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Gendered Impacts of Climate Change: A Close Study of Vulnerability and Adaptive Capacity in Southern African Development Community

Faisal Khalid [1,2,*], Onyeama Favour Onyedikachukwu [3], Ugwu Patience Chinaza [4], Precious Chimkande Malawi [5], Osoko Oluwatimilehin Oladayo [6], Tamanji Logodi Tamanji [7], Noncedo Maphosho [8], Obasa Adebusola [9], Auwal Muhammad Sani [10], Jumoke Omodeni [11]

[1]Department of Forestry, Shaheed Benazir Bhutto University, Sheringal 18000, Khyber Pakhtunkhwa, Pakistan.

[2]GIS and Space Applications in Geosciences Lab (GSAG-L), National Center of GIS and Space Application (NCGSA), Institute of Space Technology, Islamabad 44000, Punjab, Pakistan.

[3]Department of Chemistry, University of Lagos.

[4]Department English and literary studies, University of Nigeria, Nsukka.

[5]Department Advocacy and communication, Coordination Union for Rehabilitation of Environment.

[6]Department Environmental and Natural Resource Economics, University of Rhode Island, USA.

[7]Department of Applied Community Development, Future Generations University, USA.

[8]Developmental Capable and Ethical State Division, Human Sciences Research Council.

[9]National Environmental Standards Regulations and Enforcement Agency, Pollution control Unit.

[10]Department of Physics, Federal University Dutse, Jigawa state, Nigeria NG.

[11]University of Leeds.

***Corresponding author:** fkcbuneri@gmail.com

SUMMARY

The Southern African Development Community (SADC) faces increasing climate risks, which include droughts, floods and cyclones, in which women are most vulnerable due to socio-economic inequalities, gendered labor roles, and limited access to resources. This review examines gender-responsive climate governance in SADC, highlighting adaptive capacities, barriers to women's participation, and the role of NGOs, international Organizations, and Indigenous knowledge in advancing climate resilience. While regional frameworks and national policies now recognize the importance of gender inclusion, there are still existing gaps in implementation, monitoring, funding, and broad social inclusivity. Studies have shown that women act not only as vulnerable populations but also as proactive leaders and innovators in climate adaptation, particularly in agriculture, disaster risk reduction and resource management. The study captures persistent challenges, including underrepresentation in decision-making, donor-dependent initiatives, and weak coordination, while pointing out the full impact of community-led and women-driven initiatives. The study also proposes improving gender-inclusion policies, integrating indigenous knowledge, ensuring sustainable financing, enhancing capacity-building, and creating more systems to track progress and guarantee accountability. By addressing these gaps, SADC can empower women as central agents of climate action, fostering equitable, resilient and sustainable development across the region.

Keywords: Climate adaptation, community-based adaptation, gender-responsive, policy gaps, SADC

INTRODUCTION

Climate change (CC) has become one of the major global concerns and its effects are becoming more severe throughout the SADC region (Mupedziswa and Kubanga, 2017). The SADC region which comprises 16 member states are most vulnerable to climate disaster due to their heavy dependence rain-fed agriculture, unstable ecosystems, and endemic poverty (Chilwalo et al., 2025). The region's food security, water availability, public health, and economic development are all being threatened by increasing extreme weather events such as floods, cyclones, prolonged droughts, rising temperatures, and irregular rainfall (Codjoe and Atiglo, 2020). Millions of people's livelihoods and general well-being are at risk due to these climate stressors, particularly those living in rural areas (Banu and Fazal, 2025). Studies have shown that the effects of CC are not gender-neutral. Gender shapes how people are vulnerable to climate risk and their ability to adapt, often in combination to other social factors like geography, class, age and ethnicity (Pearse, 2017). Men and women experience the effects of CC differently as a result of long-standing gender differences in mobility, education, decision-making authority and resource access (Adhikari and Ghimire, 2025). In the SADC region, rural women experience greater disadvantages (Ojo, 2021). They frequently handle household chores like food preparation, water collection and energy provision, which become much more difficult as the environment deteriorate and climate becomes more unpredictable (Smout, 2020).

