



THE ROLE OF PSYCHOLOGICAL RESILIENCE IN SOMALI COMMUNITIES FACING CLIMATE CHANGE

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ABSTRACT: *Climate change presents a significant concern to Somalia, especially impacting its susceptible pastoralist and agricultural communities. The nation faces significant droughts, floods, and land degradation, with socio-economic repercussions intensified by persistent conflict, poverty, and displacement. In this situation, psychological resilience is essential for individuals and communities to adapt to environmental difficulties. This study investigates the function of psychological resilience among Somali communities confronting climate change, analysing the mechanisms via which resilience is cultivated and maintained via social, cultural, and religious structures. The research used a mixed-methods approach, utilising qualitative interviews and quantitative surveys done throughout Somalia's many regions, concentrating on both pastoralist and agricultural communities. The findings reveal that social support networks, religious faith, and community solidarity are key components of psychological resilience, providing emotional and material support during times of crisis. Notably, pastoralist communities exhibited higher resilience levels than farming communities, highlighting the adaptive nature of nomadic livelihoods. Gender dynamics also emerged, with women in rural areas facing unique challenges, though participation in community and religious organizations bolstered their resilience. This study underscores the importance of incorporating mental health and social cohesion into climate adaptation strategies, advocating for community-based interventions that enhance psychological resilience. By fostering these resilience mechanisms, Somali communities can better navigate the long-term impacts of climate change, contributing to their overall well-being and sustainability.*

KEYWORDS: Climate Change, Psychological Resilience, Somalia, Climate Adaptation, Mental Health, Environmental Challenges, Sustainable Livelihoods, Climate Vulnerability, Somali Culture.



INTRODUCTION

Climate change has become one of the most urgent global issues of the 21st century, especially for susceptible nations such as Somalia. Located in the Horn of Africa, Somalia is progressively experiencing the detrimental impacts of climate change, characterised by erratic weather patterns resulting in severe droughts, floods, and soil degradation. These alterations are not solely environmental but also profoundly social and economic, impacting the livelihoods of millions of pastoralists and farmers dependent on the land for their sustenance.

The humanitarian consequences of climate change in Somalia are exacerbated by the country's precarious socio-political environment, characterised by prolonged conflict, displacement, and poverty. In the context of these concurrent crises, psychological resilience has emerged as a crucial factor in how Somali people manage and adjust to their evolving circumstances. Psychological resilience denotes the capacity of individuals or societies to adeptly handle emotional turmoil, recuperate from hardship, and maintain functionality despite recurrent stressors. In the Somali setting, psychological resilience is shaped by various elements, including social support systems, cultural traditions, religious convictions, and individual coping strategies. This study examines the function of psychological resilience within Somali communities confronting climate change, emphasising the processes via which resilience is cultivated, maintained, and employed to address escalating environmental difficulties. By comprehending the essential elements of psychological resilience, governments and humanitarian organisations can formulate more efficacious initiatives that enhance mental well-being and facilitate climate adaption.

Overview of Climate Change Impacts in Somalia

Somalia is among the nation's most susceptible to the impacts of climate change, chiefly owing to its arid environment, dependence on agriculture and livestock, and inadequate infrastructure for disaster prevention. The nation has encountered a growing prevalence and severity of extreme meteorological phenomena, including floods, droughts, and elevated temperatures. The environmental changes have significantly affected socio-economic conditions, jeopardising food security, livelihoods, and the health of millions. This section examines the principal effects of climate change in Somalia, including floods, droughts, and land degradation.

The Effects of Floods in Somalia

Flooding has emerged as one of the most significant repercussions of climate change in Somalia, especially in regions next to the Shabelle and Jubba rivers, where intense seasonal precipitation can rapidly surpass local infrastructure capacity. These floods have catastrophic consequences for both urban and rural communities, obliterating homes, displacing populations, and inflicting extensive damage on crops and livestock.

