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#### 1. Introduction

Water shortages directly contribute to crop failure and the death of livestock which can quickly result in chronic food insecurity

Somalia is by far the most vulnerable nation to the impact of recurrent droughts (and other natural disasters) due to a number of overlapping factors

The Federal Government of Somalia and UN agencies have not officially declared famine in the country. However, all sides agree that the situation has reached dangerously critical levels

Drought is a natural phenomenon caused by a prolonged period of abnormally low rainfall, accompanied by high temperatures, leading to a shortage of water. Water shortages directly contribute to crop failure and the death of livestock which can quickly result in chronic food insecurity. It is important to note, however, that the severity of a drought is not simply the result of the rainfall deficit but also depends on its timing and duration. Only a few years after the last crisis, the severe drought that is currently ravaging the Horn of Africa (HoA) has brought the plight of the Somali people in the region back to the spotlight. Somali names for droughts are usually related to their duration and/or intensity and ensuing impacts: Gaatamo (flash drought), Gaag-ma-reebto (wiped out nearly all living organisms) and Dabadheer (long tailed because it lasted longer than previously known droughts). According to the latest World Meteorological Organization (WMO) projections, this latest drought looks almost certain to persist well into 2023.1

It is notable that drought does not often evolve into famine in neighboring countries with comparable climatic conditions. Somalia is by far the most vulnerable nation to the impact of recurrent droughts (and other natural disasters) due to a number of overlapping factors:

- Firstly, Somalia has long coasts on both the Gulf of Aden and the Indian Ocean, and relatively flat topography with an arid or semi-arid climate, making it prone to recurrent droughts and floods with increasing frequency.
- Secondly, droughts that might have occurred once in 10 years or longer now happen more frequently and with greater intensity due to climate change. Since the beginning of the new millennium, the number and duration of droughts has risen by 29%.
- Thirdly, weak institutional ability and the acute lack of security represent a toxic combination that severely limit the government's ability to respond in order to prevent droughts from becoming deadly famine.

The Federal Government of Somalia and UN agencies have not officially declared famine in the country. However, all sides agree that the situation has reached dangerously critical levels. Somalia is currently in the throes of the worst drought crisis in decades and on the brink of famine the likes of which has not been observed in recent history.<sup>3</sup> A grim statistic from a recent World Food Program (WFP) report projects that between October and December 2022, more than seven million Somalis will face acute food insecurity, 1.5 million children under five years of age will suffer acute malnutrition and 213,000 people will face a "catastrophic level of hunger". 4

<sup>1.</sup> WMO: Greater Horn of Africa drought forecast to continue for fifth year. https://news.un.org/en/ story/2022/08/1125552#:~:text=As%20millions%20of%20people%20in,Organization%20(WMO)%20has%20 reported (accessed 25/08/2022).

<sup>2.</sup> https://reliefweb.int/report/world/drought-numbers-2022-restoration-readiness-and-resilience (accessed

<sup>3. &#</sup>x27;Famine at Somalia's door', says UN humanitarian chief; 7.8 million - half the population - facing crisis hunger levels. https://www.scmp.com/news/world/africa/article/3191418/famine-somalias-door-says-un-humanitarian-

<sup>4.</sup> Somalia emergency. https://www.wfp.org/emergencies/somalia-emergency

Time is running out for hundreds of thousands of Somalis as famine is almost but certain. This policy brief addresses the following issues including:- the extent to which climate change drives current extreme droughts; why drought often turns into famine in Somalia but not in other countries in the Horn of Africa with a similar climate; what can be learned from previous emergency drought experiences; and the practical solutions that could help to alleviate the impact of drought and enhance recovery efforts.

