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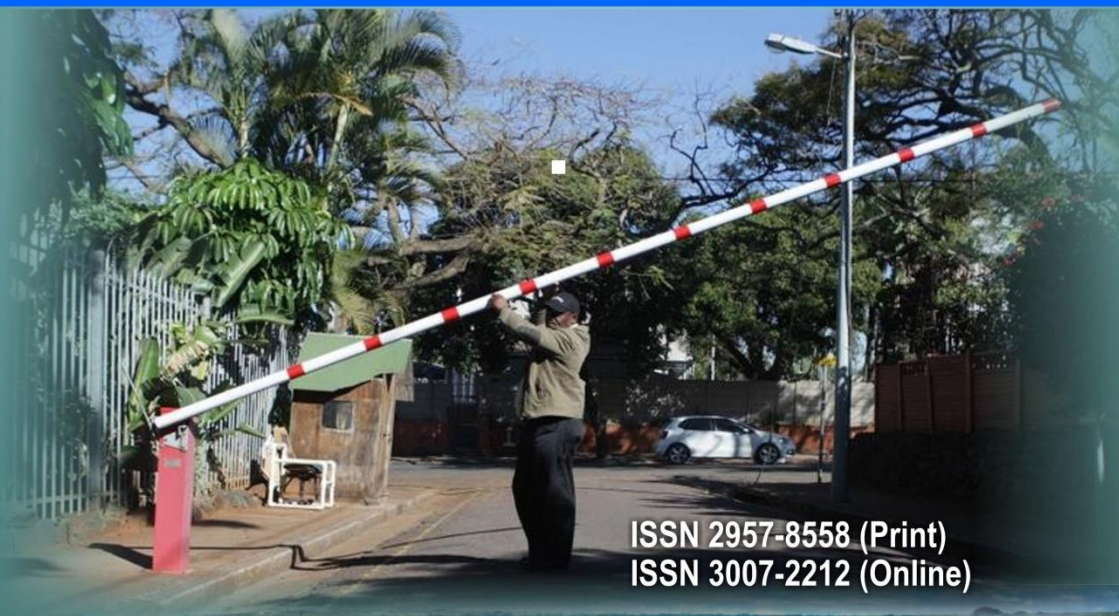
OF COMMUNITY ENGAGEMENT AND SOCIETAL TRANSFORMATION



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About the Journal

JOURNAL PURPOSE

The purpose of the *Ngenani - Zimbabwe Ezekiel Guti University Journal of Community Engagement and Societal Transformation Review and Advancement,* is to provide a forum for community engagement and outreach.

CONTRIBUTION AND READERSHIP

Sociologists, demographers, psychologists, development experts, planners, social workers, social engineers and economists, among others whose focus is on community development.

JOURNAL SPECIFICATIONS

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SCOPE AND FOCUS

The journal is a forum for the discussion of ideas, scholarly opinions and case studies of community outreach and engagement. Communities are both defined in terms of people found in a given locale and defined cohorts, like the children, the youth, the elderly and those living with a disability. The strongest view is that getting to know each community or sub-community is a function of their deliberate participation in matters affecting them by the community itself. The journal is produced bi-annually.

Guidelines for Scholars for the Journal

Articles must be original contributions, not previously published and should not be under consideration for publishing elsewhere.

Manuscript Submission: Articles submitted to the *Ngenani - Zimbabwe Ezekiel Guti University Journal of Community Engagement and Societal Transformation* are reviewed using the double-blind peer review system. The author's name(s) must not be included in the main text or running heads and footers.

A total number of words: 5000-7000 words and set in 12-point font size width with 1.5 line spacing.
Language: British/UK English
Title: must capture the gist and scope of the article
Names of scholars: beginning with the first name and ending with the surname
Affiliation of scholars: must be footnoted, showing the department and institution or organisation.
Abstract: must be 200 words
Keywords: must be five or six containing words that are not in the title
Body: Where the scholars are more than three, use *et al.,*
Italicise *et al., ibid.,* words that are not English, not names of people or organisations, etc. When you use several scholars confirming the same point, state the point and bracket them in one bracket and ascending order of dates and alphabetically separated by semi-colon e.g. (Falkenmark, 1989, 1990; Reddy, 2002; Dagdeviren and Robertson, 2011; Jacobsen *et al.,* 2012).

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EXPLORING RURAL WOMEN'S LIVELIHOOD RESILIENCE STRATEGIES: IMPACTS OF THE 2023/2024 EL NIÑO-INDUCED DROUGHT IN ZIMBABWE: A CASE OF MUTAWATAWA IN MASHONALAND PROVINCE, ZIMBABWE

IRONY MAZURUSE

Abstract

The 2023/2024 El Niño-induced drought in Zimbabwe exacerbated food insecurity, water scarcity and economic instability, with rural women disproportionately affected due to their reliance on agriculture and natural resources for survival. Climate change disproportionately impacts rural communities, with women often bearing the brunt of its effects due to their reliance on natural resources and limited access to adaptive and resilient capacities. Disaster events; both of natural origin and human-made, result in a significant number of forced temporary evacuations and permanent internal and international displacement. The study was conducted in Mutawatawa of Mashonaland East Province, one of Zimbabwe's driest regions. This study assesses rural women's livelihood resilience strategies after the 2023/2024 El Niño--induced drought. This study adopts a qualitative research paradigm and a case study design. Fifteen participants were selected using purposive sampling. Focus group discussions (FDGs), interviews and observations were carried out in the area to gather data on the livelihood resilient strategies adopted by rural women of Mutawatawa. Random sampling and face-to-face interviews were carried out. The research reveals that rural women living in Mutawatawa are vulnerable to food insecurity due to the effects of the 2023/2024 El Niño-induced drought. The local livelihoods show high vulnerability to climate change due to notable low adaptive capacity, affecting women mainly. The high level of vulnerability to changing climate is exposing the study population to increased prevalence of

poverty, crop and livestock failure, food insecurity, malnutrition, disease and rural-urban migration, among other impacts.