For example, women and girls must travel farther to gather firewood and water as droughts worsen and water supplies run out, which causes time poverty and a rise in the number of girls dropping out of school (UN-Women, 2009). Women's access to education, earning potential and civic engagement are all severely restricted by these demands. Social norms and structural inequalities that enforce gendered divisions of labour and power are central to climate-related vulnerabilities (Anjum and Aziz, 2025). The unequal access to information, resources, infrastructure and political/traditional institutions shows why men and women respond to environmental challenges differently (Medina et al., 2024; Meyiwa et al., 2014). Gender differences in access to information, resources, infrastructure and political/traditional institutions influence how men and women react to environmental issues (Adhikari and Ghimire, 2025). Parker et al. (2019), Awiti (2022), Ngcamu (2023), Fruttero et al. (2024), and Chikowore et al. (2025) have shown in their works how vulnerability in the face of CC is gendered. Nevertheless, policy responses often neglect the complexity of these issues. Many adaptation strategies either completely ignore gender or reduce women to being victims, impoverished, or socially isolated (Remteng et al., 2022). This limited approach fails to recognize women’s agency and the many ways they adapt to risks and manage change (Nedziwe and Tella, 2023b).

Men are frequently left out of this conversation, and when they are, it's usually in reference to their migration or lack of presence in households, which is only seen as a factor that makes women more vulnerable (Gilodi et al., 2024). A more profound comprehension of gender as a relational and dynamic process is undermined by such binary and simplistic approaches. Furthermore, a large portion of the CC conversation still concentrates on biophysical effects, ignoring the variety, intersectionality and daily nature of the risks that influence people's lives (Garcia et al., 2022; Versey, 2021). As the Intergovernmental Panel on CC (IPCC) Fifth Assessment Report

(Chikowore et al., 2025; Ishtiaque et al., 2022; McLeman et al., 2025; Zebisch et al., 2021) recognizes that a variety of non-climatic factors, including poverty, historical marginalization and social exclusion, affect exposure and vulnerability. This knowledge necessitates a more comprehensive framework that takes into account environmental hazards as well as the larger sociopolitical environment in which adaptation takes place. The review critically examines the relationship between gender and people's adaptive capacity. The ability of people and communities to foresee, prepare for, respond to, and recover from climate-related hazards is known as adaptive capacity (Chapagain et al., 2025; Zhai and Lee, 2024). This capacity is either enhanced or limited by access to social networks, education, financial capital, land and water (Afkhami et al., 2021; Munatsi, 2021; Wentworth and Cloete, 2022). However, cultural norms and gendered power dynamics often affects who can access these resources. For example, divisions of labour, marital relationships and household structures influence who controls resources, makes decisions, and takes on risks and responsibilities during emergencies. Understanding how gender influences these factors is important for creating adaptation strategies that are inclusive and effective (Adhikari and Ghimire, 2025; Prakash et al., 2024).

This study examines the gendered effects of CC and the adaptive abilities of rural communities throughout SADC by drawing on a comprehensive review of the literature, regional assessments, and empirical case studies. It draws attention to the gaps in policy and practice by drawing on findings from the ASSAR (Adaptation at Scale in Semi-Arid Regions) project and other important studies. In addition to documenting cases where gender affects vulnerability, the goal is also to challenge dominant ideas and encourage meaningful change. This review therefore supports the development of climate adaptation frameworks that are gender-responsive, suited to specific contexts, and socially fair. These frameworks recognize and promote the different needs, experiences, and strengths of all members of the community. In the end, addressing CC in the SADC region necessitates a change from top-down, reactive methods to more intersectional, participatory and equity-driven approaches. Building resilient societies and attaining sustainable development depend on incorporating gender into climate policy; it is not just a question of justice. Therefore, this review emphasizes how crucial it is to acknowledge and deal with gendered power relations in all facets of CC research, policy and practice.