# 2. Impact of Climate Change on Drought

Frequent and severe droughts pose serious threats ranging from colossal shortages of food and water to massive population movements (exodus of environmental refugees)

Climate change-induced disasters have triggered what the United Nations has called the greatest challenge of 21st century. Frequent and severe droughts pose serious threats ranging from colossal shortages of food and water to massive population movements (exodus of environmental refugees). In East Africa alone, more than 30 million people are currently exposed to acute food insecurity and widespread malnutrition.<sup>5</sup> It has now become abundantly clear that environmental-related disasters including droughts and floods are becoming the new climate normal, with cascading and long-lasting effects.

Droughts are driven primarily by meteorological conditions that produce abnormally high levels of dryness in comparison to the long-term average. Climate change drives droughts in two main ways: lack of rain which directly affects soil moisture, groundwater recharge and river flow; and higher temperatures which speed up evaporation leading to reduced supplies of fresh water.

Droughts caused by high temperatures dramatically increased in number and intensity around the world in 2022. A combination of low precipitation and elevated temperatures put the US and a large part of Canada under some form of drought. France faced the most severe drought ever recorded in the country<sup>6</sup> while the Netherlands declared a drought emergency and advised the public to cut down on personal water use.<sup>7</sup>

Floods are the other side of the climate change coin. While droughts are devastating in the Horn of Africa and parts of Europe and North America, extreme floods are impacting millions of people in other countries, rendering the livelihoods of entire communities irreversibly broken.

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<sup>5.</sup> https://reliefweb.int/report/somalia/somalia-2022-drought-impact-snapshot-august-2022 (accessed 4/10/2022).

<sup>6.</sup> Temperatures rise as France tackles its worst drought on record

https://www.reuters.com/world/europe/temperatures-rise-france-tackles-its-worst-drought-record-2022-08-07/ (accessed 25/08/2022).

<sup>7.</sup> Dutch government declares water shortage due to drought. https://www.reuters.com/world/europe/dutchgovernment-declares-water-shortage-due-drought-2022-08-03/ (accessed 10/09/2022).

When average temperatures are calculated around the globe, it is clear that the atmosphere has been growing warmer for the past three decades. That trend shows no sign of slowing. The net surface temperature increases in Somalia from 1987 to 2017 was 2.5oC.8 This resulted in a significant decrease in the water resources upon which lives, and livelihoods depend. Future climate projections indicate that the Horn of Africa will continue to experience severe drought cycles, putting millions of people at imminent risk of famine and starvation.

## 3. Role of National Government and **International Institutions**

Responding to drought effectively is a daunting challenge for any government, particularly in Somalia which is still recovering from a long-running civil war and rebuilding the basic state infrastructure amid difficult circumstances.

The role of government institutions is a mediating factor between droughts and extent of the economic, environmental and social impacts. Interventions may lessen or worsen the impact, depending on how effectively they are designed (Figure 1).

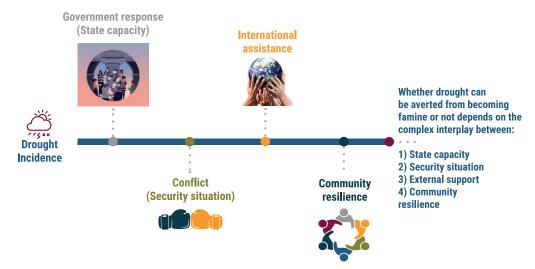


Figure 1: Simplified pathway from drought incidence to potential outcomes and intervening factors

<sup>8.</sup> https://ourworldindata.org/grapher/hadcrut-surface-temperature-anomaly (accessed 11/09/2022).

Figure 1 summarizes the occurrences of drought and the factors that determine whether famine can be prevented. The drought in parts of southern Somalia, particularly the Bay and Gedo regions, is rapidly approaching to the threshold that fits the description of famine. Community level response is the first line of defense, and Somali communities are known to support each other, especially during difficult times. Non-governmental organizations (NGOs) can partially fill gaps in providing emergency services and strengthen local survival capacity, especially in situations where government institutions are weak or absent.