Keywords: *Disasters, Climate Change, Gender, Gender Inequality*

INTRODUCTION

The 2023/2024 El-Niño experience intensified existing climate challenges in Zimbabwe, particularly in rural areas like Mutawatawa in Mashonaland Province. Characterised by prolonged droughts and erratic rainfall patterns, this climatic phenomenon poses significant threats to agricultural productivity and food security, disproportionately affecting rural women, who are pivotal to household livelihoods. In many communities, women are responsible for agricultural activities, food preparation and family nutrition, making them particularly vulnerable to climate shocks. This study explores the livelihood resilience strategies employed by rural women in Mutawatawa in response to the adverse impacts of the 2023/2024 El Niño-induced drought. By examining the adaptive measures these women adopt, from diversifying income sources to innovative farming practices, this research seeks to highlight their agency and resourcefulness in navigating climate-induced challenges. Understanding these strategies not only sheds light on the socio-economic dynamics within rural communities, but also informs policy interventions aimed at enhancing women's resilience in the face of climate variability. As the effects of climate change continue to escalate, recognising and supporting the resilience strategies of rural women becomes crucial for fostering sustainable livelihoods and community well-being. As primary caregivers and resource managers, women in this region have adopted innovative and adaptive measures to sustain their households and communities amidst escalating climate challenges. This research contributes to a deeper understanding of how rural women navigate climate-induced crises and underscores the need for gender-responsive policies in climate adaptation and disaster risk management.

BACKGROUND OF THE STUDY

Globally, climate-induced hazards are on the increase and becoming very complex to manage as observed over the past decade and these include droughts, floods, cyclones and strong winds. Drought is the most common natural hazard experienced in Zimbabwe. Climate change and associated stressors influence human development through their support or destabilisation of the livelihood systems of the poorest and most vulnerable people. There is now a broad scientific consensus that climate change is unavoidable (IPCC, 2007). According to Maxfield (2020), four million people experience severe water insecurity, while 800 million people are hungry worldwide. Projections indicate that global climate change is likely to increase the incidence of natural hazards, including the variability of rainfall, temperature and occurrences of climatic shocks (IPCC, 2021). Climate-related issues and farmers' livelihood strategies are different in different parts of the world. Historically, drought events with catastrophic impact occurred in 1991/2, 1997/8, 2004/05, 2007/8, 2012/13 and the recent 2015/2016 El Nino-induced drought which was declared a Southern African Development Community (SADC) regional drought as most SADC countries were affected (Government of Zimbabwe, 2024). The 2018/2019 agricultural season also performed badly due to prolonged dry spells. Like the majority of Sub-Saharan nations, Zimbabwe is currently experiencing severe crop failure, water resource depletion and pasture degradation due to the drought caused by the El Nino that began in 2023-2024. There are various factors that have contributed to climate change in the world, which include both human activities and natural occurrences. Evidence of climate change in Zimbabwe includes extreme hot temperatures, cyclones, heavy winds and floods. Climate change affects different areas of life including the agriculture sector.

The SADC estimated that 56.8 million people were food insecure in the region (SADC, 2024). This figure is expected to significantly increase

for the 2024/25 season. The droughts have led to devastating impact for affected populations, especially those most vulnerable, like women. Droughts have serious livelihood implications for and within developing countries. The default assumption is that droughts are perceived as affecting all people in the affected countries equally. Most Zimbabweans living in rural areas experience acute shortages of water for domestic and agricultural purposes. Household poverty amongst rural inhabitants is also increasing because of factors such as El Niño-induced droughts, overdependence on donor assistance and the government's failure to invest in sufficient water infrastructure (Matunhu, Mago and Matunhu, 2022). The intergovernmental IPCC identified Southern Africa as one of the most vulnerable regions to the adverse impacts of climate change (IPCC, 2014). This situation has led to serious implications for the region's food and income security, as agriculture is the main source of livelihood for the majority of the population. El Niño-driven droughts often lead to crop failure and diminished food production, resulting in widespread food insecurity among rural households (Beckmann *et al.,* 2022). In response to the severe effects of El Nino-induced drought, the Zimbabwean government declared a state of disaster for the 2023-2024 summer cropping season on April 3, 2024 (*Herald*, 2024).

Agricultural activities and productivity are highly hampered by climate change which brings negative results. In recent years, the effect of changes in climate on agricultural activities has been significant for low-input farming systems, such as subsistence farming in developing countries in Sub-Saharan Africa. Having observed this climate change phenomenon, the research took a keen interest in the issue and this prompted an investigation to evaluate the impact of climate change on agricultural productivity.

One of the main factors that increase women's protection risks is economic difficulty brought about by drought. Families frequently fall

into even greater poverty as a result of the loss of crops and livestock during droughts. Women's ability to live safe and independent lives can be severely limited by the economic desperation that accompanies drought, which can trap them in cycles of exploitation and poverty (Principles for Just Transition in Agriculture, 2019). Women and girls are often excluded from ownership and control of land, property, capital, training and decision-making power. Without land and property titles for collateral, women struggle to obtain loans and credit essential for recovery from drought impacts. Additionally, the lack of financial resources and technology limits their ability to adopt sustainable land management practices, which are vital for mitigating further climate damage and improving crop yields (Delivering Women's Farmers Rights, 2015).

