

Psychosocial Impacts Of Climate Change On Women In Rural Communities: Evidence From Buhera District, Zimbabwe

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Abstract:

Background: Climate change is increasingly recognised as a public health and psychosocial concern, with growing evidence linking it to mental health impacts (Cianconi et al., 2020). While global discourse emphasises physical effects, emotional and social dimensions remain underexplored in low- and middle-income countries (Clayton et al., 2023; Reser et al., 2012). Climate-induced environmental degradation often provokes anxiety, grief, and despair, particularly where livelihoods are threatened (Pihkala, 2020). In Zimbabwe, rural women experience trauma linked to disruptions in traditional roles (Dutiro & Chigevenga, 2024). Despite the relevance of concepts like solastalgia—distress caused by environmental change (Albrecht, 2005)—they remain under-researched in African rural settings. With most evidence drawn from high-income countries, there is a critical gap in locally grounded insights (Clayton et al., 2023). This study investigates the psychosocial impacts of climate change on women in Ward 19, Buhera, capturing lived realities to inform gender-sensitive climate policy and community mental health interventions.

Materials and Methods: This study used a qualitative, phenomenological approach to explore how climate change affects the psychosocial well-being of women in Ward 19, Buhera District. The phenomenological method was appropriate for capturing personal and community-level experiences, offering rich insights into mental health, emotional distress, and resilience. The research focused on women living in rural communities whose lives and livelihoods are highly sensitive to environmental changes. Participants were selected purposively based on their exposure to climate-related challenges such as drought and crop failure. Data collection took place through focus group discussions with women and key informant interviews with community leaders, health professionals, and NGO staff. These tools allowed for a broad understanding of individual and collective responses to climate stressors. Interview guides were informed by existing literature and adapted for local relevance. Field notes and non-verbal observations added further depth. All data were transcribed, translated, and thematically analysed using NVivo software to identify recurring patterns and unique perspectives.

Results: The study found that climate change intensifies mental health challenges among rural women, including stress, anxiety, and suicidal thoughts, while also worsening social vulnerabilities like poverty. These impacts are most severe for women, whose caregiving and livelihood roles are directly disrupted. The findings highlight the need for climate adaptation strategies to integrate mental health support and community-informed coping mechanisms.

Conclusion: Climate change poses significant psychosocial risks for rural women, amplifying mental health and social vulnerabilities. Integrating gender-sensitive, community-informed mental health support into climate adaptation is essential.

Key Words: Climate change, mental health, psychosocial impact, rural women, Zimbabwe, community resilience, solastalgia, gender-sensitive adaptation, environmental stress, Buhera District.

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I. Introduction

Climate change is increasingly recognised as a significant threat to human health beyond its physical impacts, with mounting evidence that environmental shifts also undermine mental and psychosocial well-being (Cianconi et al., 2020; Alarcón Garavito et al., 2024). In Africa, disrupted social and economic structures—key determinants of psychological health—have been linked to climate variability, with rural populations particularly vulnerable due to their dependence on climate-sensitive livelihoods such as rain-fed agriculture (Atwoli et al., 2022). Despite this, most research on climate-related mental health impacts remains concentrated in high-income

regions, leaving substantial gaps in understanding how climate stressors affect psychosocial outcomes in low- and middle-income contexts like Zimbabwe (Alarcón Garavito et al., 2024; Truelove et al., 2023).

In Zimbabwe, rural districts like Buhera have experienced marked changes in rainfall patterns and increasing weather extremes, deeply affecting agricultural productivity and livelihoods. Local studies suggest that these environmental stressors are associated with psychological challenges among rural women, including heightened stress, trauma, and emotional distress due to disrupted roles and persistent uncertainty (Chigevenga, 2024). Cross-national evidence further suggests that climate change induces not only acute psychological responses to extreme events but also long-term psychosocial effects through loss of social cohesion, food insecurity, and erosion of traditional support networks (Hagan, 2025; Njeru et al., 2022).

Despite this emerging global and regional evidence, there remains a distinct paucity of context-specific research on how climate change affects the mental health and psychosocial well-being of women in rural Zimbabwe, particularly through the interplay of environmental, economic, and sociocultural determinants. This study addresses that gap by exploring lived experiences of climate change in Ward 19, Buhera District, to generate evidence for gender-responsive climate adaptation policies and community-based psychosocial interventions.