The response to droughts can be highly political and climate change is not always to blame for famine crises. For example, different countries can be affected by the same level of droughts or floods and yet some suffer more than others. Somalia has not had a fully functioning state since 1991 which has compromised the government's capacity to stop droughts from leading to famine.

Enhancing drought forecasting capabilities and disaster preparedness for effective response, recovery and rehabilitation are now top priorities of governments around the world. In the case of Somalia, it would be unrealistic to expect the government to meet the financial obligations required to mitigate the impact of drought and other natural disasters. Consequently, international aid and regional cooperation remain crucial in supporting the efforts of states and local authorities. Business communities have a pivotal role to play in providing aid, and they do contribute generously. However, existing mechanisms may require strengthening in order to provide effective support and achieve better outcomes. Somalia's repeated crises are much deeper than meteorological anomalies. Security problems, lack of territorial control to guarantee access to aid workers and their safety, as well as the challenge of a fragmented institutional authorities are also critical factors that determine how seriously the drought will affect Somalia.

4. Why is Somalia particularly impacted by droughts?

Somalia isn't alone in the current meteorological crisis. Drought conditions are spreading not only in East Africa, but also regions across the globe. The current situation is the result of long periods of dry weather caused by changes in the global weather systems. However, countries and communities are unevenly exposed to drought impacts, with vastly different outcomes. The drought crisis has even caused some European countries to impose restrictions on water usage.

9. UNDP Sendai framework for disaster risk reductions: 2015-2030.

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floods

Somalia is particularly affected by recurrent droughts. For the purpose of this policy brief, we are focusing on the last 20 years, and will only briefly mention some of the historic drought events for comparison purposes. During this time span, Somalia experienced a major famine (Type 1) caused by droughts; 2011-2012, and narrowly escaped 2016-2017. Between the 2011 famine and now, there were multiple times when Somali people faced acute food insecurity caused by alternating droughts and floods. 10 While neighboring countries (Djibouti, Ethiopia, and Kenya) with similar environmental conditions were also affected, they have, nonetheless, largely escaped famine. Thus, an important question is: what sets Somalia apart from these countries?

Under normal circumstances, droughts do not necessarily need to produce disastrous outcomes like famine, depending upon the ability of how impacts are managed. In other words, drought is not an inevitable tragedy. Somalia is among the most vulnerable countries to climate change for four reasons. First, Somalia has been dysfunctional for the better part of the past three decades. Therefore, there is a lack of institutional capacity to mitigate impacts of climate change before it descends into a large scale of famine. Second, lack of security severely restricts delivery of aid supplies in many areas. Third, environmental degradation such as deforestation is proceeding at an alarming rate, which makes the environment highly susceptible to droughts and floods. Finally, as per the current drought, Somalia's political turmoil in 2020/2021 and the delayed dispensations contributed to the current humanitarian crises.

The problem is that emergency response only treats the symptoms of droughts rather than their root causes, which does little to prepare the foundation for the next drought response

It is increasingly clear that part of the challenge the world is facing in solving the climate crisis, including droughts, stems from the way societies think about it collectively. Most countries deal with drought as a crisis just like other natural disasters such as earthquakes, fires, etc. The problem is that emergency response only treats the symptoms of droughts rather than their root causes, which does little to prepare the foundation for the next drought response. Droughts develop slowly. Hydrological changes are gradual and not easily recognizable; and only become emergencies when serious impacts begin to emerge. By the time drought attracts sufficient attention through its effect on water and food supplies, the situation becomes a crisis and emergency action is needed. Unfortunately, irreversible damage might have already been done at that point and it is often too little too late to take remedial action. This is exactly the condition on the ground in many parts of Southern Somalia right now.

<sup>10.</sup> Prospects of food security in Somalia under looming climatic changes. https://heritageinstitute.org/httpsheritageinstitute-org-wp-content-uploads-2021-12-food-security-and-climate-change-1-1-pdf/

Here is where state capacity to save lives becomes vital. Most developing countries, Somalia being at the bottom of the list, do not have a robust national early warning system in place for droughts and there is often limited capacity for meaningful action to reduce impacts after a drought strikes. Historically and throughout the globe, governments usually react to flood or drought emergencies without trying to address the underlying causes of how a drought (or flood) led to human disasters, such as food insecurity and famine.