THEORETICAL FRAMEWORK

This study makes use of the Sustainable Livelihoods Model (SLM) (DFID, 2000). The term 'vulnerability' describes a person's or a community's susceptibility to shocks and pressures, such as natural catastrophes, medical crises, or economic downturns. Constraints on livelihood frequently make livelihood worse since underprivileged populations are less equipped to adapt or bounce back from adversity. The application of this framework to Mutawatawa seeks to evaluate the performance of sustainable livelihood and environmental measures for building resilience towards climate-related challenges to reduce community vulnerability to future climate change. The SLM will is utilised to guide this study because it embeds the concept of sustainability. Scoones (2009) points out that the theory involves two main issues which are coping with immediate and short-term shocks, whereby local capacities and knowledge, if supported, will be sufficient. These are vital factors in shaping the sustainability of the livelihoods of individuals in their access to control over human, social, natural, financial and physical resources. These factors are of paramount significance in adapting to the effects of climate change.

The SLM also brings the thinking and practice of household poverty reduction strategies, sustainable development, participation and empowerment processes into the framework of household flood disaster interventions. The DFID sustainable livelihood framework (DFID, 1999-2000), therefore guides the study. Figure 1 highlights the main contents of the SLM.

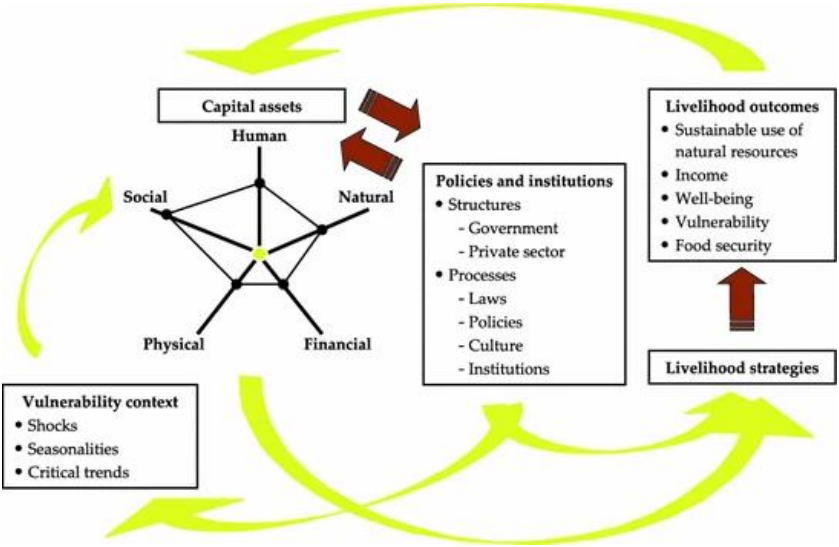

Figure 4: The sustainable livelihoods framework **(**Serrat, 2017)

Livelihood assets: The framework identifies five key livelihood assets that people rely on to sustain their livelihoods: human, social, natural, physical and financial. The research evaluates how these assets have been affected by the 2023-2024 El Niño-induced drought in Mutawatawa, Mashonaland East Province, Zimbabwe.

Vulnerability context: The framework recognises that people's livelihoods are influenced by external factors beyond their control, such as political, economic and environmental contexts. The research

analyses how the disaster in policy interacts with these external factors to affect food security in the district.

Livelihood strategies: People adopt different strategies to cope with shocks and sustain their livelihoods. The research evaluates the effectiveness of the strategies which people in Mutawatawa have adopted in response to the 2023-2024 El Niño induced drought.

Livelihood outcomes: The framework recognises that the ultimate goal of sustainable livelihoods is to achieve positive livelihood outcomes, such as increased income, improved well-being and enhanced food security through the community's involvement. SLA emphasises the importance of involving women in decision-making processes and strengthening their agency, which is crucial for building sustainable and resilient livelihoods.

Institutions and processes: The framework recognises the role of institutions and processes in shaping people's livelihoods. The research analyses the institutional arrangements and processes which have influenced the implementation and impact of the 2023-2024 El Niño-induced drought.

A sustainable Livelihood Framework requires consultation with Mutawatawa to develop indicators of community resilience by examining community fora, household surveys and targeted interviews. The framework helps to make an evaluation of whether the farmers in Logan Lee Village have an adequate livelihood that enhances a decent and dignified way of life. Wright *et al.,* (2012) postulate that the framework can be used to determine the different human, social, natural, physical and financial plan that traditional farming systems have or do not have to appreciate their climate-adaptive strategies and capacities. This deals with an examination of whether the farmers in Mutawatawa have the skills and knowledge to

work the land and strategize around climate change. It also looks at the financial capacity of the farmers to invest in climate-smart agricultural practices in the mitigation of challenges of climate change.

Overall, this framework guides the research that the SLM can help communities adapt to climate change impacts, including droughts, by promoting sustainable resource management, water conservation and climate-smart agricultural practices. A useful approach for enhancing resilience among rural women impacted by the drought caused by El Niño in 2023-2024 is the Sustainable Livelihoods Approach. The SLM can assist women in creating more resilient and sustainable livelihoods that are less susceptible to shocks like climate change by emphasising local context, empowerment and diversity.

