World Bank, 2020). As a result, millions face acute food insecurity, and humanitarian interventions are frequently required.
- **Conflict over resources:** As climate change intensifies resource scarcity, disputes over land and water are becoming more frequent. Competition between pastoralists and farmers over dwindling natural resources has led to violent clashes, further destabilising the region (International Crisis Group, 2017).

Practical pathways for Somalia to escape climate fragility trap

1. Improving governance and institutional capacity

a. Decentralised governance for climate action

Emerging evidence suggests that decentralisation is associated with more effective climate risk reduction. In particular, inclusive local decision-making can lead to local policy experimentation, citizen engagement, improved environmental attitudes, government responsiveness, enhanced policy action, and innovative sub-national climate initiatives (Fischer, 2021; de Mello and Jalles, 2024). To this end, Somalia can adopt a decentralised governance approach that empowers local governments to handle climate adaptation and resource management. Successful examples can be drawn from Kenya's devolution, where local governments have

taken responsibility for climate-related programs, helping build resilience at the community level. Kenya's devolved county systems have developed localised strategies for water conservation, disaster risk reduction, and food security (United Nations Development Programme, 2019).

b. Leverage public-private partnerships (PPPs)

Given Somalia's limited fiscal capacity and existing financial challenges, the country should harness its relatively vibrant private sector to strengthen infrastructure and services, including renewable energy projects, water management, and sustainable agriculture. In Rwanda, public-private partnerships (PPPs) in renewable energy have successfully provided rural areas with off-grid solar solutions, enhancing local resilience to climate change (African Development Bank, 2020). Unfortunately, the success of PPPs in fragile and conflict-affected contexts has been limited. Therefore, Somalia must bolster its institutional capacity to enhance the effectiveness of PPPs and secure long-term benefits. In addition, it is crucial to establish incentive structures for private sector participation, including robust legal and regulatory frameworks that minimise uncertainty.

2. Enhancing water resource management

Water scarcity fuels conflict and displacement, making effective water management a priority (Gleick, 1993). Rainwater harvesting is affordable and sustainable, while solar desalination can offer a renewable solution in coastal areas of Somalia.

a. Rainwater harvesting and traditional systems

Somalia can revive and scale up traditional water conservation techniques like rainwater harvesting and sand dams. These techniques have been used effectively in Kenya and Ethiopia to capture seasonal rain and store it for drier periods. For example, Kenya's Makueni County has implemented large-scale rainwater harvesting projects to reduce drought impacts (Republic of Kenya, 2021).

b. Solar-powered water desalination

Somalia can look to solar-powered desalination technology to provide freshwater in coastal areas. The country could benefit from pilot desalination plants like those in Djibouti, which have successfully provided fresh water to small coastal communities

using renewable energy (International Renewable Energy Agency, 2020).

Somalia can seek blended financing models to make desalination projects viable, combining grants from international donors (for example, the Green Climate Fund and World Bank) with private sector investments. Public-private partnerships (PPPs) could attract companies specialising in water infrastructure, while concessional loans from development banks could support initial setup costs. Carbon credits and climate resilience funds could also be leveraged to offset operational costs and make solar-powered desalination more accessible.

For long-term success, Somalia must ensure affordable water pricing, local capacity building for maintenance, and integration with existing water distribution systems. With the right financing and implementation strategy, solar-powered desalination could improve water security in Somalia's coastal communities.

3. **Developing climate-smart agriculture**

Somalia's reliance on agriculture and pastoralism, combined with climate variability, makes the country highly vulnerable to food insecurity. Climate-smart agriculture can improve agricultural resilience and productivity while reducing reliance on rain-fed farming. Additionally, community farming can pool resources and knowledge to better cope with environmental stresses.

a. Introducing climate-smart agriculture (CSA)

Adopting climate-smart agriculture (CSA) in Somalia—such as drought-resistant crops, improved irrigation, and agroforestry—could enhance food security, but transitioning to these practices is challenging. Farmers often resist changing traditional methods due to uncertainty about effectiveness, resource constraints, and deeply held beliefs about climate change. Additionally, while climate-resilient crops and techniques reduce volatility, they may also lower expected yields, making adoption less attractive in the short term.

To encourage uptake, Somalia could follow Niger's example, where agroforestry successfully improved soil fertility and water retention (World Bank, 2018). However, effective implementation requires targeted incentives, such as subsidies for stress-tolerant seeds, training programs tailored to local farming communities, and demonstration farms that show the tangible benefits of CSA. Understanding local attitudes toward climate change and aligning

interventions with farmers' economic priorities will drive widespread adoption.

b. Scaling up community farming systems

Somalia could encourage farmers to pool resources and knowledge by promoting community farming cooperatives, improving resilience. Ethiopia's Productive Safety Net Programme (PSNP) is a good example, where community farms have been integrated with Food-for-Work programs⁵, boosting local economies and improving food security (Food and Agriculture Organization, 2024).

Cooperatives in Somalia have faced significant challenges, leading to their current weakened and fragmented state. Before 1991, Somalia had a vibrant cooperative sector, particularly agriculture, fishing, and livestock. These cooperatives were often state-supported and played a crucial role in the economy. However, the collapse of the central government in 1991 led to the disintegration of these structures, resulting in the loss of assets and institutional support (SATG, n.d.).