Typically, governments under public pressure respond and make promises to improve forecasting and early warning systems. They also initiate a frenzy of fundraising activities for emergency and recovery, as well as help rebuild ravaged livelihoods. Eventually, as the memory of the traumatic event fades over time normal life resumes. The promised actions recede to the back burner as more pressing issues dominate the political agenda. The ability to respond to emerging crises grow to be exponentially difficult for fragile and/or nations recovering from crises like Somalia. Somalia, as a fully functioning state with complete territorial control, ceased to exist in 1991, and has been dysfunctional despite unrelenting efforts. An obvious consequence was the decadence of institutions and basic infrastructure which has restricted the ability to respond adequately to basic societal needs, especially during emergencies such as the near-famine currently ravaging the country.

It is not coincidental that Somalia has been the epicenter of human tragedies whenever a natural disaster like drought strikes. Presently, among the east African countries affected, Somalia is the only country where the current drought is widely feared to produce tragic famine situation. Latest reports indicate that so far over one million people have been displaced in search of water, food, and other necessities of life.<sup>11</sup> For instance, while Ethiopia and Somalia are currently exposed to a similar magnitude of drought, Somalia is on the verge of famine while the situation in Ethiopia has not reached the same level, despite challenges. Largely, the state capacity accounts for the difference.

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<sup>11.</sup> https://www.ipcinfo.org/ipcinfo-website/where-what/eastern-africa/somalia/en/ (accessed on 24/09/2022)

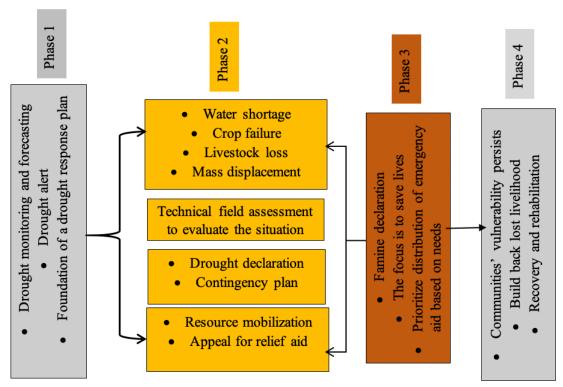


Fig. 2: Schematic representation of drought phases impacts, responses, and outcomes

Drought can be viewed as an inevitable part of the hydrologic cycle determined by spatial and temporal and distribution of rain Drought can be viewed as an inevitable part of the hydrologic cycle determined by spatial and temporal and distribution of rain. As depicted in Fig. 2, a drought can consist of different phases, each phase playing a distinct role in determining the severity of the outcome. Phase 1, monitor the drought as it evolves, is the foundation of drought preparedness, whereas phase 2 represents the backbone of drought management plan, which is crucial to prevent drought from descending into famine. This phase to be done prudently requires technical skills and field research expertise. In phase 3, famine declaration, the focus is to minimize the damage and save lives. A famine is declared when a certain set of conditions have been met. These criteria include 20% of families face extreme food shortage; at least 30% of children suffer from acute malnutrition; and the daily death rate exceeds two out of 10,000 people.<sup>12</sup>

<sup>12.</sup> https://www.ipcinfo.org/ipcinfo-website/resources/resources-details/en/c/1129202/ (accessed on 23/09/2022)

66

The decision to declare famine is technically complicated. It requires huge field data from affected areas to determine whether the criteria (mortality, malnutrition, and hunger) are met, in addition to political consensus

66 International community's fatigue from COVID-19 pandemic and the War in Ukraine have slowed down the humanitarian response efforts and the availability of funds

