

The Interplay of Climate Change, Food Security and Women Land Ownership

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Abstract— This study examines how gender issues in Southern Africa, specifically gender inequality, place women at a disadvantage regarding food security because of climate change. The impacts of climate change have already significantly affected the livelihoods and living conditions of the poorest and most vulnerable (women and children), making agriculture crucial for sustaining livelihoods in terms of food provision and as a source of local employment and income. This makes them more vulnerable to the impacts of climate change. Additionally, the results of this study shows that there is a research gap on how land inaccessibility for women in Southern Africa contributes significantly to women’s deprivation of economic opportunities and food security, with research in Southern Africa mostly conducted on climate resilience and adaptation (28%), impacts of climate change (34%), climate change on small scale farmers (17%), gender policies and land tenure (6%) and impact of climate change on women and children making up just 15%. Therefore, this study offers valuable evidence that the same gender and policy gaps limit the multifunctional potentials of agriculture in achieving the 2030 Agenda’s Sustainable Development Goals outcomes, i.e., economic growth and societal advancement.

Keywords— Climate Change, Food Security, Gender Inequality, Land Tenure and Rural Communities.

I. INTRODUCTION

Agricultural systems are essential worldwide, particularly in developing countries, whereby it significantly contributes to the alleviation of socio-economic issues, the promotion of development and ensuring food security. Agricultural systems also serve as the primary source of income and livelihoods for rural households in the developing world. It normally provides more than 50 percent of household income [1, 2], which may be reduced due to climate change. According to Jain, Srivastava, Khadke, Chatterjee and Elbeltagi [3], climate change is expected to result in long-term water shortages and

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worsening soil conditions, causing drought and desertification. The impacts of climate variability and change are projected to affect the agricultural sector [4, 5]. Studies conducted in Africa by prominent researchers, namely Touch et al [6] and Harvey et al [7] reveal that a number of smallholder farmers have stopped farming due to low production resulting from poor soil fertility and the effects of drought, while others have transitioned from land-based methods of livelihood (subsistence farming) to become seasonal workers. A study by Mogong, Twine, Feig, Van der Merwe and Fisher [2] on the influence of climate variability on land use and land cover changes in rural South Africa demonstrated how smallholder farmers are disproportionately vulnerable to the impacts of climate change as a result of poverty, marginalization, and reliance on natural resources. Female farmers are more highly exposed to agricultural risks than men due to having fewer endowments and entitlements [8]. Therefore, it is difficult for them to move to less affected areas.

Women comprise 70% of those living below the poverty line and are most likely to bear the heaviest burdens of climate change [9]. Women and female-headed households tend to have fewer resources to cope with and adapt to stresses of all kinds and rely on more climate-sensitive resources and livelihoods [1]. Nevertheless, vulnerability to climate change varies greatly between regions, sectors, and social groups worldwide, with Africa being highly vulnerable and greatly affected by the impacts of climate change [9, 10]. The drought-prone areas of Namibia, Botswana, and Zimbabwe are likely to be more vulnerable to climate change than the more humid areas of Tanzania and Zambia. High vulnerability is also influenced by the historical processes that emerged from colonialism and power struggles of countries and individuals [11]. Several researchers have observed that countries that are highly vulnerable to climate change possess insufficient resources and structures to support their population, particularly, women, children, and the elderly [12, 13, 10]. This further proves that gender equality is a critical concern as women, particularly in Africa are more vulnerable to societal discrimination, land tenure and poverty. On a global scale, the voice of women, black people and poor people among others is notable absent because women are still faced with an array of disadvantages in comparison to men [14].

A study by Filho, Wall, Salvia, Dinis and Mifsud [15] that investigated the promotion of gender equality across the sustainable development goals revealed that women were predominantly portrayed as marginalized and vulnerable, lacking control over productive resources (56% for Uganda and 55% for Tanzania). This finding further demonstrates the gendered nature of poverty, wherein females experience higher poverty rates than males, and impoverished females generally face more severe conditions than impoverished males [13]. Given their existing vulnerabilities, climate change will significantly impact the source of livelihood for numerous rural women in Africa. As seen in Fig. 1, it is quite evident that Southern African countries have shown interest to study climate change and variability impacts in rural areas. However, few have shown interest in gender equity and land access which are important in addressing data and information gaps in order to find the roots cause of poverty which is gender inequality that worsen the injustices of climate change. For most rural women, land tenure is complicated, with access and ownership often layered with barriers present in their daily realities.

