

The Climate–Insecurity Nexus And Youth Migration As Constrained Adaptation: Evidence From Burhakaba District, Somalia

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Abstract

In fragile and conflict-affected settings, climate variability and insecurity increasingly interact to shape patterns of human mobility. However, localized empirical evidence explaining how these forces jointly influence youth migration decisions remains limited. This study examines the climate–insecurity–migration nexus in Burhakaba District, Southwest State of Somalia. Using a cross-sectional survey of 80 youth respondents selected through purposive sampling, the study analyzes primary data using descriptive statistics in SPSS. The findings reveal that youth migration is driven by the cumulative effects of recurrent droughts, loss of agricultural and pastoral livelihoods, high unemployment, persistent insecurity, and weak governance structures. Climate-related stress intensifies resource scarcity and inter-communal tensions, while insecurity undermines institutional trust and economic stability. In this context, migration emerges not primarily as an aspirational choice but as a form of constrained adaptation to structural vulnerability. The study highlights the need for integrated policy interventions that simultaneously address climate resilience, youth employment, and local peacebuilding to reduce distress-driven migration.

Keywords: climate insecurity, youth migration, Burhakaba District, Somalia, drought

1. Introduction

In the twenty-first century, the link between environmental change and political instability worldwide has become a major concern for human life, as abundant historical evidence demonstrates how environmental changes can affect social stability and human health outcomes (Sellers et al., 2019). Climate change and insecurity are now recognized as threat multipliers that exacerbate existing social conflicts, resource scarcity, and governance challenges (Zafarullah & Huque, 2018). This connection is particularly urgent in regions like the Horn of Africa, where the reliance on rainfall-dependent agriculture increases

vulnerability to climate-related disruptions such as extended droughts and flooding (Onyeaka et al., 2024). These climate stressors, coupled with ongoing violence and instability, have negatively impacted millions of young people, compelling significant migration toward more developed regions in search of improved safety and opportunities (Dayrit et al., 2021).

Somalia experiences significant youth migration among individuals aged 18–29, driven by factors including limited job opportunities, heightened exposure to violence, conflict risks, and the lack of comprehensive national youth strategies (Gundel, 2002). Due to the country's fragility and limited prospects, many young Somalis resort to irregular migration to seek employment, safety, and justice elsewhere (Ahmed et al., 2024). The Burhakaba area, reliant on rainfall for crops such as sorghum and maize alongside livestock farming, is particularly vulnerable to the intertwined climatic and security challenges. In the Burhakaba district of Southwest State, armed militias disproportionately impact marginalized groups and minorities, while recurrent droughts, floods, and systemic injustices further compel young people to seek refuge abroad (Kinyoki et al., 2017).

The study investigates the intersecting impacts of climate change, insecurity, and conflict as key drivers of youth migration in Burhakaba District, Somalia. This region, marked by poor governance, recurrent droughts, and climate shocks, faces severe disruption in rain-dependent livelihoods such as agriculture and pastoralism. Persistent insecurity and localized conflicts further exacerbate economic instability and restrict mobility, trapping young people aged 18–32 in conditions of limited safety and opportunity, compelling migration as a constrained adaptation for safety, income, and dignity. Despite recognition by community leaders and policymakers, empirical evidence on how the climate–insecurity nexus influences youth migration decisions in Burhakaba remains limited, hindering context-specific interventions. This research aims to fill that knowledge gap to better understand and address the constrained adaptive strategies of youth migration driven by the intertwined climate and insecurity crises in the district.

2. Literature Review

2.1 Climate Change, Insecurity, and Migration

Somalia's food insecurity is intimately linked to its lower agricultural production and the country's continuous problems, such as long-term conflict, large-scale displacement of people, and unpredictable weather (Datta, 2025). Displacement and youth migration are common in developing nations due to scarce economic opportunities, civil conflicts, enduring instability, and other related issues that drive individuals to abandon their homes to escape danger (Mohamed et al., 2025a). According to Nor (2025), integrated, context-sensitive policies are crucial for enhancing rural resilience and expanding economic opportunities, suggesting that well-funded rural development plans may improve adaptability and reduce out-migration. Climate shocks devastate the lives of pastoral communities that rely on rain and local crop production, forcing young people to migrate, while nomadic pastoralist clans compete for land and water, resulting in violent clashes between communities (Mohamed et al., 2025b).

Governments with weak governance are more likely to have food insecurity and conflicts

because climate variability and environment make it harder for them to adapt and be strong, as this condition causes a lack of resources, which leads to competitiveness and violence (Thalheimer et al., 2023).

2.2 Climate Change and Environmental Stressors in the Horn of Africa

Since 2020, the eastern Horn of Africa, including Somalia, has experienced several large-scale droughts that have significantly reduced soil moisture, crop and pasture output, and water availability. This reduced production has left millions of people without sufficient food and has caused large-scale humanitarian needs (FEWS NET, 2025). Jury (2025) stated that climate phenomena such as El Niño and La Niña are impacting countries in the Horn of Africa, significantly contributing to the starvation of livelihoods, displacement, and migration across various age groups as life becomes increasingly difficult amid ongoing conflicts in the region.