The outcome of droughts and/or natural hazards often become famine if/when there is a failure to act in phase 1 and 2 (Fig. 2), after which time famine is all but certain outcome. The decision to declare famine is technically complicated. It requires huge field data from affected areas to determine whether the criteria (mortality, malnutrition, and hunger) are met, in addition to political consensus.<sup>13</sup> It appears that the federal government of Somalia cannot declare famine even if it wants before all the thresholds are met. The concern with this approach is that once all of the criteria are met, it will almost certainly be too late to avert disaster. There are many cases of the threshold to call famine being crossed without a formal declaration. The declaration of a famine, therefore, serves primarily to focus global attention on the problem. Drought mitigation measures can be thought of as two intertwined stages: 1) Preplanned (anticipatory) to reduce the possibility of crises or 2) reactive, putting in place a system that is responsive to an emerging crisis. In both cases, drought response consists of a range of options from delivery of basic needs such as food and water supplies, enhancing resilience to relocating residents of affected areas if necessary.

There were worrying signs of the current drought since the beginning of 2021. However, sufficient attention was not given to it. Somali government at the time and political elites were preoccupied with political squabbles and an election process, which diverted time and financial resources away from the crisis was evidently in the horizon. Similarly, international community's fatigue from COVID-19 pandemic and the War in Ukraine have slowed down the humanitarian response efforts and the availability of funds.

# 5. Responding So the Drought Does not **Become Famine**

Somalia, especially Southern regions are experiencing worst drought in decades. Worse yet, weather forecast models are predicting that the likelihood of drier than normal will continue for the coming months. Moreover, what makes the ongoing drought the worse than previous ones are that it coincides with a global rise in food and fuel prices, exacerbated by the war in Ukraine, which has hit the HoA hardest.14

<sup>13.</sup> When a food security crisis becomes a famine. https://news.un.org/en/story/2011/07/382342-when-foodsecurity-crisis-becomes-famine (accessed on 23/09/2022).

<sup>14.</sup> War in Ukraine, Drought Converge to Worsen Hunger Crises in Horn of Africa. https://www.circleofblue. org/2022/world/war-in-ukraine-drought-converge-to-worsen-hunger-crises-in-horn-of-africa/ (accessed on 2/10/2022).

There are two options to manage climate change issue: 1) slow down the rate of climate change (mitigation) and 2) prepare to live with a changing climate (adaptation). While they are complementary, mitigation is for the long-term and primarily concerns rich countries who are responsible in pumping heat-trapping gases into the atmosphere for centuries. Somalia's (and most African countries) contribution to the cause of climate change (greenhouse gas emissions) is negligible, and yet they suffer the most. The second option, adaptation, can be divided into two phases: 1) learn how to adapt and 2) Emergency response if the situation becomes intolerable.

According to multiple reports, such as UNHCR<sup>15</sup>, large parts of central and southern regions of Somalia have reached at a dangerous level of humanitarian crisis. Hundreds, perhaps thousands, have already died. Yet this has not triggered a massive mobilization for containing the effects of the drought at the societal level. Previously, diaspora Somalis and local community leaders in the cities used to lead mobilization efforts to respond.

If, as predicted by climate models, climate change continues the same trend or worse in the years ahead, worsening drought conditions, freshwater shortages and subsequent famine are expected to become more pronounced. With Somalia's mean temperature, an important driving factor of drought, projected to rise by 3-4°C16, the long-term outlook is alarmingly serious.

One of the most important lessons of recurrent famine in Somalia is that there must be greater focus on famine prevention rather than scrambling to respond when famine strikes. Famine prevention should become an established standard practice of national governments and international community responses, especially given climate changerelated projections for worsening water scarcity in Somalia and the HoA as a whole.

Whether or not future droughts might produce worse outcomes will largely be determined by the level of improvement in state-building. Consequently, the only way to break the prevailing vicious cycle and shield vulnerable communities against the negative outcomes of recurrent droughts is to protect natural environment, improve security, and strengthen institutional capacity. While there are historical analogues from ancient history of Somalia, current droughts are both more frequent and intense.

