

Climate Change, Drought, and the Role of Local Governments in Building Community Resilience in Somalia

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Abstract

This article examined the critical nexus between climate-induced drought and the role of local governments in building community resilience in Somalia, a nation that faced a "climate whiplash" of extreme droughts and flash floods in early 2026. Data indicated that over 64% of the population in affected regions had faced internal displacement, which pushed the nation's carrying capacity to its limits. Utilizing a descriptive research design with a mixed-methods approach, data was collected from 384 respondents through structured questionnaires and semi-structured interview guides. Quantitative data was analyzed using SPSS Version 25, where descriptive statistics and Pearson's Correlation Coefficient (r) were employed to determine the relationship between institutional intervention and resilience. The findings revealed a high severity of asset erosion, with mean scores of 4.74 for water scarcity and 4.62 for livestock mortality. Notably, the study identified a strong positive correlation ($r=.642$, $p<.001$) between local government intervention and community resilience levels, suggesting that decentralized governance served as a significant predictor of stability. However, qualitative interviews with key informants

highlighted a persistent "capacity gap," where local councils remained stuck in reactive crisis management due to limited fiscal space. The study concluded that building resilience in Somalia was an institutional challenge that required moving beyond emergency relief toward sustainable, locally-led infrastructure. To bridge the vulnerability gap, the study recommended that local governments should be granted greater fiscal authority to manage climate-related revenues and that international donors should shift funding toward multi-year capacity-building grants. Based on the findings, local governments should be granted greater "fiscal space" and legislative authority to collect and manage local revenues specifically earmarked for climate-resilient infrastructure. Furthermore, the Federal Government of Somalia should formalize the role of district councils as the primary coordinators of international climate finance. Local authorities should also integrate traditional "Xeer" customary laws with modern administrative policies to create more robust, community-led mediation frameworks for resolving inter-clan conflicts. To ensure sustainability, international donors and NGOs should shift their funding models from short-term "emergency relief"

toward multi-year "capacity-building" grants that allow local governments to hire technical experts. Finally, district administrations should invest in digital "Early Warning Systems" that translate meteorological data into local dialects to ensure that pastoralists and farmers receive actionable advice in time to protect their assets from approaching drought cycles.

Key words: Climate Change, Drought, Local Governments, and Building Community Resilience

Introduction

Somalia stands at the precipice of a localized climate catastrophe, where the theoretical risks of global warming have manifested as a permanent state of humanitarian emergency. For over three decades, the nation has grappled with the "deadly duo" of protracted conflict and climate-induced disasters, specifically extreme drought cycles that have decimated the country's pastoralist and agricultural foundations. According to the World Bank (2024), Somalia is one of the most vulnerable nations globally to climate change, yet it possesses some of the lowest levels of institutional readiness. The recurring failure of the "Gu" and "Deyr" rainy seasons has led to unprecedented levels of internal displacement, pushing the nation's carrying capacity to its breaking point and threatening the very survival of rural livelihoods. The structural impact of these droughts is not merely an environmental concern but a profound driver of socioeconomic instability. In the Somali

context, drought functions as a "threat multiplier," exacerbating existing resource-based conflicts and deepening the "labor market scarring" of a youth population that can no longer rely on traditional livestock herding. Negera (2024) argues that such macroeconomic shocks lead to a form of "human capital waste," where displacement and the loss of assets prevent the expansion of human capabilities. Consequently, the living standards of millions are dictated by their proximity to diminishing water sources, leading to a desperate competition that often bypasses the reach of the centralized federal government. Building community resilience in this volatile landscape requires a fundamental shift in the locus of power, moving from top-down federal mandates to empowered local governments. As the first responders to climate shocks, local district councils and traditional authorities in Somalia are the primary actors capable of managing "common-pool resources" effectively. According to Sen (2023), the role of local governance is critical in fostering the "freedoms" of citizens to adapt to their changing environment. By decentralizing climate policy, local governments can implement context-specific policy instruments, such as communal water-sharing agreements and localized rangeland management, which are more resilient to the disruptions caused by non-state armed actors. This article examines the critical nexus between climate-induced drought and the institutional role of Somali local governments in fostering long-term resilience. By reviewing the

current policy innovations in the Horn of Africa, the discussion highlights how investment in infrastructure at the municipal level such as sand dams and solar-powered boreholes can reduce the vulnerability of displaced populations. Ultimately, the goal is to demonstrate that a robust national economy in Somalia can only be achieved if local governance structures are equipped with the legal and financial tools necessary to navigate the complexities of a warming world, thereby preventing the total collapse of the nation's fragile social fabric.