MATERIAL AND METHODS

The study adopted a narrative systematic review. This is a systematic, narrative, and comprehensive approach. The main purpose of this study was to synthesize existing knowledge concerning gender-responsive climate governance in the SADC region.

Search Strategy and Databases

A comprehensive literature search was carried out in January to March 2025 using a range of databases including Scopus, Web of Science, Google Scholar, JSTOR, ScienceDirect, UN repositories, World Bank repositories, and SADC repositories. The search strategy involved using combinations of search terms including "gender responsive climate governance," "gender and climate change," "women climate adaptation SADC," "Southern Africa climate policy gender," "gender mainstreaming climate governance," and "SADC climate resilience women." Boolean search terms including AND, OR were used in combination with search terms in order to obtain

desired results.

Time Frame

The search was carried out on literature published between 2000 and 2025, a period that marks significant developments in gender-climate frameworks in SADC countries.

Inclusion and Exclusion Criteria

The studies that were included were those that focused on SADC countries, gender, climate change, policy, adaptation, and governance, and were peer-reviewed articles, reports, policy documents, or institutional publications written in English. The studies that were also included were those that provided evidence, policy analysis, or program evaluation. Excluded were publications that were not related to the SADC region, not related to gender and climate change governance, not written in English, were duplicates, or whose full text was not accessible.

Screening and Selection Process

The screening and selection process was undertaken in three stages. An initial set of 1,325 was identified in all databases. This was followed by screening titles and abstracts to select 312 documents for full-text screening, resulting in 148 documents included in the final synthesis. This process was recorded using a flow diagram similar to that proposed in the PRISMA initiative (Figure 1).