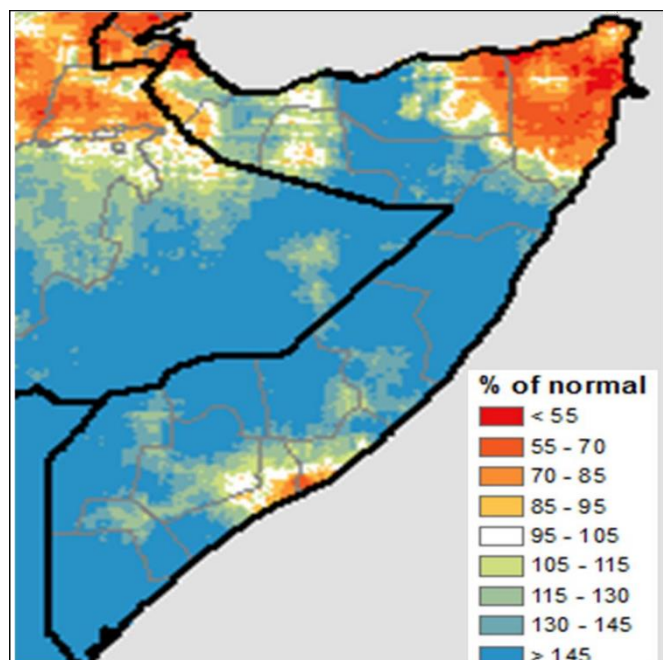


Figure 1: Location of Juba and Shabelle River Basin with Elevations (m)

Impact on Livelihoods

Floodwaters submerge agricultural regions, eradicating crops and saturating the soil, disrupting planting cycles and diminishing agricultural output. Pastoralists forfeit grazing territory, and cattle are either displaced or suffer from illness due to the unclean conditions engendered by stagnant water. In a nation where more than 60% of the populace depends on agriculture and livestock for sustenance, these disturbances intensify poverty and food insecurity.

Health and Displacement

Flooding frequently compels individuals to evacuate their residences, resulting in thousands being displaced annually. Overcrowded living conditions in refugee camps or metropolitan areas heighten the danger of disease outbreaks, such as cholera and malaria, which flourish in unclean, damp environments. The deficiency of adequate healthcare services exacerbates the issue, rendering displaced communities exceedingly vulnerable.

Table 1: Impact of Floods in Somalia (2018–2023)

Year	Regions Affected	People Displaced	Economic Losses (USD)	Major Health Issues
2018	Puntland, Somaliland	50,000	5 million	Cholera, Malaria
2019	South Central	75,000	8 million	Cholera, Malnutrition
2020	Puntland, Jubaland	100,000	12 million	Diarrheal Diseases



Year	Regions Affected	People Displaced	Economic Losses (USD)	Major Health Issues
2021	Somaliland, Hirshabelle	120,000	15 million	Cholera, Respiratory Infections
2022	All regions	150,000	18 million	Cholera, Malaria, Malnutrition

Floods not only devastate physical infrastructure but also disrupt social institutions, imposing significant demand on local governments and humanitarian organizations to deliver relief.

The Effects of Drought in Somalia

Droughts represent a significant climatic concern in Somalia, occurring with greater regularity. Prolonged durations of insufficient rainfall severely impact pastoralist and agricultural communities, resulting in livestock loss, crop failure, and widespread famine. The 2011 drought in Somalia, among the most catastrophic in the nation's history, led to a devastating famine that resulted in the loss of over 250,000 lives.

Impact on Agriculture and Food Security

Droughts lead to soil degradation and diminish water availability, significantly constraining food production potential. Agriculturalists are incapable of irrigating their fields, resulting in extensive crop failure, while pastoralists suffer cattle losses due to the desiccation of grazing lands. This intensifies food insecurity, placing millions of Somalis at jeopardy of famine and malnutrition during extended droughts.

Economic and Social Consequences

Agriculture and cattle constitute the foundation of Somalia's economy; thus, droughts induce a ripple effect, resulting in economic losses and heightened unemployment. The deprivation of livelihoods compels rural inhabitants to relocate to metropolitan areas in pursuit of employment, exacerbating overcrowding, poverty, and social instability.