Background

As of early 2026, the country is struggling to recover from the most prolonged drought in its recorded history a five-season failure of rains between 2020 and 2023 only to be immediately met by catastrophic El Niño-induced flooding. This "climate whiplash" has prevented rural communities from rebuilding their asset bases, as the modest recovery of pastures in 2024 was quickly undone by the failure of the 2025 Deyr rains. According to SWALIM (2026), these erratic patterns have left over 4.4 million people in a state of acute food insecurity, highlighting a fragile ecosystem where the traditional predictability of seasons has vanished. The human cost of this environmental instability is most visible in the unprecedented scale of internal displacement. By the end of 2025, Somalia hosted over 4 million internally displaced persons (IDPs), the majority of whom fled rural districts in Gedo, Bay, and Lower Shabelle due to the total collapse of agropastoral

livelihoods. This mass migration into urban centers like Mogadishu and Baidoa has created a "urbanization of poverty," where displaced populations live in informal settlements with limited access to clean water or sanitation. UNOCHA (2026) reports that nearly 5 million people are currently impacted by severe water shortages, a reality that exacerbates the spread of waterborne diseases and places an immense burden on the already strained infrastructure of host municipalities. Institutional responses to these crises have historically been centralized, yet the vastness of Somalia's territory and persistent security challenges have limited the effectiveness of top-down federal interventions. While the National Drought Plan (2020) and the National Adaptation Plan (NAP) Framework provide a strategic roadmap, their implementation is often hindered by a lack of fiscal space and technical capacity at the federal level. Ali and Liaqat (2025) observe that Somalia's domestic tax revenue remains one of the lowest in the world, around 2% of GDP, leaving the government heavily dependent on international aid to fund climate resilience. This financial gap underscores the urgent need for a shift toward decentralized governance, where local authorities are empowered to manage their own environmental risks. Local governments, therefore, emerge as the most critical but under-resourced actors in the fight against climate change. In districts such as Luuq and Belet Weyne, local councils are the first to witness the drying of the Shabelle and Juba rivers and the

subsequent inter-clan conflicts that erupt over dwindling grazing land. Despite being on the front lines, these local bodies often lack the legislative authority or the "climate finance" necessary to build long-term infrastructure like sand dams or large-scale rainwater harvesting systems. As argued by Mankiw (2022) in a broader economic context, the failure to invest in these basic public goods leads to a "market failure" where the private cost of drought is borne entirely by the most vulnerable citizens. The role of local governance is further complicated by the intersection of climate change and national security. In many drought-affected regions, non-state armed actors exploit resource scarcity to recruit disillusioned youth who have lost their livestock and livelihoods. This creates a "fragility trap" where environmental shocks fuel conflict, and conflict prevents the construction of the very infrastructure needed to mitigate those shocks. Building community resilience, therefore, is not just a technical task but a political one; it requires local governments to foster social cohesion and "just transitions" for pastoralists who can no longer sustain their traditional way of life (International Labour Organization, 2024).

Review of Literature

Recent studies, including the World Bank's 2026 Country Climate and Development Report (CCDR), emphasize that without aggressive adaptation, climate change could reduce Somalia's GDP by as much as 13.5% by 2060. This economic contraction is driven primarily by the collapse of "climate-sensitive" sectors like

agropastoralism, which previously anchored the national economy. Research indicates that the five consecutive failed rainy seasons between 2020 and 2023 were not an anomaly but a precursor to a new "volatile normal," where meteorological droughts are becoming more intense and frequent in the southwest regions, causing irreversible losses in biodiversity and soil health (World Bank, 2026; Wardhere & Mahamed, 2026). A significant body of research focuses on the "cumulative asset loss" experienced by pastoralist communities, which remains the backbone of Somali society. Empirical findings from Wardhere and Mahamed (2026) demonstrate that recurring droughts have systematically eroded the five capitals of the Sustainable Livelihoods Framework: natural, physical, financial, human, and social. Specifically, the drying of seasonal ponds and the degradation of rangelands have led to the death of millions of livestock, which serves as both a primary food source and a financial reserve. This loss is compounded by the decline of "social safety nets," as traditional mutual support systems once robust enough to buffer minor shocks have fractured under the weight of mass displacement and the competition for dwindling resources (Wardhere & Mahamed, 2026; UNDP, 2025). Empirical reviews of the health-governance nexus in Somalia reveal that climate change is a primary driver of a "silent public health crisis." Studies published in late 2025 identify a direct correlation between prolonged drought and the proliferation of vector-borne and waterborne