LITERATURE REVIEW

Insufficient rainfall caused by a change in rainfall patterns or below-normal rainfall is referred to as drought. While it occurs often, drought is not a permanent feature of the climate; it is characterised by a gradual deterioration in the state of affairs and it does not end abruptly; instead, it improves over time. As a result, it is difficult to determine when drought begins and ends and both phenomena are processes rather than events (Wilhite, 2011).

GENDER AND ADAPTIVE CAPACITY IN CLIMATE CHANGE

Although the effects of climate change on ecosystems and livelihoods vary by region and season, they are harsher on those living in already marginal conditions. Moreover, these changes could exacerbate chronic environmental threats, such as deforestation, water scarcity and land degradation, which affect the poorest mostly. Extreme weather events, such as droughts, floods, hurricanes and heavy rainfall, are becoming more common and severe, causing significant social and economic consequences (Fruttero *et al.,* 2023). Climate change is impacting agricultural production more. Given their socio-

economic hardships, people in developing nations confront the challenge of adapting to the effects of climate change. To control people's ability to adapt to climatic emergencies, gender and other social factors play a crucial role. In the 30 years that scholars have studied the gender-climate change dispute, the most common viewpoint that climate change is not gender-neutral is the first (Sharmin and Islam, 2013; Corcoran-Nantes and Roy, 2018).

Several studies demonstrate how women are disproportionately affected by climate change, especially in rural regions (Dankelman, 2010; Ajani *et al*., 2013). To increase local capacities to adapt to climate change, women farmers worldwide are leading the charge in implementing crop and varietal conservation and diversification measures. Women are especially susceptible to climatic shocks because they rely on natural resources for their livelihoods and their restricted access to financial, educational and land resources. The primary responsibilities of rural women in Zimbabwe are gathering water and producing food for the household, duties that become more taxing during dry spells (Mkodzongi and Lawrence, 2019).

The impact of climate change on men and women is expected to be different. Large-scale weather shocks disrupt critical services such as water, sanitation and energy supply and damage dwellings. These require households to spend more time on domestic activities. At the same time, households need to allocate more time to income-generating activities to compensate for the losses. According to Fruttero *et al.* (2023), persistent gender gaps exacerbate women's exposure to shocks and limit their ability to adapt. Women's significantly lower labour force participation and wages, their high representation in the agriculture and informal sector, limited land ownership, unequal access to off-farm work opportunities, restricted access to credit, higher burden of caring for family members and fulfilling domestic roles and other restrictive social norms in many

countries, could increase their exposure and vulnerability and reduce their ability to mitigate the negative impacts of climate change (Deere and Doss, 2006; FAO, 2011; Doss *et al.,* 2018; Eastin, 2018).

Although fostering gender equality in climate-development policy has economic imperatives, gender equality is a fundamental human right (UNDP, 2016). At the home and communal levels, women are essential to the management of natural resources and other productive and reproductive endeavours. As a result, they can help develop livelihood plans that are adjusted to the ever-changing environmental conditions. Strategies for catastrophe reduction, adaptation and climate change mitigation can and should make use of such skills and knowledge. Women are particularly vulnerable to the social responses triggered by weather shocks, especially in places where they face restrictive gender norms, and there is no exception with the rural women in Mutawatawa. For example, droughts can result in reduced resources which can lead to sex-selective abortions, malnutrition and neglect of girls due to son preference. In Africa, for example, women are responsible for 50-80%of agricultural production, but hold title to less than 20%of all agricultural land (FAO, 2011). While asset ownership, such as land and livestock, can provide protection against weather shocks (de la Fuente, 2007), there is strong evidence of gender bias against women in asset ownership. Men often own more land and livestock, which makes women more vulnerable to the adverse effects of weather shocks (Deere and Leon 2003; Dillon and Quiñones 2010; Lee *et al.,* 2021).

Women may be more vulnerable to climate shocks in some contexts due to legal challenges they face in inheriting and owning land, leading to less investment in their land and greater vulnerability to climate shocks. Gender inequality in asset holdings can result in gender differences in the ability to cope with climate shocks. Asset ownership is crucial in protecting against shocks, as it can offer

alternative coping mechanisms in the absence of insurance markets (Fruttero *et al.,* 2023). Assets such as land and livestock can provide income-enhancing productivity and can be used to counterbalance short-term effects, for example by sacrificing livestock for consumption or selling them to purchase grains (de la Fuente, 2007), even though they are not always used for this purpose. The use of assets to cope with shocks depends on their distribution before the event and the ability of households to find other income sources.

EL NIÑO AND DROUGHT IMPACTS IN SOUTHERN AFRICA

Zimbabwe, one of the nations in the agricultural belt most at risk in the region, has often suffered from El Niño's negative consequences from 1982 to the present. El Niño occurrences in Zimbabwe have historically been associated with disturbances of rainfall and other climatic patterns, which have had both localised and extensive effects on ecosystems and livelihoods. El Niño occurrences have been linked to longer dry periods, less rainfall and higher temperatures in Zimbabwe. These circumstances frequently result in crop failure, droughts and water shortages, which presents serious obstacles to the nation's agriculture, health and food security. In February 2024, much of the country suffered a devastating dry spell lasting more than 30 days, even though most of the major maize planting areas received average rainfall in late December and early January. The El Niño phenomenon has been linked to severe droughts in Southern Africa, disrupting agricultural activities and threatening food security (Nhamo *et al.,* 2018). The 2023/2024 El Niño-induced drought in Zimbabwe has been particularly devastating, leading to crop failure, livestock losses and water shortages (FAO, 2023). Rural communities, especially women, have been forced to adopt innovative strategies to cope with these challenges. El Niño conditions have contributed to the worst mid-season dry spell in over a century, accompanied by the lowest mid-season rainfall in 40 years (FAO, 2024). These severe weather shocks have led to the displacement of thousands of people, disease

outbreaks, food shortages, water scarcity and significant impacts on agriculture.