This policy brief explained why drought is feared to evolve as a famine in Somalia more than other countries having comparable climatic conditions.

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<sup>15.</sup> https://www.unhcr.org/news/stories/2022/9/633419134/somalis-abandon-homes-search-food-water-aiddrought-deepens.html (accessed 3/10/2022).

<sup>16.</sup> https://ourworldindata.org/grapher/hadcrut-surface-temperature-anomaly (accessed 13/09/2022).

#### 6. Conclusion

Currently, close to 8 million people are estimated to be food insecure due to poor crop productions and loss of livestock

Somalia is calling and federal and regional governments, and international aid agencies must act now in the face of these unparalleled needs, to save lives

Somalia suffered a number of droughts in recent decades. This is the third time in ten years that Somalia has faced the risk of famine. However, the famine in 2010-2011 was the worst in the 21st century, claiming the lives of more than 250,000 people, half of them children. A decade later history may repeat itself. Currently, close to 8 million people are estimated to be food insecure due to poor crop productions and loss of livestock. In the 2011/12 drought crisis, when the UN declared a famine in Somalia, close to 4 million people were experiencing crisis levels of food insecurity. Moreover, when famine was declared in July 2011, half of the eventual deaths had already occurred. Thus, that tragic history should not be allowed to repeat itself. Based on observations and reports from various credible sources, the situation has reached at a dangerous level. Somalia is calling and federal and regional governments, and international aid agencies must act now in the face of these unparalleled needs, to save lives. Somalia's different levels of governments, international partners, civil society organizations, religious and traditional leaders and business community are called to respond urgently. It is worth noting that President Hassan Sheikh Mohamud has appointed Abdirahman Abdishakur Warsame as special envoy on drought issue. For the last four months, Mr. Warsame has been working on raising the awareness of the effects of the drought that is endangering lives and livelihoods of entire communities. These efforts help bring the specter of famine in Somalia to the fore. We should respond with whatever we can.

## 7. Recommendations

### 8. Short Term

- 1. Mobilize local and diaspora resources to create community engagement.
- 2. Seek financial assistance for food and nutrition purchases to prevent famine, keep people in their localities.
- 3. Non-governmental organizations (NGOs) can also help to fill gaps in providing emergency services and strengthening local survival capacity, especially in situations where government institutions are weak or absent.
- 4. International aid and regional cooperation are also crucial in supporting the efforts of states and local authorities along with local communities which have a pivotal role to play in providing aid and have contributed generously in the past.

<sup>17.</sup> Somalia's worst drought crisis in a decade leaves millions hungry with lives at risk. https://reliefweb.int/report/ somalia/somalia-s-worst-drought-crisis-decade-leaves-millions-hungry-lives-risk (accessed on 14/09/2022) 18. Somalia is on the brink of starvation. https://www.economist.com/middle-east-and-africa/2022/07/25/somaliais-on-the-brink-of-starvation

<sup>19.</sup> Somalia may be on the verge of another famine. https://www.aljazeera.com/opinions/2022/1/8/somalia-maybe-on-the-verge-of-another-famine (accessed on 14/09/2022).

### 9. Long-Term

- 1. State capacity improvement, including security situation, to facilitate emergency aid delivery.
- 2. Provide communities with the necessary information to plan and prepare for possible climatic shocks that are becoming more common in frequency and intensity.
- 3. Formulating a community-driven approach, consistent with local knowledge and traditions in order to adapt to unavoidable impacts, if and when droughts strike.
- 4. The government, with its limited resources, must prioritize, and refine response mechanisms as drought occurrences are expected to intensify in the coming decades.
- 5. Conducting thorough research on how people responded to disruptive weather events in the past and whether that can teach us anything about how resilient we can be in the future.
- 66 Provide communities with the necessary information to plan and prepare for possible climatic shocks that are becoming more common in frequency and

intensity