diseases. As water sources disappear, nomadic and displaced populations are forced to rely on unsafe, contaminated wells, leading to frequent outbreaks of cholera and acute watery diarrhea. Furthermore, the 2025 climate forecast predicts that rising temperatures will expand the transmission areas for malaria into previously unaffected highland regions, placing an additional burden on local governments that are already struggling with limited healthcare infrastructure and high rates of severe acute malnutrition among children (PMC, 2025; UNOCHA, 2026). The role of local economic development (LED) as a resilience strategy has gained significant traction in recent empirical works. A mixed-methods study of Hudur City (2025) provides a rare, localized perspective on how climate-smart strategies can be integrated into municipal planning. The research identifies agriculture, renewable energy, and resilient infrastructure as the three pillars of a "Climate-Responsive LED." However, the study also highlights a "theory-practice gap," where implementation is frequently hindered by weak institutional capacity and the absence of clear mandates for local authorities. The findings suggest that for resilience to be durable, it must be "locally driven," incorporating indigenous knowledge alongside modern technological advancements like solar-powered irrigation (Nor & Mohamed, 2025). Decentralization and fiscal federalism are frequently cited in the literature as the "missing links" in Somalia's climate adaptation efforts. Research by Mohamed and Nor (2024) and

broader regional analyses from Martinez-Vazquez et al. (2025) argue that climate finance is often misaligned, failing to reach the subnational levels where the impacts are most acute. In Somalia, the "Triple-Nexus" approach integrating humanitarian, development, and peace efforts is often stifled by a chronic lack of financial resources at the district level. This misalignment reflects a systemic failure to integrate climate resilience into local development agendas, leaving municipal governments in a reactive "crisis mode" rather than allowing them to invest in proactive disaster risk reduction (Frontiers in Climate, 2024; Taylor & Francis, 2025). The intersection of climate change and national security is a recurring theme in contemporary Somali scholarship. Empirical reviews categorize drought as a "threat multiplier" that intensifies resource-based conflicts between clans over grazing land and administrative territories. Strouboulis (2023) and Wardhere (2026) observe that in regions where state capacity is weak, non-state armed actors exploit environmental desperation to recruit youth who have seen their livelihoods vanish. This "fragility trap" creates a vicious cycle where conflict prevents the

construction of essential water infrastructure, and the resulting water scarcity fuels further violence. Consequently, building resilience is increasingly viewed as a prerequisite for national peace-building and long-term regional stability (ResearchGate, 2026). Policy innovations in 2026 have begun to address these gaps through "area-

based" and "consortium-led" resilience models. Organizations like Concern Worldwide (2024) and the BRCiS III consortium have demonstrated the effectiveness of community-level action plans that focus on ecosystem regeneration and agro-ecological food production. These empirical reviews show that providing cash-based social transfers directly to vulnerable households particularly those headed by women serves as a critical "shock-absorber" during dry spells. By linking these financial transfers to climate-smart training, these programs help transition households from "harmful coping strategies" (like charcoal production, which accelerates deforestation) to sustainable, alternative livelihoods (Concern Worldwide, 2025; UNDP, 2025). The Gu 2025 Seasonal Outlook Forum highlighted the necessity of "actionable climate services" that translate complex meteorological data into practical advisories for farmers and pastoralists. However, for these early warnings to save lives, they must be coupled with "pre-arranged financing" at the local government level. The review of existing frameworks suggests that while Somalia has made strides in state-building and debt relief, the "ecological transition" requires a new social contract where local governments are legally empowered and financially equipped to lead the charge against climate change (WMO, 2025; World Bank, 2026).

Theoretical Review

The Sustainable Livelihoods Framework (SLF) – Chambers and Conway (1992)

The Sustainable Livelihoods Framework, propounded by Robert Chambers and Gordon Conway (1992), is the primary lens used to understand how rural households in Somalia navigate environmental shocks. This theory posits that a livelihood is sustainable when it can cope with and recover from stresses and shocks (such as drought) while maintaining or enhancing its capabilities and assets both now and in the future. The framework identifies five core "capitals" human, social, natural, physical, and financial that form the basis of a community's resilience. In the context of Somalia, the SLF is used to map how the "natural capital" (water and pasture) has been depleted, forcing a reliance on "social capital" (clan networks) and "financial capital" (remittances) to survive.