Food Security OR Gender OR Agriculture OR Land Tenure. This study utilised data from government reports, non-governmental organizations (NGOs), publications of international organizations as well as peer-reviewed literature, dated from 2010 to 2024. This information was retrieved from Google Scholar and Web of Science.

III. GENDER EQUALITY CLIMATE COMMITMENTS AND POLICIES

The nexus between climate policies and women’s disenfranchisement is a critical area of concern in addressing equality and sustainability. Several studies argue that there’s a need for more efficient gender and climate adaptation strategies that are aimed at directly challenging root causes of gender inequalities [15, 10, 16] such as social and cultural discrimination. There’s approximately 70% of the global impoverished population consisting of women, and there’s an estimate that 60% of those who suffer from chronic hunger are women and children, predominantly in marginalised communities from developing nations [16, 10] who often bear the brunt of climate change impacts, such as food and water scarcity.

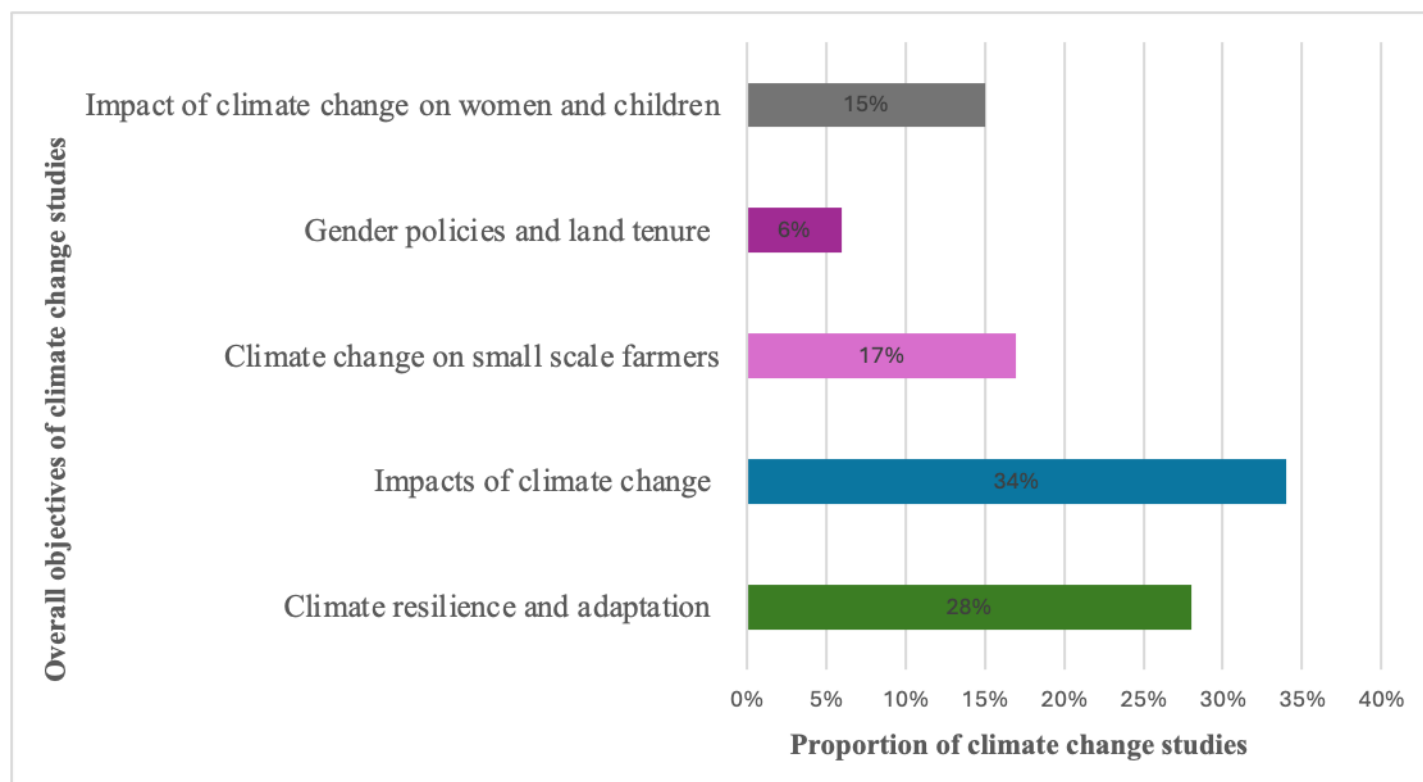


Fig. 1 Key objectives of research focusing on climate change in rural areas.

