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EXPOSURE TO CLIMATIC SHOCKS IN SOMALIA

- Somalia is one of the most vulnerable countries in the world to climate change. Within the country, exposure to climate shocks largely follows the same spatial pattern as poverty. Poorer households were also more often affected.
- After being negatively affected by drought, most households did not utilize any economic coping mechanisms.
- Increased economic opportunity, education, and access to social protection can help improve resilience.

Somalia is highly exposed to climatic shocks. According to the Notre Dame Global Adaptation Initiative (NG-GAIN) ranking, Somalia is the most vulnerable country in the world to climate change.[1] This is demonstrated by the recent multi-season drought and the fact that average temperatures have been increasing while the Gu rains have been declining in many parts of the country.[2]

Exposure to shocks largely follows the same spatial pattern as poverty. Regional poverty rates are higher in Central and Southern Somalia, which coincides with a larger share of the population exposed to climate shock (drought, heat, and flooding). This is largely driven by exposure to drought, which predominately affects the population in central and southern Somalia (Figure 1). Exposure to heat only affects a few districts in the north of Somalia, while exposure to flood is the least common overall (Figure 2 and Figure 3).

Figure 1: Share of Population Exposed to Drought[3]

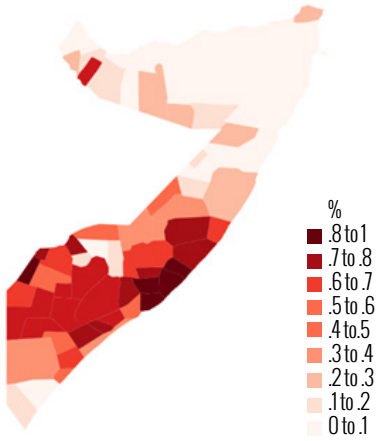


Figure 2: Share of Population Exposed to Heat[4]

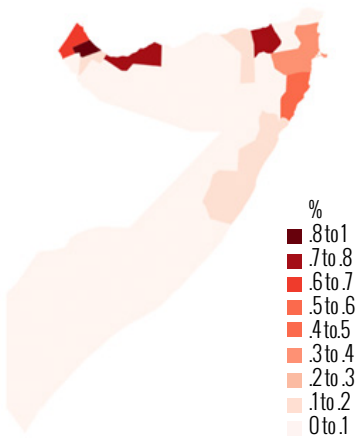
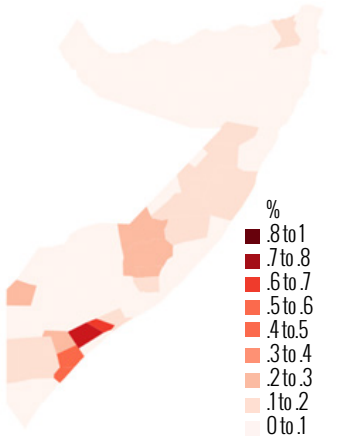


Figure 3: Share of Population Exposed to Floods[5]



1 https://gain.nd.edu/our-work/country-index/rankings/

2 World Bank. 2023.

3 Drought hazard is defined as areas where at least 30% of cropland/grassland have experienced drought (VHI below 35) for the past 39 years. Sources: WorldPop and [FAO](https://data.apps.fao.org/catalog/iso/f8568e67-46e7-425d-b779-a8504971389b).

4 % of people exposed to extreme heat (33C day max WBGT). Sources: WorldPop and [GFDRR](https://datacatalog.worldbank.org/int/search/dataset/0040194/Global-extreme-heat-hazard)

5 % of people exposed to river flood hazard (inundation depths of at least 50 cm during 1-in-100-year flood events). Sources: WorldPop and Fathom (version 3).

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Poorer households more often reported being negatively affected by the recent drought. Regional poverty appears to be weakly correlated with a higher share of households being negatively affected, while poorer households in rural and urban areas also more often reported being affected. However, nomadic households most often reported being affected, with little difference across the consumption distribution (Figure 4 and Figure 5). This negative impact is supported by regression results, that show a larger deviation from the average level of vegetation results in lower consumption and higher poverty.

Figure 4: Share of Households Affected by Drought by Residency and Consumption Quintile, 2022

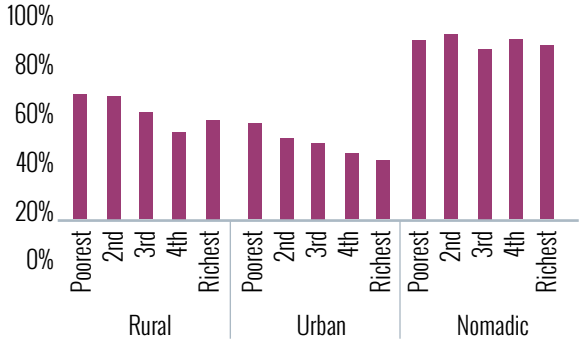
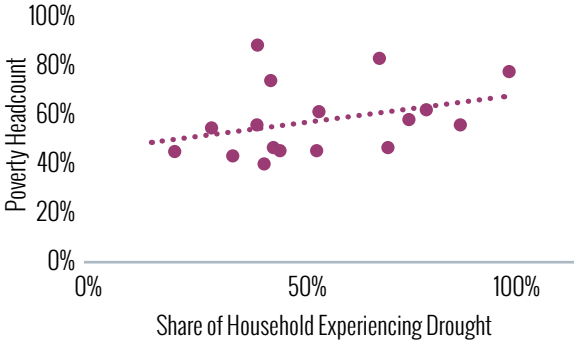


Figure 5: Poverty Headcount by Region and Share of Households Affected by Drought, 2022



In response to the negative impact of the drought, most households did not utilize economic responses. Almost 60 percent of affected households either did nothing or prayed. The most common economic response was to rely on savings or assets (24 percent), although this was more common among richer households. 14 percent of households reduced consumption, while 13 percent received assistance. Fewer households move part or the whole household (7 percent), although this is more common among households with less educated heads. However, in recent years, climatic shocks (drought and flooding) have been the main drivers of displacement, with most self-reported IDPs in the Somali Integrated Household Budget Survey (SIHBS) being displaced due to drought.

Three broad methods can help promote economic resilience to climate change. Firstly, efforts can be made to reduce the biophysical impact of climate change and extremes, for instance, by growing crop varieties that are more resilient to drought. Secondly, the socioeconomic consequences of these impacts should be moderated, such as by encouraging alternative livelihood options, increasing insurance uptake, or utilizing adaptive social safety nets. Lastly, consider diversification towards sectors that are less vulnerable to these shocks. While economic growth can contribute to improvements in resilience, this needs to be complimented by proactive and science-informed adaptation.[6]

Increased economic opportunity, education, and access to social protection can help improve resilience. Poorer regions tend to be more exposed to climatic shocks, and they have a larger share of exposed households that lack characteristics that may help them deal with these shocks. Policies that help households increase their market income will, in part, help households be more resilient to climatic shocks while improving access to education and social protection, which will also benefit exposed households. The latter is also apparent in the small share of drought-affected households who reported receiving assistance in response to drought.

[6] World Bank, 2023.