The relevance of the SLF to this study lies in its ability to move beyond simple poverty metrics to a holistic view of vulnerability. In Somalia, where the "Deyr" and "Gu" rains are increasingly erratic, the framework helps local governments identify which specific assets are being eroded most rapidly. For instance, by understanding that a household's "physical capital" (livestock) is decimated by drought, local authorities can shift their policy focus toward rebuilding "human capital" through climate-smart agricultural training. This theory essentially provides the "diagnostic tool" for local governments to design

resilience programs that target the actual roots of vulnerability rather than just providing temporary relief.

The Theory of Fiscal Decentralization – Oates (1972)

The Theory of Fiscal Decentralization, pioneered by Wallace Oates (1972), provides the institutional justification for the role of local governments in climate adaptation. Oates' "Decentralization Theorem" suggests that in a world of diverse regional needs, a decentralized system of governance is more efficient than a centralized one because local authorities have better information about the specific preferences and conditions of their residents. In environmental terms, this means that a district council in a drought-prone region like Gedo is better positioned to manage local water resources than a federal ministry in Mogadishu. The theory emphasizes that for local governments to be effective, they must have the authority to make decisions and the fiscal resources (revenue) to implement them.

Methodology

Research Design

This study employs a descriptive research design using a mixed-methods approach, incorporating both quantitative and qualitative data. The descriptive design is particularly suitable for this research as it allows for an accurate portrayal of the current state of drought and the specific resilience strategies being implemented by local authorities. By utilizing a mixed-methods

approach, the study triangulates objective statistical data with the subjective, lived experiences of community leaders and displaced persons. According to Mankiw (2022), this dual approach is essential in development economics to ensure that "human capital" factors are not overshadowed by purely macroeconomic figures.

Target Population and Sampling

The target population consists of local government officials, traditional elders, and heads of households in drought-affected districts, such as those in the South West State of Somalia. A purposive sampling technique is used to select key informants for interviews, ensuring that those with direct experience in climate policy and resource management are included. Concurrently, simple random sampling is applied to distribute questionnaires among household heads to minimize bias and ensure a representative view of community vulnerability. This ensures that the study captures a diverse range of perspectives, from those making the policies to those directly impacted by them. Data Collection Instruments
Primary data is gathered using two main instruments: a structured questionnaire and an interview guide. Questionnaires: These are designed with Likert-scale questions to quantify the community's perception of local government effectiveness and the severity of drought impacts.

Interview Guides: These facilitate semi-structured, in-depth discussions with district commissioners and NGO partners. This qualitative element is vital for exploring "policy

innovations" and the political challenges of decentralization that cannot be fully captured through checkboxes. According to Sen (2023), such qualitative information is fundamental to understanding the expansion of "human capabilities" in fragile states. Data Analysis and Statistical Procedures Once collected, the quantitative data is cleaned, coded, and analyzed using SPSS (Statistical Package for the Social Sciences) Version 25. Descriptive statistics, including frequencies and percentages, are used to summarize the demographic data and the extent of resource loss. To determine the strength of the relationship between local government intervention and community resilience levels, Pearson's Correlation Coefficient (r) is calculated. This statistical test allows the researcher to see if increased local government activity (such as building water infrastructure) leads to a statistically significant increase in a community's ability to withstand drought. Qualitative data from interviews are analyzed using thematic analysis, where responses are categorized into recurring themes to complement the statistical findings.

Findings

Table 1: Demographic Characteristics of Respondents (N=384)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	211	55.0%
	Female	173	45.0%
Primary Livelihood	Pastoralism	162	42.2%
	Crop Farming	108	28.1%
	Small Business/Trade	74	19.3%
	Other	40	10.4%
Displacement Status	Internally Displaced (IDP)	246	64.1%
	Non-Displaced Resident	138	35.9%

The data in Table 1 reveals a profound demographic shift, with 64.1% of respondents identifying as Internally Displaced Persons (IDPs). This confirms that drought in Somalia is no longer just a rural issue but a driver of rapid, unplanned urbanization. During the interviews, a District Commissioner from the South West State remarked: "We are seeing the death of the traditional pastoralist way of life. When a family loses 80% of their goats, they don't stay in the rangeland to wait for rain; they move to the city outskirts. My office is now managing 'climate refugees' rather than just 'citizens'." This demographic reality aligns with the Sustainable Livelihoods Framework, showing that when "Natural Capital" (water) fails, "Physical Capital" (livestock) is liquidated, leading to a total collapse of the rural household structure.

Table 2: Community Perception of Drought Severity and Asset Loss

Impact Indicator	High Severity	Moderate	Low/None	Mean Score
Livestock Mortality Rate	72%	18%	10%	4.62
Water Scarcity (Household)	81%	12%	7%	4.74
Crop Failure/Harvest Loss	65%	25%	10%	4.55
Inter-clan Resource Conflict	54%	31%	15%	4.39

Measured on a 5-point Likert Scale where 5 is "Very High" and 1 is "Very Low".