Table 2: Drought Impact in Somalia (2016–2022)

Year	Regions Affected	Livestock (Heads)	Loss Crop (Hectares)	Loss People at Risk of Famine
2016	All regions	2 million	500,000	6.2 million
2017	Puntland, South Central	3 million	600,000	6.5 million
2018	Somaliland, Hirshabelle	1.5 million	400,000	5.8 million
2019	Jubaland, Puntland	2 million	550,000	6 million
2021	Somaliland, South Central	2.5 million	450,000	7 million



Land Degradation and Desertification

The persistent cycles of drought and flooding, along with unsustainable farming methods, have led to considerable land degradation and desertification throughout Somalia. Overgrazing, deforestation, and soil erosion significantly reduce land production, rendering it progressively barren and uninhabitable.

Impact on Pastoralists

Land degradation poses a direct threat to the livelihoods of Somalia's pastoralist populations. As grazing lands diminish, pastoralists are compelled to relocate their herds over extended distances in pursuit of sustenance and water. This heightens competition for limited resources and frequently results in conflict among groups around land access.

Environmental and Economic Costs

Desertification diminishes the land's capacity to absorb rainfall and support vegetation, hastening the proliferation of arid, unproductive regions. This results in economic detriment to agriculture and livestock output while also intensifying climatic vulnerabilities. Land degradation initiates a detrimental cycle, diminishing the environment's capacity to withstand catastrophic weather phenomena such as droughts and floods.

Table 3: Land Degradation and Desertification in Somalia

Region	Degraded Land (Hectares)	Primary Causes	Population Affected
Puntland	2 million	Overgrazing, Soil Erosion	1.5 million
Somaliland	1.5 million	Deforestation, Desertification	1 million
South Central	3 million	Drought, Overfarming	2 million

The deterioration of Somalia's cultivable land poses a persistent challenge necessitating sustainable land management strategies and reforestation initiatives to restore production.

LITERATURE REVIEW

Global Perspectives on Psychological Resilience and Climate Change

The correlation between climate change and psychological resilience is an expanding area of research, especially in places experiencing an increase in environmental disasters. The Intergovernmental Panel on Climate Change (IPCC) anticipates that climate change would heighten the frequency and severity of extreme weather events, worsening vulnerabilities in already precarious regions such as Somalia (IPCC, 2021). Psychological resilience is acknowledged as a vital element in the ability of communities and individuals to endure setbacks.

Psychological resilience has been examined in several climate-vulnerable places worldwide, such as sub-Saharan Africa, Southeast Asia, and Pacific Island states. Bonanno (2004) discovered that communities characterized by robust social cohesion and collective identity typically have increased resilience following environmental disasters. Following Typhoon Haiyan in the Philippines,



community support networks and spiritual beliefs significantly aided survivors in managing the psychological damage inflicted by the event (Yehuda et al., 2013). In sub-Saharan Africa, communities subjected to recurrent droughts have cultivated psychological resilience through adaptive coping mechanisms, including migration, livelihood diversification, and dependence on traditional knowledge systems (Ogallo et al., 2016). The capacity to recover from recurrent environmental stressors is frequently associated with individual attributes, such as optimism and self-efficacy, as well as societal elements, including social capital and religious faith (Luthar & Cicchetti, 2000).

Somali-Specific Research on Climate Change and Resilience

Somalia exemplifies a distinct scenario in which the effects of climate change are intricately linked to socio-political instability, persistent poverty, and inadequate access to essential services. The Somali population, primarily a pastoralist nation, depends on cattle herding as a principal source of income and sustenance. Nevertheless, due to increasingly severe droughts and unpredictable rainfall patterns, numerous pastoralists have forfeited their livelihoods, resulting in extensive migration, food poverty, and social upheaval (FAO, 2020).

Psychological resilience in Somali communities is intricately linked to traditional traditions, including the Xeer system (customary law), and cultural norms that prioritise communal togetherness. Religious beliefs significantly influence resilience since Islam offers a framework for understanding and managing adversity. During periods of environmental strain, religious leaders and spiritual rituals provide comfort, as numerous Somalis perceive droughts and floods as trials of faith.