II. METHODOLOGY

This study incorporated a wide range of peer-reviewed literature from Southern Africa, with the selection process guided by specific keywords, namely: Rural Communities OR

While gender equality is often included in international climate change commitments, equal access to land and resources tends not to be included as key components. As seen in Table 1, there are international government policies aimed at addressing gender equity, with government policies

and disaster management essential for effectively tackling the problems presented by climate change and mitigating the impacts of climate-related disasters but there’s been arguments made that these frameworks separate climate action from social and gender dimensions, and mandate technical responses [17, 9]. The United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement are global policies created to promote global collaboration among governments in addressing climate change. Nevertheless, the valuable contributions of women as proactive participants in disaster risk reduction efforts are frequently disregarded, and their perspectives are marginalized in the formulation of policies and decision-making processes [13, 16]. Therefore, more research needs to be done to ensure that gender equity is enshrined in global climate policy as a matter of social justice and to eliminate gender bias that systematically excludes women. Consequently, the process of empowering rural women is not entirely accomplished [2, 16].

(WSSD), (2002)

the adverse effects of climate change.

United Nations: High-Level Focus on Climate Change (2007)

High-level sessions increasingly recognize climate change as a global issue.

IV. DISCUSSION AND IMPLICATIONS

Climate change is a worldwide problem that has been extensively documented, with 80% of the world’s extreme poor (rural areas) expected to experience losses in agricultural productivity, primarily due to reductions in crop yields [18, 10]. Vulnerable areas are expected to be predominantly impacted by the consequences of climate change [12], and underprivileged groups to bear the brunt of these effects. It is widely recognised that climate change will exacerbate the gender dimensions of vulnerability, with women in underdeveloped countries being more prone to nutritional inadequacies because of their specific dietary requirements and heavy reliance on climate change-sensitive resources, such as agricultural produce for subsistence [19]. Despite women and children's vulnerability, gender issues still receive insufficient attention, which ultimately increases land tenure insecurity for rural women. Therefore, addressing social and economic power imbalances between women and men is crucial in achieving the Sustainable Development Goals, gender inequalities exist in all societies and shape how climate change impacts play out in society. Therefore, this discussion attempts to link land insecurity as the key component in climate change vulnerability and food insecurity among men and women. Acknowledging the gender disparities faced by rural women in terms of land ownership will highlight their vulnerabilities and the need for gender responsive policies and interventions by empowering rural women and enhancing their resilience. Equal access to land and resources is crucially important in coping with climate fluctuations and stresses, it will help in achieving key Sustainable Development Goals (SDG), including Zero Hunger (SDG No: 2), Gender Equality (SDG no: 5) and Climate Action (SDG no: 13) making it relevant to global efforts for sustainable development.

TABLE I
SUSTAINABLE DEVELOPMENT CLIMATE COMMITMENT

International commitments	Objectives
United Nations Charter (1945)	It calls for equality between women and men.
Universal Declaration of Human Rights (1948)	Pushes for women's ability to adapt to climate change including the right to own property and consensual marriage.
Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (1979)	Oblige parties to take all appropriate measures to eliminate discrimination against women in rural areas.
UN Fourth World Conference on Women, Beijing (1995)	It promotes the mainstreaming of gender perspective in policies and programmes at all levels.
Millennium Summit and the Millennium Development Goals (MDGs), (2000)	It promotes gender equality and the empowerment of women as effective ways to combat poverty.
United Nations Framework Convention on Climate Change (UNFCCC), (1992)	Promotes women participation in all aspects of climate action through gender sensitive approach.
Sustainable Development Goals (SDG), (2015)	Aims to achieve gender equity and to empower all women and girls.
World Summit on Sustainable Development	Strengthens commitments to Agenda 21 and recognized

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