Wildlife and livestock have also been affected by water scarcity. According to FAO (2024), between October 2023 and February 2024, more than 9 000 cow deaths in Botswana, Namibia, Zambia and Zimbabwe have been attributed to drought. Rainfalls are found to have long-term benefits for women, partly because they lead to better harvests and the opposite is true for women. In Zimbabwe, they reduced women's body mass index, but not men's (Hoddinott and Kinsey 2000).

THE WOMEN'S RESILIENCE TO CLIMATE CHANGE IN ZIMBABWE

The ability of women to deal with, adjust to and recover from the effects of catastrophes, climate change and other hazards, is known as resilience to disasters. It focuses on addressing gender-specific vulnerabilities and fostering safe and sustainable communities. IPPC (2020) confirms that climate change has become a reality in Zimbabwe,affecting the predictability, intensity and geographical distribution of hydrometeorological hazards. Zimbabwe has recorded scientific evidence indicating experiences with extreme and adverse effects of climate change (Cororaton, 2015; Ndhlovu and Mpofu, 2016). Brown *et al*. (2012) point out that climate change has resulted in a shift in the natural agro-ecological regions in Zimbabwe. In agreement, Mugandani (2012) notes that the major shifts that occurred in the Zimbabwean drought-prone regions, that is, Region I and Region II, have increased the challenges faced in the regions, making them drier than previously experienced. Dube *et al.,* (2016) point out that extreme climatic events pose threats to agricultural production. Tripathi (2014) acknowledges that the alteration in the climate has affected negatively crop productivity, resulting in food and livelihood security being threatened.

LIVELIHOODS CONSTRAINTS AND VULNERABILITY

The term "livelihoods constraints and vulnerability" describes the difficulties and limitations that people or communities encounter in meeting their fundamental requirements and maintaining their well-being. These limitations frequently result from a confluence of political, social, environmental and economic elements, which can make people more susceptible to hazards like food shortages and poverty. Numerous academics have identified vulnerability, natural and man-made dangers and hazards and difficult economic situations as the main causes of the numerous livelihood restrictions that communities face. A livelihood is made up of the skills, resources and activities necessary to support oneself, according to Elasha *et al.* (2005). Individuals seek a variety of livelihood outcomes to lessen their vulnerability and enhance or expand their livelihood assets. According to Chambers and Conway (1992), a livelihood is considered sustainable if it can withstand and bounce back from shocks and strains and preserve or improve its assets and capacities both today and in the future, without compromising the foundation of natural resources. Communities are more vulnerable to livelihood limitations when they are exposed to risks and hazards and are unable to adjust or deal with the effects of disasters. Disasters in the Sub-Saharan region make people more vulnerable, particularly those in remote areas, according to Mavhura (2017).

IMPACT OF CLIMATE CHANGE ON AGRICULTURAL PRODUCTIVITY

The European Environmental Agency (2019) points out that climate change threatens the future of farming in Europe. Biri (2016) argues that Southern Africa is one of the most vulnerable regions to climate change in the world. IPCC (2007) acknowledges that the weakest economies do not have the capacity for climate change adaptive facilities, hence, they will be affected more. IPCC (2013) points out that the impacts of climate variability will be greater on socio-economic development and agriculture production in Africa. Therefore, it is

imperative to investigate how climate change has impacted agriculture in different areas, particularly in Zimbabwe.

In Zimbabwe, there was a trend of persistent droughts and, in agreement, Chagutah (2012) points out that Zimbabwe has been experiencing drought about every 10 years because of the changes in climatic conditions. In this regard, the Zimbabwe Department of Meteorological Services posits that Zimbabwe has been experiencing more hot days and there has been a reduction of the amount of rainfall it has been receiving (Mudzonga, 2011). As such, this has increased the number of dry spells in the country. Therefore, this poses challenges for the population in Zimbabwe which heavily relies on rain-fed agriculture (Machingauta, 2013). In Zimbabwe, an increase in temperature slows down plant growth and leads to a decrease in the expected yield of plant growth.

RESEARCH METHODOLOGY

The study adopts a qualitative research methodology with a case study research design. A case study research design focuses on holistic description and explanation, flexibility in the design and data collection methods, reliance on multiple sources of evidence and emphasis on the context in which the phenomenon occurs (Crowe, 2011). It is suitable for the in-depth investigation of a particular occurrence (Mukwada *et al.,* 2020). The study also uses secondary data from published books and journals, comparing sources. The present study uses a qualitative research methodology, which is suitable for investigating rural women's views and lived experiences. This paradigm makes it possible to comprehend the phenomenon being studied in great detail (Creswell and Poth, 2018). This study is a good fit for the qualitative technique since it allows researchers to record participants' complex and contextual viewpoints (Yin, 2018). Researchers can explore participants' subjective experiences and obtain

a comprehensive grasp of the difficulties and coping strategies faced by using a qualitative approach (Zinyemba *et al*., 2023).