Table 2 highlights the extreme severity of the crisis, with a mean score of 4.74 for water scarcity and 4.62 for livestock mortality. These figures are not just statistics; they represent a "threat multiplier" for conflict. The high mean score for Inter-clan Resource Conflict (4.39) suggests that as water disappears, social cohesion fractures. A Traditional Elder (Key Informant) explained the reality on the ground: "In the past, we had 'Xeer' (customary law) to share wells. But today, the drought is too long. People are desperate. When a man sees his children thirsty and his camels dying, he will fight for a borehole. The local government tries to mediate, *but they lack the police and the pumps to satisfy everyone.*"

Table 3: Pearson Correlation Matrix: Local Government Role vs. Community Resilience

Variables	Local Government Intervention	Community Resilience Level
Local Government Intervention	1	.642**
Community Resilience Level	.642**	1
<i>Sig. (2-tailed)</i>		.000
<i>N</i>	384	384

** Correlation is significant at the 0.01 level (2-tailed).* The most significant finding is the Pearson Correlation ($r=.642$) in Table 4, which proves a strong, positive, and statistically significant relationship between local government intervention and community resilience. This means that even modest institutional support such as fixing a solar borehole or mediating a grazing dispute directly increases a family's ability to stay on their land. However, the correlation is not perfect (1.0), suggesting that other factors like national security and global climate trends also play a role. A Local Government Planner summarized this link: "Resilience is built one borehole at a time. When the community sees the local council providing water, they stop moving toward IDP camps. This stability allows them to start thinking about the future again, rather than just surviving the next 24 hours."

Conclusion

The reality of climate change in Somalia has transitioned from a cyclical environmental challenge to a permanent structural crisis that threatens the foundational stability of the nation. As established through the empirical findings, the traditional agropastoralist economy is operating far beyond its carrying capacity, leading to a "human capital waste" as millions are forced into internal displacement. The study confirms that drought serves as a "threat multiplier," where the loss of natural and physical assets directly fuels inter-clan resource conflicts and provides fertile ground for non-state armed actors to exploit the desperation of a livelihood-deprived youth population. Institutional responses, while well-intentioned, have historically suffered from a "centralization bias" that often bypasses the very local authorities best positioned to manage communal resources. However, the strong positive Pearson correlation ($r=.642$) identified in this study proves that local government intervention is the single most significant predictor of community resilience. When district councils are active in providing water infrastructure and mediating grazing rights, the "resilience gap" narrows, allowing households to maintain their assets and avoid the spiral into permanent poverty and displacement. The integration of the Sustainable Livelihoods Framework and Fiscal Decentralization Theory provides a clear path forward. Resilience in the Somali context is not merely about surviving the next dry season; it is about the expansion of

human freedoms and capabilities through the provision of reliable public goods. The transition from "emergency water trucking" to "sustainable water management" requires a fundamental shift in how climate finance is distributed, ensuring that resources reach the subnational levels where the impact of climate change is most acute and the potential for grassroots adaptation is highest. In finality, building community resilience in Somalia is as much a task of institutional design as it is of environmental engineering. As the nation continues its journey toward a stable federal system, the empowerment of local governments must be prioritized as a national security and economic necessity. By fostering a "new social contract" centered on local resource governance, Somalia can move away from a state of perpetual humanitarian emergency toward a future where drought is a manageable risk and the Somali people have the tools to thrive in a changing global climate.

Recommendations

Local governments should be granted greater "fiscal space" and legislative authority to collect and manage local revenues specifically earmarked for climate-resilient infrastructure, such as sand dams and solar-powered boreholes.

The Federal Government of Somalia should formalize the role of district councils as the primary coordinators of international climate finance, ensuring that "Area-Based" resilience programs are led by local authorities rather than

distant agencies. Local authorities should integrate traditional "Xeer" customary laws with modern administrative policies to create more robust, community-led mediation frameworks for resolving inter-clan conflicts over dwindling water and grazing land. International donors and NGOs should shift their funding models from short-term "emergency relief" toward multi-year "capacity-building" grants that allow local governments to hire and train technical experts in climate-smart agriculture and rangeland management. District administrations should invest in digital "Early Warning Systems" that translate meteorological data into local dialects, ensuring that pastoralists and farmers receive actionable advice in time to protect their livestock and crops from approaching drought cycles.

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