Alverio et al. (2024) argue that environmental shocks that cause livelihoods to fail, such as crop failures, livestock losses, and water shortages, create conflict over the resources that force youths to escape to other places because of instability and further induce urban challenges.

Climate change is making things very difficult for countries in the Horn of Africa. In addition to persistent conflicts, instability, and inadequate strategic methods, it is important to address these problems to lessen the consequences of food insecurity, migration, and social stress in the region (Delgado et al., 2023).

2.3 Youth Vulnerability and Migration Decision-Making in Burhakaba District

A significant portion of Somalia's populace consists of young people, estimated to constitute 60–70% of the total population. Recurrent conflicts and political instability continually impact this demographic, leading many to abandon their country and often embark on perilous journeys (Osman, 2025). The highly vulnerable unemployment rate among young people in Somalia, due to the lack of economic opportunities, extreme poverty, and an unbalanced education system, could lead to illegal escape to other countries for better livelihood opportunities and safety (Osman and Abebe, 2023). Instability, violence, a weak government system, poor justice, abuse, and other forms of fundamentalism impair the opportunities and security of the youth to leave their nation (Lwanga-Ntale & Owino, 2020).

2.4 Research Gap

Despite growing scholarly attention to the climate–security–migration nexus, empirical research in Somalia has largely remained at the national or regional level, often relying on secondary data. There is limited micro-level evidence explaining how climate stress and insecurity interact in specific rural districts to shape youth migration decisions. In particular, Burhakaba District an agriculturally dependent and conflict-affected locality remains underexamined in the literature. This gap constrains the development of context-sensitive interventions and limits theoretical understanding of how migration functions as a constrained adaptation strategy in fragile rural environments. By providing localized

empirical evidence, this study addresses this gap and contributes to the refinement of climate–security–migration scholarship in conflict-affected contexts.

3. Materials and Methods

This study employed a cross-sectional descriptive research design to capture localized perceptions of climate stress, insecurity, and migration in Burhakaba District. Given security and accessibility challenges, longitudinal study was not feasible. The cross-sectional design therefore provided a practical and context-appropriate approach for collecting primary data within a constrained setting.

A total of 80 youth respondents aged 18–32 was selected using purposive sampling. This non-probability technique ensured the inclusion of individuals directly affected by climate variability, agricultural disruption, and insecurity. Participants were drawn primarily from households engaged in rain-fed agriculture and pastoral livelihoods.

Data were collected using structured questionnaires incorporating five-point Likert-scale items. Reliability analysis indicated satisfactory internal consistency across constructs, with Cronbach’s alpha values exceeding the 0.70 threshold. Data were analyzed using descriptive statistics (means and standard deviations) in SPSS.

Ethical standards were strictly observed, and participation was voluntary; informed consent was obtained from all respondents, and their confidentiality was ensured.

4. Results

4.1 Demographic Characteristics

The study surveyed 80 respondents from Burhakaba District. Males constituted 62% of the respondents, and females accounted for 38%. Most respondents were aged 23–27 years (58.8%), followed by 28–32 years (29.4%) and 18–22 years (11.8%), representing a predominantly early working-age population. Regarding marital status, 88.2% were single, followed by 11.8% who were married. In terms of education, 47.1% had completed secondary education, 29.4% had completed a bachelor’s degree, 17.6% had completed a master’s degree, and 5.9% had completed primary education. Employment status: 47.1% were unemployed, 23.5% were self-employed, 17.6% were employed full-time, and 11.8% were students. These characteristics reflect a young population with limited economic opportunities and increased exposure to stressors.

4.2 Reliability Analysis

All measurement constructs demonstrated satisfactory internal consistency. Cronbach’s alpha values were 0.84 for youth migration drivers, 0.81 for climate change–induced migration, and 0.87 for insecurity and conflict, exceeding the recommended threshold of 0.70, thus confirming the scale reliability.

4.3 Socio-economic Drivers of Youth Migration

Respondents reported strong agreement on socioeconomic migration drivers, with a

composite mean of $M = 4.02$ ($SD = 0.68$). The most influential factor was the lack of local employment opportunities ($M = 4.31$). Additional drivers included the loss of agricultural and livestock livelihoods ($M = 4.08$), influence of relatives abroad ($M = 3.94$), and limited access to financial services ($M = 3.89$). These findings indicate that economic insecurity remains the primary motivation for youth's migration.

4.4 Climate Change–Induced Migration

Climate-related factors were rated highly, with an overall mean of $M = 4.15$ ($SD = 0.61$). Respondents emphasized that frequent droughts undermine farming and pastoralism ($M = 4.27$), unpredictable rainfall affects food security ($M = 4.11$), and climate causes livestock and crop loss ($M = 4.08$). The results confirm that climate variability is a critical driver of migration in this study area.