II. Material And Methods

This qualitative, phenomenological study involved 25 women aged 19 to 50 from Ward 19, Buhera, Zimbabwe. Data were collected via focus groups and interviews with women and key stakeholders, centering on drought and livelihood disruptions. Locally adapted interview guides and field observations enriched the data. Transcripts were thematically analysed using NVivo to identify key patterns.

Study Design: Qualitative and phenomenological study

Study Location: This study was conducted in Ward 19 of Buhera District, Zimbabwe.

Study Duration: November 2024 to November 2025.

Sample size: 25 Participants.

Sample size calculation: The sample size was guided by data saturation, prioritising the collection of rich, meaningful insights over achieving numerical representativeness.

Subjects & selection method: Twenty-five women from Ward 19 in Buhera District, Zimbabwe, were purposively selected to participate in the study.

Inclusion criteria:

- Women aged 18 years and above
- Residents of Ward 19, Buhera District, for at least 1 year
- Directly affected by climate-related challenges such as drought, crop failure, or water scarcity
- Engaged in rural livelihoods (e.g., agriculture, caregiving) influenced by environmental changes
- Willing to participate and provide informed consent
- Able to communicate in the local language(s) used for data collection

Exclusion criteria:

- Women under 18 years of age
- Non-residents or those who have lived in Ward 19 for less than 1 year
- Women not directly affected by climate-related challenges (e.g., drought, crop failure)
- Those unable or unwilling to provide informed consent
- Women with severe cognitive impairments or communication difficulties that prevent participation
- Temporary visitors or those not engaged in rural livelihoods

Procedure methodology

The researcher obtained a formal letter of permission from the University as part of the degree program requirements. Subsequently, approval was sought and granted by the District Development Coordinator of Buhera District, who oversees government and partner programs related to Climate Change. This endorsement recognized the study's relevance to future climate change response initiatives. Data collection tools, including Focus Group Discussion (FGD) and Key Informant Interview (KII) guides, were pilot tested with five individuals for KIIs and one FGD session within Ward 19 to ensure clarity, validity, and reliability while minimizing bias. Prior to participation, informed consent was obtained from all selected participants. Participants were purposively selected

to ensure relevance to the study objectives. Key government officials were invited for KIIs, while women for FGDs were randomly chosen from the target population. The researcher provided a clear introduction explaining the study's purpose and importance to enable participants to make an informed decision regarding their involvement. During FGDs, the researcher facilitated the discussions with the support of a trained note-taker responsible for capturing detailed notes. For KIIs, appointments were scheduled with relevant officials to ensure availability and convenience. The researcher verified data completeness and accuracy before concluding each session, addressing any outstanding issues immediately. All audio recordings and notes were transcribed verbatim into Word documents.

Qualitative Data Analysis

Data were analyzed using thematic analysis to identify and interpret key patterns within the qualitative data related to the psychosocial impacts of climate change on women in Ward 19, Buhera District. All audio-recorded interviews and focus group discussions were transcribed verbatim, followed by thorough readings to build familiarity with the content and context. Significant phrases and expressions related to women's experiences, emotions, and coping mechanisms were coded systematically. These codes were then grouped into broader themes that capture the collective and individual psychosocial effects of climate stressors on the participants. The themes were continuously reviewed and refined to ensure they accurately reflected participants' perspectives and addressed the study's research questions. Special attention was given to variations and contextual factors influencing women's lived experiences.

To enhance rigour and trustworthiness, peer debriefing was conducted, and member checking was employed to validate interpretations with some participants. An audit trail documented all analytical decisions to maintain transparency. NVivo software facilitated the organization, coding, and retrieval of data throughout the analysis process.