The study population comprised rural women and relevant stakeholders within the community. A purposive sampling technique was employed to select participants. The sample included 15 participants from Mutawatawa who were severely affected by the effects of the 2023/2024 El Niño Niño-induced drought. Five (5) key informants (KII) were selected consisting of: Agricultural Extension Officers, Veterinary officers, Meteorological officers, traditional leaders and representatives from NGOs operating in the area. The selection of the sample was guided by literature that emphasises the importance of including diverse perspectives and experiences to gain a comprehensive understanding of the challenges faced by child-headed orphans (Creswell and Poth, 2018; Machingura, 2023).

FINDINGS

The livelihood resilience strategies employed in Mutawatawa by rural women after the 2023/2024 El Niño Niño-induced drought show the major on-farm livelihood resilience strategies employed in the area. Households engage in several off-farm livelihood resilience strategies to improve their livelihood. The results of the study from the key informants indicate that there were several on and off-farm strategies used by the households. Most of the answers were in line with the answers provided by the household heads. There are several on-farm strategies commonly used as a strategy and these include growing drought-resistant crops, which require little rainfall. These crops include small grains and groundnuts, to mention a few. Another strategy is the use of cattle manure, providing livestock with supplementary feed and also increasing the spacing distance. In addition, other measures, such as early planting and irrigation are also implemented. These measures go a long way in increasing the resilience of the rural women in Mutawatawa area.

Households in Mutawatawa reveal that they rarely come from the fields empty-handed when they grow sorghum and pearl millet since these crops are adapted to warm and dry climates and they possess drought resistance mechanisms such as deep, extensive and fibrous root systems and efficient stomata apparatus that make them yield well in areas with rainfall below 300 mm. The coming of the 2023/2024 El Niño-induced drought to those old women who usually prefer growing small grains was a blessing in disguise for their livelihoods. This indicates that the growth of drought-resistant crops is relevant and appropriate in improving households' resilience and reducing their vulnerability in the face of high temperatures and low and erratic rainfall.

One of the old women said,

> 'This year was a different year as compared to other seasons. We received little rain, but initially, I just took a gamble by growing small grains like rapoko and sorghum. At least I managed to get a few sacks hence I will brew traditional beer for selling. This will help me to raise school fees for my nephews whom I am looking after.'

The response actually indicated that there was a lack of information from most of the rural women in Mutawatawa as they acknowledged that they were not aware of the predicted drought by the Metrological Services of Zimbabwe.

Some women also indicated that they resorted to intercropping as a livelihood resilience Strategy during the 2023/2024 El Niño Induced Drought. The growth of more than one crop on the same piece of land simultaneously makes a positive contribution towards reducing households' vulnerability to food insecurity as farmers practicing it benefit from a balanced diet resulting from the production of different crops with different nutritional values. For example, households in Mutawatawa reveal that in most cases they harvest watermelons and melons for household consumption or sale if severe drought precludes

the successful growing of grain crops. Moreover, they usually harvest at least something from sorghum and millet even if rainfall becomes too little.

One of the interviewed women argued that,

> I have been a resident of this area since the time of the liberation struggle and I am noticing the trend of a shortage of proper rainfall for our crops. So I resorted to intercropping, which will gives me some chances of increasing the probability of having better harvests in the event of crop failure, especially maize crops.

The unpredictable rainfall patterns in Mutawatawa have made the farmers shift their farming activities, pushing them further. Most of the women in the community indicated that this has led to poor timing of the planting season. This has been attributed to crops wilting over time due to the scorching sun. With this on the platter, there will be poor harvests which increases food insecurity. The respondents indicated that Mutawatawa has been affected by drought and some dry spells due to climate change. These dry spells have made it difficult for the farmers to yield good harvests. This concurs with the findings by Chagutah (2012) that Zimbabwe has been experiencing drought for every 10 years. The 2023/2024 El Niño-induced drought for the people of Mutawatawa was worse than what they used to experience before. However, they quickly resorted to some survival mechanisms which they implemented to reduce the impact and improve their livelihoods.

The findings of the research also indicate that rural women in Mutawatawa have increasingly diversified their income-generating activities to mitigate the impacts of the drought. This includes engaging in small-scale businesses, such as selling crafts, food products and services, which provide alternative revenue streams when agricultural yields are low. Livestock water supplementation was also one of the strategies used by the rural women of Mutawatawa. There are few dams in Mutawatawa and they are

heavily silted to collect and store adequate water for agricultural uses during the non-rainy season. Because of siltation, combined with other problems such as too low and erratic rainfall and high temperatures, the majority of dams dry up long before the next rainy season, depriving livestock of water, a vital biological need and exposing them to high mortality rates emanating from water scarcity. Livestock water supplementation is important and appropriate for ensuring livestock survival in a water-scarce region.

Some women in the Mutawatawa area resorted to moving livestock to better grazing areas near the Mazoe River. It is apropos and suitable to move livestock to better grazing areas in response to the non-equilibrium dynamics of semi-arid ecosystems such as found in the study area which compel livestock to seasonally track the scattered available forage. This strategy can be adopted instead of livestock water and feed supplementation by farmers with big herds who can hardly provide the desired amounts and quality of food and water supplements to their livestock. Movement of livestock to areas with secure water and pastures increases the accessibility of food and water to livestock; hence, it is worthwhile to improve households' resilience in the face of harsh climatic conditions.

One woman from Mutawatawa commented that,

> After realising that this year there were no adequate rains, my only hope was my livestock, that is goats and cattle. My survival with my children as a widow was to guard my livestock jealously from thieves and water them. By selling one goat I can be in a position to secure money for buying mealie-meal.

