

Why Climate Resilience Is Essential for Somalia's Livestock Economy

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Abstract

Climate resilience has become essential for Somalia's livestock sector, which underpins food security, rural livelihoods, and export earnings. Increasingly frequent and severe droughts, intensified by climate change, have caused widespread livestock losses, pasture degradation, water scarcity, and worsening food insecurity. Evidence indicates that rainfall supports livestock productivity, whereas rising temperatures significantly reduce production, exposing the vulnerability of pastoral systems. Despite growing climate risks, current responses remain largely reactive and insufficiently integrated into long-term livestock and environmental governance. This article highlights the urgent need to strengthen drought early warning systems, climate-resilient animal health services, sustainable rangeland and water management, export diversification, and locally led adaptation. Building resilient livestock systems is critical for safeguarding livelihoods, enhancing economic stability, and supporting sustainable development in Somalia.

Full Text

Climate resilience is no longer a peripheral environmental concern for Somalia; it is an economic and survival imperative. In fragile dryland settings, livestock systems are not only productive assets but the foundation of food security, mobility, and social protection. Yet Somalia is increasingly exposed to compound climate shocks, particularly drought intensified by rising temperatures and evapotranspiration, with major pasture losses, water shortages, and humanitarian consequences (Kimutai et al., 2025). This makes the question timely not simply for adaptation policy, but for economic resilience, peacebuilding, and regional stability.

The current burden is substantial and escalating. Somalia's livestock sector is highly susceptible to climate variability, and long-run analysis shows that rainfall supports livestock production whereas temperature depresses it (Warsame et al., 2022). Recurrent drought has already caused severe livestock mortality and livelihood collapse; one review reports 3.5 million livestock deaths during the prolonged 2022 drought, alongside acute food insecurity affecting 3.7 million people and nearly 2 million children at risk of acute malnutrition (Ahmed & Ali, 2024). Pastoral households are especially exposed because they depend directly on livestock assets and own-production for subsistence, while climate shocks also accelerate displacement and poverty (Ahmed & Ali, 2024).

Recent evidence suggests that the risk profile is worsening rather than stabilizing. Attribution analysis indicates that human-induced climate change made the 2021–2022 Horn of Africa drought exceptional through the combined effects of low rainfall and high evaporative demand (Kimutai et al., 2025). New drought-resilience research from Somalia further shows a significant increase in drought severity over the last four decades, with more frequent extreme events and rising risks to pasture systems, particularly during key rainy seasons (Hussein et al., 2025). These findings are economically consequential because climate stress and conflict also undermine agricultural and livestock exports, exposing the fragility of a narrow export base (Ahmed Mohamed et al., 2024).

Current responses remain inadequate because they are still too episodic, humanitarian, and weakly integrated with market, governance, and ecological realities. Available evidence points to persistent gaps in drought preparedness, early warning, institutional coordination, land management, and locally owned adaptation planning (Kimutai et al., 2025)(Ahmed & Ali, 2024).

This issue deserves immediate scientific and policy attention because failure to build climate resilience in livestock systems will deepen a self-reinforcing cycle of herd loss, income collapse, food insecurity, displacement, and conflict. In low-resource and fragile settings, resilience is not an added benefit after development; it is the condition that makes development possible. Somalia therefore needs policy reform that embeds climate risk into livestock, trade, and dryland governance; stronger drought and pasture surveillance; early warning linked to anticipatory action; investment in water infrastructure, rangeland restoration, and climate-resilient animal health services; export diversification; and sustained international financing aligned with local institutions and pastoral knowledge (Kimutai et al., 2025) (Ahmed Mohamed et al., 2024)

Declarations

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Author Contributions

AMM (Abdullahi Maqtub Mursal): Conceptualization, study design, and manuscript drafting. **AMF** (Abdirahman Mohamed Farah): Literature review and reference management. **ATT** (Ahmed Tahlil Tifow): Data collection, data curation, and evidence synthesis. **SMA** (Sadio Mohamed Abshir): Methodology and critical interpretation of the findings. **MAH** (Mucad Adan Hassan): Manuscript review, editing, and quality assurance. **SNM** (Sumayo Nur Mohamed): Supervision, overall guidance, and final manuscript review. All authors contributed to the intellectual content of the manuscript, read and approved the final version, and agreed to be accountable for all aspects of the work.

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