III. Result

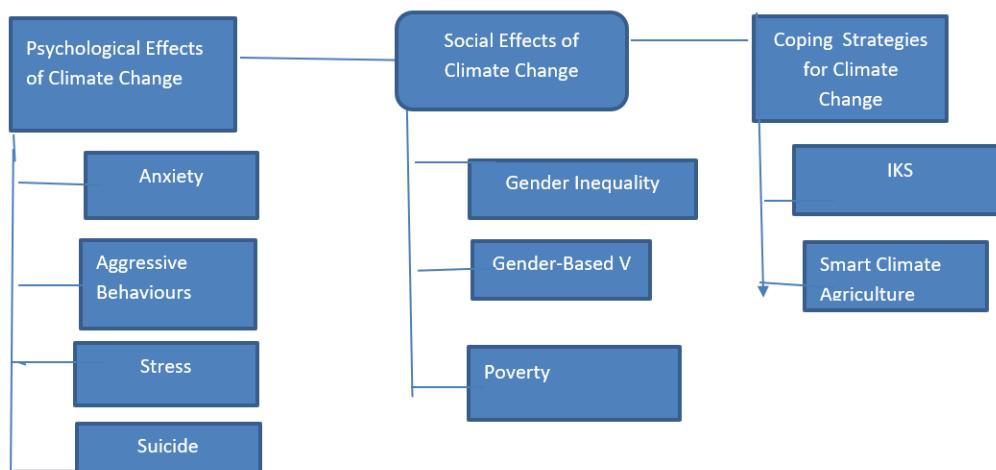


Figure 1: Themes and Subthemes

Theme 1: Psychological Effects of Climate Change

Subtheme 1 – Anxiety

Findings from Ward 19 in Buhera District reveal that women in rural communities are particularly vulnerable to climate-related anxiety. Focus group discussions highlighted widespread eco-anxiety—persistent worry and emotional distress linked to the unpredictable effects of climate change, such as droughts and natural disasters. Women reported feelings of fear, helplessness, grief, and guilt, often exacerbated by their caregiving roles and economic dependence on climate-sensitive livelihoods. These emotional responses sometimes led to exhaustion, depressive symptoms, and a sense of powerlessness. Some participants expressed frustration that their efforts to cope or adapt felt insignificant in the face of a global crisis. Social and economic vulnerability further heightened anxiety levels, especially among women and girls living in poverty. The research supports broader evidence suggesting that women experience a disproportionate psychological burden due to the compounding effects of climate stressors and existing gender inequalities.

"Sometimes I wake up worried, wondering if the rains will come or if we will have enough food. It's hard to sleep when you're thinking about how to feed your children or what will happen if another drought comes. Even when we try to plan, it feels like we have no control. It's scary, and no one seems to listen to our fears."

Subtheme 2 – Aggressive Behaviours

Rising global temperatures and more frequent extreme heat events are increasingly linked to heightened aggression and interpersonal conflict. In this study, participants reported increased irritability, emotional exhaustion, and tension during periods of intense heat. For many women, prolonged exposure to high temperatures—especially while managing domestic responsibilities—led to lower frustration tolerance and heightened emotional reactivity. One woman shared that during hot days, she becomes more easily irritated, particularly by her husband's behaviour, noting that small disagreements often escalate unnecessarily. Psychological research supports this, showing that heat can impair emotional regulation, leading to misinterpretation of others' actions and priming of aggressive responses. This suggests that climate-induced heat stress may contribute to rising household tension and psychosocial strain in vulnerable communities.

"When it's very hot, I feel tired and annoyed even before anyone says anything. Sometimes my husband comes home drunk, and I just snap. Later, I realise I overreacted, but in that moment, everything feels too much. The heat makes small problems feel big."

Subtheme 3 – Stress

Climate change effects such as droughts and cyclones significantly increase stress levels among women, particularly those who serve as caregivers and primary providers. As food and water become scarcer, the pressure to meet household needs intensifies, leading to chronic emotional strain. Climate-induced disasters like Cyclone Idai have left many women in rural areas facing trauma, with some developing symptoms consistent with Post-Traumatic Stress Disorder (PTSD), including flashbacks, heightened alertness, and avoidance behaviours. These symptoms may emerge long after the initial crisis. A key concern is that many rural women lack awareness or access to information about PTSD. As one government official from the Ministry of Women Affairs, Community, Small and Medium Enterprises noted:

"Most women we work with don't even realise they're carrying trauma from these disasters—they just say they are not themselves anymore."