Despite their resilience, traditional gender roles continue to pose challenges. Women often face additional burdens of care and household responsibilities. The information gathered during the research shows that people in Mutawatawa curtail their vulnerability to food insecurity since livestock directly provide food in the form of

milk and meat to people, generate money that can be used to buy food when sold and are a source of draught power, an essential input in the process of food production in rural areas. Livelihood resilience strategies employed in Mutawatawa have the aptitude to decrease households' vulnerability to food insecurity in hot and dry regions.

Many women adopted innovative agricultural techniques, such as drought-resistant crop varieties and improved irrigation methods, to enhance productivity despite adverse weather conditions. Training programmes on sustainable farming practices have been instrumental in empowering women to implement these changes. Drought-induced migration and displacement further exacerbate protection risks. As families are forced to relocate in search of better living conditions, young women face the breakdown of community and family structures, and support systems that previously offered them some level of protection. Displacement often leaves rural women more vulnerable to exploitation and abuse in unfamiliar and insecure environments.

One of the interviewed women argued that,

> I was negatively greatly impacted by drought. My source of income is farming, but I also make money from gold panning in the Makaha area and along the Mazoe River. We relocated to go to the areas where I can mine gold. I am a single mother; the kids need to go to school and eat, therefore, there is no option except to go for gold panning. The practice is very risky, but there is no option except to be involved.

Generally, droughts in Zimbabwe significantly impair access to basic services like water and medical treatment. Access to reproductive health treatments may be restricted by overburdened healthcare systems, making it challenging for young women to get the care they need. Rural women, who are usually in charge of fetching water, are disproportionately affected by water scarcity, which also affects hygiene habits and raises the risk of waterborne illnesses. These

difficulties increase health hazards and general susceptibility of rural women in regions affected by drought.

An Agtritex officers argued that,

> Mutawatawa, in general, has been facing recurrent and unpredictable droughts [which] are among the major challenges that compromise their ability to build sustainable livelihoods. Moreover, the recurrent droughts lead to reduced productivity of crop-livestock systems, thereby lessening the efficiency and effectiveness of a myriad of on and off-farm strategies households employ to curtail their vulnerability to food insecurity.

Therefore, the experience of the 2023/2024 El Niño Niño-induced drought was a thorn in their flesh, as this time it was worse than previous experiences.

DISCUSSION

Livelihood resilience strategies employed by households in Mutawatawa are effective and efficient in curtailing their vulnerability to food insecurity in the face of harsh climatic conditions as they increase crop yields. On-farm livelihood resilience strategies such as increased crop spacing, conservation agriculture and intercropping lead to efficiency in the storage and use of the limited amount of soil moisture, thus increasing its chances of availability throughout the growing season of crops. Additionally, off-farm strategies provide households with financial resources to acquire improved quality and quantity of agricultural equipment, which usually leads to improved yields. The livelihood resilience strategies employed by households in Mutawatawa are effective, efficient and good enough to reduce households' vulnerability to food insecurity in the face of harsh climatic conditions.

Households in Mutawatawa which depend on rain-fed agriculture, reveal that recurrent and unpredictable droughts are among the major challenges that compromise their ability to build sustainable livelihoods. This reduces the productivity of crop/livestock systems,

thereby lessening the efficiency and effectiveness of a myriad of on-farm strategies households employ to curtail their vulnerability to food insecurity. Moreover, it makes agricultural-based strategies more intensive and exclusive to some poor households which make up the majority of rural populations. Studies reveal the pastures are becoming more and poorer, such that livestock feed supplementation now requires the purchasing of much commercial stockfeed, which is beyond the reach of many poor households. Furthermore, increased temperatures cause additional loss of moisture from the soil and increases crop failure in the context of several strategies, such as intercropping, increased crop spacing and growth of drought-resistant crops.

Potentially renewable resources such as soil, grasslands and forests in Mutawatawa have been depleted or destructed by natural causes and people in their quest to build resilience in the face of harsh climatic conditions and an unstable macroeconomic environment. Additionally, it hinders the employment and viability of off-farm natural resource-based strategies, such as wildlife harvesting, firewood selling, river and pit sand selling, which could be safety nets to the majority of poor households without monies required for capital-intensive strategies, such as poultry farming, formal trading and vending. Environmental degradation obstructs households' efforts to curtail their vulnerability to food insecurity in the face of harsh climatic conditions. For example, unaware of their negative results, women in Mutawatawa engage in detrimental agricultural habits such as the cultivation of steep slopes, downslope cultivation, stream-bank cultivation and overgrazing, thereby further degrading their limited open water sources through siltation, thus widening their vulnerability context.

CONCLUSION AND RECOMMENDATIONS

The concept of vulnerability has been the focal point of the evolving discourse about the consequences of climate change and adaptation

strategies. Some studies conclude that the effects and repercussions of extreme weather-related- disasters are gender-biased and that women experience greater impacts and higher vulnerability than men. This unwelcome variation in the seasonal cycle, combined with environmental degradation like deforestation, soil erosion and desertification, has had very negative repercussions on the global standards of health and livelihoods. Findings reveal a range of resilience strategies, such as diversifying income sources, engaging in community-based initiatives and adopting innovative agricultural practices. Emerging evidence shows that women and girls experience even greater inequality through the impacts of climate change. It has been well documented that women are differentially impacted by disasters. The study highlights the agency of rural women in navigating climatic adversities and emphasises the importance of supporting their resilience through targeted policies and programmes. By understanding these strategies, the research contributes to broader discussions on gender, climate resilience and sustainable development in the context of rural Zimbabwe. In conclusion, rural women in Mutawatawa demonstrate remarkable resilience in the face of the El Niño-induced droughts through innovative and adaptive strategies.