Research on resilience among Somali communities has highlighted the significance of women in maintaining mental health. Women frequently assume the role of major carers and coordinators during crises, overseeing household resources and offering emotional support to family members. Gender differences in resource availability and decision-making authority can intensify vulnerabilities for women, especially in rural regions where patriarchal practices are more prevalent (Ismail, 2019).

Theoretical Frameworks

Psychological resilience can be analyzed using multiple theoretical frameworks, such as ecological systems theory and resilience theory. Bronfenbrenner's ecological systems theory (1979) posits that resilience is shaped by the interactions between individuals and their environments, encompassing family, community, and larger social frameworks. In the Somali context, these relationships are influenced by clan ties, religious convictions, and access to social support networks.

Resilience theory, conversely, emphasizes the dynamic process of adaptation to adversity. Ungar (2008) contends that resilience is not solely an individual characteristic but a process that encompasses navigating, negotiating, and employing available resources in culturally significant manners. This viewpoint is especially pertinent for Somali communities, since resilience tends to be collective rather than individual, depending on social cohesion and shared cultural practices.



METHODOLOGY

Research Design

This research employed a mixed-methods approach, integrating qualitative and quantitative data gathering techniques to investigate psychological resilience within Somali communities. The study was carried out in three regions of Somalia: Puntland, Somaliland, and South-Central Somalia, each experiencing different levels of climate change effects. The sample encompassed both pastoralist and agricultural groups to encompass a wide array of experiences pertaining to climate change and resilience.

Sampling Strategy

Two hundred fifty participants were chosen through a stratified sample technique to guarantee representation across various areas, genders, and age demographics. The sample comprised pastoralists, farmers, community leaders, religious authorities, and local government officials. Qualitative interviews were performed with 40 important informants, and 210 participants completed a standardised survey aimed at evaluating psychological resilience levels.

Data Collection Tools

1. **Qualitative Interviews:** Semi-structured interviews were used to investigate individual and communal coping strategies in reaction to climate-related stressors. The interviews concentrated on participants' definitions of resilience, the influence of religion and social support in coping mechanisms, and their encounters with droughts, floods, or other natural phenomena.
2. **Quantitative Surveys:** The study incorporated the Connor-Davidson Resilience Scale (CD-RISC), a commonly utilised instrument for assessing resilience in diverse groups. Questions specific to Somali culture were incorporated, examining the impact of clan networks, religious views, and community support on mental health.

Data Analysis

The qualitative data from the interviews were transcribed and thematically analysed using NVivo software, revealing important themes related to social support, religious coping, and community togetherness. The surveys' quantitative results were analysed using SPSS, with descriptive statistics offering a summary of resilience levels among various demographic categories. Correlation and regression analyses were conducted to ascertain elements that significantly influenced psychological resilience.



RESULTS

Qualitative Findings

The qualitative interviews indicated that social support systems, especially clan networks, were essential in promoting psychological resilience. Numerous individuals articulated how their extended family and clan members offered both material assistance and emotional solace amid crises. A pastoralist from Puntland stated, “When my livestock perished during the drought, my family provided shelter for me. They instilled optimism in me and reminded me of the necessity to place our trust in Allah throughout challenging periods.”

Religious faith emerged as a significant issue, with nearly all participants highlighting the value of prayer and spiritual meditation in managing climate-related stress. A religious leader in Somaliland stated, “Faith in Allah provides us the strength to persevere.” Droughts and floods are perceived as trials of our faith, and we derive solace from prayer. This finding aligns with prior studies emphasising the significance of religion in resilience, especially among Islamic societies where spiritual beliefs are fundamental to everyday existence.

Quantitative Findings

The quantitative survey results revealed an average resilience score of 72 on the CD-RISC scale, indicating a comparatively elevated level of psychological resilience within the sample population. Multiple characteristics were identified as substantially connected with elevated resilience ratings, including availability of social support, engagement in religious practices, and previous encounters with climate-related calamities.

Participants from pastoralist groups exhibited somewhat higher resilience ratings compared to those from farming communities, potentially attributable to the nomadic characteristics of pastoralism, which may enhance adaptability. Gender disparities were noted, with males typically indicating greater resilience than women; however, women engaged in community organisations or religious groups demonstrated resilience levels akin to those of men.