Despite these challenges, there have been efforts to revive cooperatives in Somalia. For instance, the International Committee of the Red Cross (ICRC) has supported informal farming cooperatives by providing equipment and training. In 2015, the ICRC assisted 16 cooperative societies with tractors and offered training to enhance agricultural productivity (International Committee of the Red Cross, 2016).

Reviving and modernising cooperatives in Somalia could significantly improve food security, employment, and economic resilience, especially in agriculture, fishing, and small-scale industries. Achieving this would require policy support, financial access, and cultural adaptation to address the unique challenges cooperatives face in the Somali context.

4. Addressing resource-based conflicts

Climate change intensifies resource-based conflicts, particularly over water and land, contributing to violence and instability. Addressing conflicts over natural resources is essential to Somalia's stability. Local mediation frameworks and early warning systems can prevent disputes from escalating into violence.

⁵ Food-for-Work (FFW) programs in Somalia provide food assistance to vulnerable communities in exchange for participation in public works and resilience-building projects. These programs are primarily implemented by international organisations such as the World Food Programme (WFP), FAO, and NGOs, often in partnership with the Somali government and local authorities.

a. Mediation and local resource-sharing agreements

Somalia can introduce resource-sharing agreements facilitated by local councils and NGOs. These agreements, like those implemented in South Sudan and Kenya, mediate disputes between farmers and pastoralists over scarce water and grazing land. In South Sudan, local peace committees have mediated conflicts over natural resources, reducing community tensions (International Crisis Group, 2017).

b. Establishing early warning systems

Setting up early warning systems for climate shocks like droughts or floods can help predict and prevent conflicts. Ethiopia's National Early Warning System has helped alert communities to impending climate risks and allowed timely interventions to reduce the likelihood of conflicts over resources (United Nations Office for the Coordination of Humanitarian Affairs, 2024).

5. Expanding social protection and safety nets

Somalia's high unemployment and displacement rates, particularly among youth and women, exacerbate its climate vulnerability.

a. Cash transfer programs and social safety nets

Cash transfer programs can help vulnerable households survive climate shocks. Somalia can expand cash transfer systems modelled after Ethiopia's PSNP, which supports drought-affected families through direct cash transfers or food-for-work programs. Cash transfers in fragile states like Somalia have proven successful in Somaliland and parts of Somalia, where mobile money platforms transfer cash directly to climate-affected populations (World Bank, 2017). These funds are delivered through the World Food Programme (WFP), UNICEF, and NGOs to provide emergency relief to vulnerable households affected by drought, conflict, and displacement. Since the Somali Government is cash-strapped, it should formalise and integrate cash transfers into a national social safety net. Ensuring sustainability beyond donor funding while scaling up mobile money for cash transfers can enhance efficiency, reduce fraud, and improve financial inclusion for marginalised communities.

b. Skills development for youth

Somalia could implement "youth employment programs" linked to climate-resilient sectors such as solar energy, sustainable

agriculture, and water management. The “Cash-for-Work Program” in post-conflict Sierra Leone provided youth temporary employment while contributing to community infrastructure projects (International Labour Organization, 2020).

6. Promoting regional and international cooperation

Regional cooperation can reduce resource-based conflicts and improve water management, while international financing can provide support for Somalia’s long-term climate resilience efforts.

a. Regional water agreements

Somalia could pursue regional cooperation through shared water management agreements with Ethiopia and Kenya. These agreements could focus on managing the “Juba” and “Shabelle” rivers, which flow through Somalia and Ethiopia, ensuring equitable access to water resources and reducing conflict risks (Food and Agriculture Organization, 2020).

b. International climate finance

Somalia could seek funding from international climate finance mechanisms, such as the Green Climate Fund (GCF) and Global Environment Facility (GEF), to support its climate resilience projects. These funds have supported similar projects in Mozambique and Chad, where GCF financing has been used to enhance climate resilience in agricultural sectors and protect communities from climate-induced floods (Green Climate Fund, 2023). However, accessing these funds is often challenging due to stringent eligibility criteria, complex application processes, and the need for strong institutional frameworks to manage projects effectively. Somalia can take a few steps to overcome these barriers. Firstly, it can set up a dedicated climate finance unit within the government to develop proposals, coordinate with international donors, and ensure compliance with fund requirements. Secondly, it can create well-defined national adaptation plans (NAPs) and mitigation strategies that align with GCF and GEF priorities, similar to how Mozambique and Chad successfully secured funding. Lastly, Somalia will need to enhance its financial management systems to meet donor expectations, reducing concerns about fund misuse and increasing Somalia’s credibility with international financiers.

Conclusion

Somalia's climate fragility is deeply intertwined with its socio-political instability, economic vulnerabilities, and environmental degradation, making it one of the most fragile states in the face of climate change. Somalia requires a multifaceted approach that includes strengthening local governance, improving institutional capacity, and implementing sustainable climate adaptation strategies to break free from this climate fragility trap. Decentralised governance, climate-smart agriculture, water resource management, and regional cooperation are key pathways to resilience. Moreover, Somalia must leverage international support, such as climate finance and technical assistance, to ensure the long-term sustainability of its efforts. By adopting these practical solutions, Somalia can build a more resilient future, mitigate the effects of climate change, and reduce the risks of conflict and instability.

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