Subtheme 4 – Suicide

Extreme weather events such as droughts, wildfires, floods, and cyclones have been shown to worsen mental health, increasing stress, depression, and suicidal thoughts. In recent years, suicide linked to climate change impacts has been rising, with women particularly vulnerable due to their caregiving roles and direct exposure to family suffering. For many, suicide becomes a way to escape overwhelming hardships. Women face greater risks from climate change due to social norms, power imbalances, food insecurity, and limited access to reproductive health services. A key informant from social development highlighted that climate change aggravates psychological distress, increasing mental health disorders among rural women. In Ward 19, women report heightened suicide risk linked to climate impacts, including rising stillbirths, postpartum deaths, and child developmental problems driven by poor nutrition and health.

"Women in rural communities, especially those in Ward 19 of Buhera District, face significant psychosocial challenges due to climate change. The increased burden of caregiving, exposure to natural disasters, and worsening livelihoods contribute to heightened anxiety, stress, and even suicidal thoughts. These impacts are compounded by existing social and economic inequalities, highlighting the urgent need for targeted mental health support and climate adaptation strategies that prioritize women's wellbeing."

Theme 2: Social Effects of Climate Change

Subtheme 1: Gender Inequality

The climate crisis exacerbates existing gender inequalities, posing unique challenges to women and girls' livelihoods, health, and safety. In rural communities, women bear the primary responsibility for securing energy, water, and food. As agriculture is their main source of income, droughts and erratic rainfall force women to work harder as farm laborers and household providers, increasing their burden. Climate change also intensifies gender-based violence, including child marriage and sexual assault, especially in conflict-affected rural areas. Longstanding gender disparities limit women's mobility, decision-making power, access to resources, and knowledge, making them more vulnerable to injury and death during disasters. Denied equal access to aid and support, women's recovery and wellbeing suffer, perpetuating a cycle of vulnerability. Additionally, climate change restricts access to healthcare, heightening risks to maternal and child health. Intersectional feminism underscores how multiple inequalities interact, revealing the critical importance of addressing climate impacts through a gender-sensitive lens. As one participant noted:

"Your needs won't be considered, even less met, in a crisis if you are unnoticed in daily life. If agricultural land ownership doesn't somehow consider equality for women, it tends to promote society's patriarchal structure."

Subtheme 2: Gender-Based Violence (GBV)

Gender-based violence is a rapidly growing and alarming issue in Zimbabwe, disproportionately affecting women. While climate change impacts entire populations, women face unique challenges due to existing power imbalances. Family or societal crises, including the disruption of community institutions caused by forced displacement, place women at heightened risk of GBV. As a result, women and girls are more vulnerable to physical, sexual, and psychological abuse, as well as denial of essential resources and services. A government official noted:

"A growing number of complex disasters, which primarily impact women, are on the verge of worsening due to climate change. Addressing the links between conflict and climate change from a gender perspective requires urgent, practical actions and improved analysis."

Subtheme 3: Poverty

Those already disadvantaged, especially rural women, are the most severely affected by climate change due to limited coping mechanisms. While both men and women reliant on natural resources face impacts, women are disproportionately vulnerable as they make up the majority of the world's poor and depend heavily on threatened resources. Social roles, such as caregiving and household responsibilities, often restrict women's mobility and access to alternative livelihoods. Women frequently bear the burden of fetching water and firewood, which limits their opportunities and exposes them to further hardship. Despite their vital role as both providers and caregivers, cultural norms often marginalize women, restricting their rights and increasing their risk of abuse after disasters. As one participant noted:

"Women endure hardship even without a crisis. When incomes fall, families may marry off daughters young. Women also carry household duties like fetching water, which keeps girls out of school and forces mothers and children to walk long distances for basic needs."

Theme 3: Coping Strategies for Climate Change

Subtheme 1- Indigenous Knowledge Systems (IKS)

Indigenous Knowledge Systems (IKS) encompass the wisdom, traditions, and environmental understanding passed down orally through generations within local communities. IKS plays a vital role in rural adaptation to climate change by offering context-specific strategies drawn from long-term experience. Women in Ward 19 actively observe natural patterns and environmental changes, using this traditional knowledge to respond and adapt to climate risks. Many participants in the FGDs confirmed that they rely on IKS as a key coping mechanism.