4.5 Insecurity and Conflict

Insecurity emerged as a strong push factor, with a composite mean score of $M = 4.21$ ($SD = 0.72$). The key concerns included fear of violence ($M = 4.33$), low trust in local governance capacity ($M = 4.22$), and resource-based conflict ($M = 4.17$). These perceptions indicate that insecurity significantly shapes youth migration decision making.

5. Discussion

5.1 Climate–Insecurity Interaction as a Risk Multiplier

Rather than functioning as isolated push factors, climate stress, insecurity, and economic marginalization operate in a mutually reinforcing cycle. Recurrent drought reduces agricultural productivity, which heightens competition over scarce land and water resources. This intensifies inter-clan tensions and erodes community cohesion. In turn, insecurity discourages investment, weakens governance capacity, and further limits economic opportunities for youth. Within this compounding vulnerability framework, migration becomes less an individual aspiration and more a structurally conditioned response to shrinking livelihood space. This supports the conceptualization of climate change as a “risk multiplier” in fragile settings.

5.2 Migration as Constrained Adaptation

In this context, youth migration is best understood as a form of constrained or distress-driven adaptation, rather than voluntary or aspirational mobility. Limited employment opportunities, weak financial systems, and declining rural productivity leave young people with few viable alternatives to diversify their livelihoods. Migration has emerged as a survival strategy aimed at mitigating risk, securing income, and preserving dignity in the absence of effective local support. This challenges narratives that frame youth migration primarily as an individual choice and instead highlights its structural determinants.

5.3 Governance, Insecurity, and Youth Disengagement

Perceptions of insecurity and weak governance are critical in shaping migration decisions. Low confidence in local institutions, fear of violence, and limited access to justice contribute

to youth disengagement from community life and long-term planning. These findings suggest that insecurity threatens physical safety and undermines the social contract, accelerating youth exit from fragile rural districts such as Burhakaba in Somalia.

6. Conclusion

This study examines Climate Stress, Insecurity, And Youth Migration as Constrained Adaptation: Evidence from Burhakaba District, Somalia. Drawing on primary survey data from young people living in a climate- and conflict-affected rural setting, the findings reveal that migration is driven by the cumulative and interconnected effects of climate variability, livelihood loss, insecurity, and poor governance.

The analysis demonstrates that climate-related shocks, particularly recurrent droughts and unpredictable rainfall, interact with insecurity and economic marginalization to intensify youth's vulnerability. Rather than functioning as independent drivers, these factors mutually reinforce each other, creating structural conditions in which migration becomes a necessary coping strategy. Therefore, youth migration from Burhakaba is less a reflection of individual aspirations than a response to constrained choices within a fragile sociopolitical environment.

This study contributes micro-level empirical evidence to the broader climate–security–migration literature by highlighting how localized dynamics shape youth mobility decisions in under-researched districts. From a policy perspective, the findings underscore the need for integrated interventions that combine climate-resilient livelihood support, youth employment creation, conflict mitigation, and strengthened local governance. Addressing these challenges in isolation is unlikely to sustainably reduce the migration pressures.

Although this study is limited by its cross-sectional design and reliance on self-reported perceptions, it provides a critical foundation for future research. Longitudinal and qualitative studies are recommended to further explore how evolving climate and security conditions influence youth migration trajectories over time. This study advances the climate–security–migration literature by providing micro-level evidence from an under-researched rural district in Somalia. It demonstrates that youth migration in fragile contexts cannot be explained by environmental or economic variables alone; rather, it emerges from their intersection with insecurity and governance fragility. Policy responses that isolate climate adaptation from employment creation or peacebuilding are therefore unlikely to generate sustainable outcomes. Integrated, locally grounded interventions are essential to reducing distress-driven youth mobility in climate-vulnerable and conflict-affected settings.

Policy Recommendations

To mitigate the pressures of irregular migration, this study suggests the following:

1. **Integrated Climate Adaptation:** Implementing resilient farming and water management systems to stabilize rural livelihoods.
2. **Youth-Centric Economic Policy:** Developing job creation programs and microfinance access tailored to the early working-age demographic.

3. Peacebuilding and Governance: Strengthening local conflict resolution mechanisms to address resource-based tensions before they escalate.

Limitations and Future Research

While this study provides a critical micro-level perspective, it is limited by its reliance on self-reported cross-sectional data. Future research should utilize longitudinal designs and qualitative interviews to explore the evolving decision-making processes of youth as climate conditions fluctuate in the future.

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In accordance with the Journal of Social Science Studies submission policy, the author declares the use of generative AI tools for language editing, structuring, and improving manuscript clarity. The author has thoroughly reviewed and verified all AI-generated suggestions to ensure they do not replace substantial scholarly contributions. All data interpretations, contextual logic, and final content remain the sole responsibility of the author.

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Author contributions

Ibrahim Hassan Barrow is the sole author and responsible for the study design, data collection, analysis, and drafting of the manuscript.

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Obtained.

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Data sharing statement

No additional data are available.

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