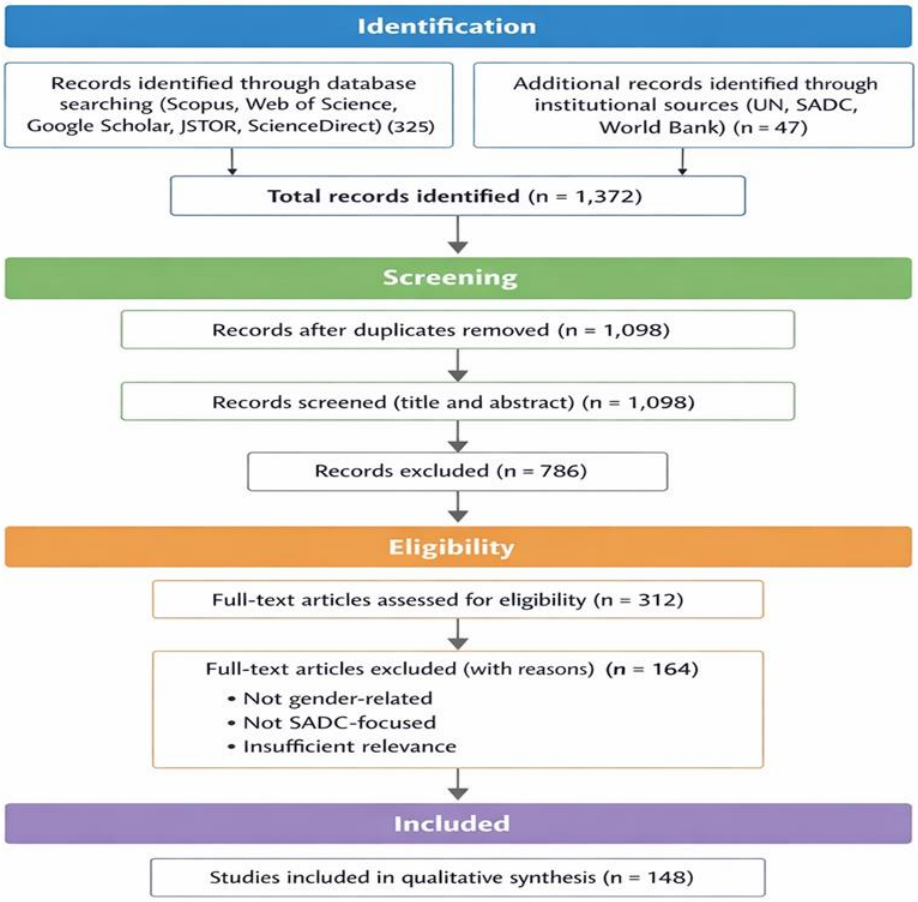

Figure 1: PRISMA flow diagram for literature review

Data Extraction and Synthesis Approach

The data collected from the chosen studies would then be arranged according to specific categories, which would cover information on the countries, policy focus, gender components, climate sectors, intervention types, outcomes, and gaps. After that, the thematic synthesis method would be used to establish best practices, policy gaps, barriers to gender-responsive governance, models of intervention, and the contributions of NGOs and international agencies. The themes would emerge from the studies, with the aim of ensuring their consistency.

Review Type Justification

Although it is largely narrative in its presentation, it incorporates transparent and systematic procedures, such as a clear search strategy, inclusion and exclusion criteria, and synthesis, to improve its reliability and reproducibility.

RESULTS AND DISCUSSION

CC in the SADC Region

African states have sought economic transformation since gaining their independence, and regional integration has emerged as a tactic to get around the constraints of small and dispersed economies (UNESCA and AUC, 2010). In this regard, the SADC was founded in 1992 with the goal of advancing regional cooperation in order to advance peace, security, and socioeconomic development (Kondowe, 2021; SADC, 2012a). The SADC economy still heavily depends on agriculture, which employs almost 61% of the workforce and accounts for around 35% of GDP. The majority of these workers are smallholder farmers who work less than five hectares of land (SADC, 2015a; SADC, 2015b). Nonetheless, this industry is extremely susceptible to changes in the climate. Recurrent floods, droughts, and cyclones, along with declining rainfall patterns since the 1980s, have decreased crop yields and undermined food security throughout the region (SADC, 2019). Food insecurity was estimated to affect 41.2 million people in 13 SADC countries by 2019, with the Democratic Republic of the Congo, Zambia, Zimbabwe, Mozambique, and Eswatini experiencing the largest increases (SADC, 2019). Beyond agriculture, CC has an impact on infrastructure, biodiversity, health, and water resources (Gosling et al., 2020; Viljoen, 2013). The climate impacts, policy frameworks, and adaptation pathways of SADC are depicted in Figure 2.

Climate Variability, Patterns, and Projections in SADC

Several climatic systems influence the SADC climate, which is characterised by rising temperatures, fewer cold extremes and more unpredictable rainfall patterns (SADC, 2013). While floods harm infrastructure and crops, droughts shorten growing seasons (Mberi and Zuva, 2024; Semosa, 2025). According to the IPCC (2008), Southern Africa is extremely vulnerable worldwide, especially in coastal and deltaic areas that are vulnerable to cyclones and flooding. While more humid areas like Tanzania and Zambia might be less vulnerable, arid nations like Namibia, Botswana, and Zimbabwe are predicted to experience worsening water scarcity. Crop-suitable land in Namibia, Botswana, South Africa, and Zimbabwe is expected to significantly decline, according to agricultural projections, but productivity may increase in Angola, the Democratic Republic of the Congo, Tanzania, and Zambia (Gachene et al., 2014; Tadross et al., 2011). These disparate results demonstrate how CC can both

increase food insecurity and open up new agricultural opportunities.

Socio-Economic and Environmental Challenges

Local and regional manifestations of CC impacts prompt adaptation measures (Semosa, 2025). In addition to endangering access to clean water, food and shelter, extreme weather events raise health risks such as malnutrition, illness and mortality (Meyer et al., 2024). Socioeconomic vulnerabilities can overwhelm adaptive capacities by intensifying climate-related stresses. The loss of livelihoods and social stability puts human security at even greater risk, underscoring the necessity of integrating disaster risk management and adaptation into development planning.