As one participant explained:

"We depend on the indigenous knowledge passed down from our ancestors because not everyone can afford modern adaptation methods. Although technology has labeled these practices as outdated, scientific methods have often failed to provide accurate weather predictions, leading many back to IKS. Local communities have always used these methods to forecast weather based on natural signs, making it easier to understand and anticipate climate patterns."

The effectiveness of IKS varies according to local needs, but it remains invaluable in helping communities prepare for and manage environmental challenges. Practices such as observing tree flowering, animal behavior, and wind direction help farmers anticipate seasonal changes, strengthening local resilience and empowering communities to participate in sustainable development.

Subtheme 2- Climate Smart Agriculture (Pfumvudza)

The agricultural sector's high vulnerability to climate change has intensified food insecurity, with impacts such as rising temperatures, shifting agro-ecological zones, droughts, floods, and the spread of pests and diseases. In response, women in Ward 19 have adopted Pfumvudza as a climate adaptation strategy. Promoted by Zimbabwe's Ministry of Agriculture, Pfumvudza emphasizes conservation agriculture principles including zero tillage, small plot farming, and precision techniques to boost yields despite low and unpredictable rainfall and extreme temperatures. This approach aims to climate-proof productivity while addressing the challenges faced by small-scale farmers, such as low output and minimal profits (Government of Zimbabwe, 2020). Additionally, climate-smart practices like raising small livestock—goats and chickens—are preferred by women because these animals require less water, feed, and pasture than cattle. The sustainability of this livestock system, particularly goat production, will be monitored as it expands.

An Agritex government officer (KII) noted:

"Conservation agriculture, small livestock, and small grain crop production are vital climate resilience strategies for small-scale farmers in Zimbabwe. Their combined efforts are crucial for improving productivity and profitability under changing climate conditions."

IV. Discussion

Climate change has intensified psychological distress among women in Ward 19, Buhera, through increasingly erratic weather patterns—low rainfall, prolonged dry spells, and extreme heat. These changes have triggered eco-anxiety, fear, and a sense of helplessness, especially as memories of past disasters like Cyclone Idai remain vivid. This reflects Hickman et al. (2022) and Middleton et al. (2021)'s concepts of eco-anxiety and eco-paralysis. Participants reported anxiety so overwhelming it sometimes leads to suicidal thoughts, consistent with findings by Austin et al. (2020) and Ogunbode (2022). Limited mental health awareness, compounded by poverty, social inequality, and restricted access to care, leaves women particularly vulnerable to severe psychological disorders. Emotional strain is worsened by the burden of caregiving under extreme conditions, leading to a rise in miscarriages, stillbirths, and disease exposure. The psychological toll of climate change is therefore both immediate and long-term—eroding resilience, deepening inequality, and highlighting the urgent need for accessible mental health support and targeted psycho-education.

The study reveals that climate change in Ward 19, Buhera, is compounding existing gender inequalities, leaving rural women increasingly vulnerable. Deep-rooted power imbalances, rigid caregiving roles, and restricted access to resources limit women's economic independence and decision-making capacity, echoing findings by Khan and Akhtar (2015) and WHO (2019). The collapse of rain-fed agriculture due to persistent droughts threatens women's main source of livelihood, worsening poverty and food insecurity. Cultural norms further constrain their mobility, limiting opportunities for income generation and reinforcing socio-economic marginalisation. In response to economic strain, families are resorting to child marriages as a survival strategy. Water scarcity, driven by climate shifts, forces women to travel long distances—sometimes up to 7km—to fetch water, significantly reducing their time for productive activities. Meanwhile, male migration to urban areas or gold panning sites destabilises families and contributes to rising social issues, including prostitution, undermining community cohesion and traditional values.

V. Conclusion

In summary, climate change in Ward 19 of Buhera has intensified gender inequalities, leaving women more vulnerable to poverty, food insecurity, and psychological distress. Despite limited resources, women are adopting coping strategies like climate-smart agriculture, savings groups, and relying on churches for emotional support. However, there is a critical gap in mental health awareness. The findings call for gender-responsive climate policies that strengthen women's resilience through access to resources, psychoeducation, and inclusive decision-making.

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