The study's recommendations include increasing access to training, financial resources and support services tailored to women's needs in agricultural and economic sectors. The provision of adequate information to farmers by the government through its extension services should ensure that they provide enough information to all the areas and districts in the country. The government should collaborate with the farming communities to help them adapt to climate change.

REFERENCES

Action Aid (2015). Delivering Women's Farmers Rights. Policy Brief February 2015.

Chidarikire, M. and Saruchera, M. (2024). Exploring Multifaceted Impacts of El Niño-driven Drought on Child-headed Rural Learners' Well-being in Drought-prone Chivi, Zimbabwe. *Interdisciplinary Journal of Rural and Community Studies*, *6*, 1-13.

Creswell, J. W. and Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. London: Sage Publications.

Deere, C. D.and and M. León. (2003). The Gender Asset Gap: Land in Latin America. *World Development, 31*(6): 925-947.

Deere, C. D. and C. R. Doss. (2006). The Gender Asset Gap: What Do We Know and Why Does It Matter?" *Feminist Economics, 12*.1-2, 1-50.De La Fuente, A. (2007). Climate Shocks and their Impact on Assets. Occasional Paper for UNDP Human Development Report 2007/2008. UNDP.

Dev, D. S. and Manalo, J. A. (2023). Gender and Adaptive Capacity in Climate Change Scholarship of Developing Countries: A Systematic Review of Literature. *Climate and Development*, *15*(10), 829-840.

Dillon, A. and E. Quinones. (2010). Gender-Differentiated Asset Dynamics in Northern Nigeria: Background Paper Prepared for the State of Food and Agriculture 2010–11. ESA Working Paper 11-06. Rome: FAO.

Dillon, A., Mueller, V. and Salau, S (2011). Migratory Responses to Agricultural Risk in Northern Nigeria. *American Journal of Agricultural Economics 93*(4), 1048-1061.

Dinkelman, T. (2017). Long-run Health Repercussions of Drought Shocks: Evidence from South African Homelands. *Economic Journal, 127*(604): 1906-39.

Dube, B. (2020). Rural Online Learning in the Context of COVID-19 in South Africa: Evoking an Inclusive Education Approach. *Multidisciplinary Journal of Educational Research*, *10*(3), 135-157.

Dube, D. and Swatuk, L.A. (2002). Stakeholder Participation in the New Water Management Approach: A Case Study of the Save Catchment, Zimbabwe. *Physical and Chemistry of the Earth, Parts A/B/C*, *27*(11–22), 867-874.

Fruttero, A. *et al.* (2023). Gendered Impacts of Climate Change Evidence From Weather Shocks. Policy Research Working Paper 10442. Gender Global Theme. May 2023. The World Bank.

Government of the Republic of Zimbabwe (2024). 2024 El Nino Induced Drought Disaster: Domestic and International Appeal for Assistance by His Excellency, the President of the Republic of Zimbabwe, Cde Dr Ed Mnangagwa.

IPCC (2007). Summary for Policymakers. In: Parry, M. L. *et al.* (eds.), *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Vols. 7–22). Cambridge, UK: Cambridge University Press.

IPCC (2012). Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. In: Field, C. B. *et al.* (eds.). *A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change.* Cambridge, UK and New York, USA: Cambridge University Press.

Lee, Y. *et al.* (2021). The Heat Never Bothered Me Anyway: Gender-Specific Response of Agricultural Labor to Climatic Shocks in Tanzania. *Applied Economic Perspectives and Policy, 43*(2), 732-749.

Machingura, F. (2023). A Woman Should Learn in Quietness and Full Submission' (1 Timothy 2): 1 Empowering Women in the Fight against Masculine Readings of Biblical Texts and a Chauvinistic African Culture in the Face of HIV and AIDS. *Studies in World Christianity, 19*(3), 233-51..

Machingauta, B. (2013). Zimbabwe is the Worst Affected Country with Climate Change. available at http://www.ngauta.com.

Matunhu, J., Mago, S. and Matunhu, V., (2022). Initiatives to Boost Resilience towards El Niño in Zimbabwe's Rural Communities', *Jàmbá: Journal of Disaster Risk Studies 14*(1).

Mavesere, F. and Dzawanda, B. (2022). Effectiveness of Pfumvudza as a Resilient Strategy against Drought Impacts in Rural Communities of Zimbabwe. *Geojournal, 88*(1), 1-23.

Mukwada, G. *et al.* (2020). *Combating Food Insecurity in a Rapidly Changing Mountain Climate Environment: Insights from Lesotho. Climatic Change*, *16*(3), 989-1006.

SADC. (2025). SADC *Regional Vulnerability Assessment and Analysis Programme.* Synthesis Report for the 2023/24 Season. *The Herald,* April 3, 2024

United Nations Development Programme (UNDP). (2016). Bureau for Policy and Programme Support (BPPS) 304 East 45th Street New York, NY 10017 USA. Www.Undp.Org.

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th Ed.). London: SAGE Publications Ltd.

Zinyemba, T.P., Groot, W. and Pavlova, M. (2023). Effects of Parental HIV on Children's Education: A Qualitative Study at Mashambanzou Zimbabwe. *Review of Social Economy, 2*(2), 1-26.