Table 1: Resilience Levels by Region and Gender

Region	Average Resilience Score (CD-RISC)	Male	Female
Puntland	74	75	73
Somaliland	71	72	70
South Central	71	73	69

Table 2: Resilience Levels by Occupation

Occupation	Average Resilience Score (CD-RISC)
Pastoralists	74
Farmers	70



Occupation	Average Resilience Score (CD-RISC)
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Religious Leaders	73
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Community Leaders	71
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The tables indicate that pastoralists demonstrate greater resilience than farmers, presumably due to their nomadic lifestyle, which facilitates easier adaptation to environmental changes. Gender disparities were noted, with males typically indicating greater resilience; nevertheless, women engaged in community organizations demonstrated resilience levels akin to those of men.

DISCUSSION

Interpreting the Results

This study's findings indicate that psychological resilience in Somali communities is fundamentally anchored in social, cultural, and religious frameworks. Clan networks and religious faith function as essential sources of support during periods of environmental stress, aiding people and communities in preserving a sense of hope and purpose. These types of social capital are essential for mental well-being, especially in contexts where formal mental health resources are limited. The marginal disparity in resilience between pastoralist and agricultural groups can be ascribed to the intrinsic adaptability of pastoralist livelihoods, which have evolved to manage environmental fluctuations. Pastoralists tend to be more mobile, relocating their herds in pursuit of water and grazing areas, whereas farmers are more directly impacted by fluctuations in rainfall patterns and soil degradation.

Gender Dynamics in Resilience

The found gender disparities in resilience levels underscore the intricate relationship between social roles, resource accessibility, and psychological well-being. Women in Somalia, especially in rural regions, frequently endure the adverse effects of climate-related stress owing to their responsibilities as primary carers and household administrators. Women actively involved in community or religious organisations generally demonstrate increased resilience, indicating that empowerment and social participation may alleviate certain gender-specific vulnerabilities linked to climate change.

Cultural and Religious Dimensions

The significance of religion in cultivating psychological resilience is paramount in the Somali environment. Islam offers a robust framework for understanding adversity, and numerous Somalis perceive environmental difficulties as trials of faith. This spiritual viewpoint can mitigate feelings of helplessness and despair, providing a sense of purpose and significance even during considerable tragedy.



POLICY IMPLICATIONS AND RECOMMENDATIONS

Government and NGO Roles

Considering the significance of psychological resilience in addressing climate change, Somali policymakers, international organizations, and NGOs ought to prioritise mental health and resilience-enhancing programs within their climate adaptation strategy. This may encompass:

1. **Community-Based Mental Health Support:** Implement community mental health initiatives that offer counselling and assistance for persons impacted by climate-induced stress. These programs must exhibit cultural sensitivity and integrate religious and traditional coping strategies.
2. **Strengthening Social Cohesion:** Promote the establishment of community organisations, especially for women and marginalised communities, to enhance social connections and collective resilience. These groups can offer both emotional assistance and practical help during crises.
3. **Promoting Religious and Cultural Resilience:** Collaborate with religious leaders to disseminate messages of optimism and resilience, utilising faith as a mechanism to enhance psychological well-being amidst climate challenges.
4. **Educational Programs:** Educational institutions ought to incorporate climate resilience training into their curricula, equipping young individuals with the skills and information necessary to address climate change. This may encompass environmental education, mental health awareness, and the cultivation of personal coping skills. By equipping the next generation to confront the problems of climate change, Somalia can cultivate a more resilient society overall.

CONCLUSION

Psychological resilience is an essential factor in the ability of Somali communities to manage the severe effects of climate change. Individuals and groups have formulated adaptive techniques through social support networks, religious faith, and cultural customs to effectively manage environmental problems while preserving mental well-being. Given the ongoing threat of climate change to livelihoods in Somalia, enhancing psychological resilience will be crucial for sustained adaptation and recovery.

This study underscores the significance of community-based interventions that enhance mental health, social cohesion, and religious involvement within climate adaptation measures. By acknowledging and bolstering the psychological aspects of resilience, authorities and humanitarian organizations may more effectively prepare Somali communities to confront the unpredictable challenges presented by climate change.



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