Economic context

Important industries like trade, tourism, agriculture and water resources influence the SADC's economic environment and development plans are becoming more closely linked to CC adaptation.

Agriculture, Trade and Tourism: Depending on the nation, agriculture accounts for 3–30% of GDP, making it the backbone of SADC economies (World-Bank, 2016). Trade is still minimal, dominated by South Africa, and mostly focused on comparable agricultural products like cattle, sugar and maize (Black et al., 2019; Bouët and Odjo, 2019). Regional integration is hampered by low diversification, tariffs, non-tariff barriers and ineffective customs (Fall and Gasealahwe, 2017; Kalaba et al., 2016).

Water Resources Management: Agriculture, energy, and livelihoods all depend on water. Despite using 70–80% of water for agriculture, only 7% of arable land is used, compared to the average of 20% in Africa (SADC, 2012a; WWF, 2017). Initiatives for river-based hydropower and groundwater development provide viable answers, but demand management is still a problem.

Development and Adaptation: Coordination and a strong infrastructure are necessary for effective climate adaptation. Implementation lags despite regional strategies because of underfunding, member state asymmetries and a lack of institutional capacity (SADC, 2013; SADC, 2014a; SADC, 2014b; SADC, 2020a).

Cultural Context

CC undermines livelihoods and erodes intergenerational knowledge by endangering indigenous customs and cultural rights. (Kasase et al., 2024). For adaptation plans to be sustainable and accepted by the community, cultural viewpoints must be incorporated.

Policy Consistency Frameworks and the Vulnerability of SADC Regions to CC Impacts and Disasters

Addressing climate-induced shocks requires policy coherence (Defe and Mutanda, 2024). There were 491 climate-related disasters in SADC between 1980 and 2015, which affected 140 million people and claimed over 110,000 lives (Curran et al., 2018; Davis and Vincent, 2017). The efficacy of initiatives for disaster risk reduction, adaptation and sustainable development is hampered by fragmented governance and inadequate integration (SADC, 2020b). Enhancing resilience and ensuring synergies across climate actions can be achieved by aligning the domestic, regional and international policy domains (De Jong and Vijge, 2021; Equality, 2019).

Traditional Treaties in the SADC Region

The legal framework for regional cooperation is established by the SADC Treaty (1992), which is reinforced by subsidiary instruments and protocols like the Regional Indicative Strategic Development Plan (RISDP 2020–2030) and the Protocol on Politics, Defense, and Security Cooperation (2001) (Joseph, 2016; Moyo, 2015; Southern-Africa-Trust, 2018). Although these frameworks set governance requirements, they must be updated to handle modern issues like resource management and risks brought on by climate change.

International and Regional Treaties on Climate Agreements

With a growing focus on health integration, SADC member states carry out their climate commitments through UNFCCC frameworks, NDCs and NAPs. (Ebi and Prats, 2015; Jenkins et al., 2020; Penfold and Fourie, 2015). However, stakeholder engagement, accountability and context-specific adaptation continue to be difficult (Meyer et al., 2024; NAP, 2024).

National Strategies to Minimize Climate Impacts on Health

Energy and agriculture are given priority in most strategies, but health interventions continue to receive insufficient funding. Effectiveness is hampered by disparities in funding, inadequate oversight, and a lack of cross-sectoral integration (Tinarwo, 2025; UNDP, 2021; ZNCRS, 2014). Vulnerable groups, especially women, youth, and marginalized communities, are frequently left out of climate information and education programs (GCA, 2022).

Pathways to Strengthen SADC Coordination

Capacity limitations, disjointed policies, and data gaps can all be addressed by improved regional coordination. The potential of evidence-based, integrated responses to climate and health challenges is demonstrated by programs such as ClimDev-Africa and infectious disease early-warning systems (Ebi and Prats, 2015; Penfold and Fourie, 2015). Building long-term resilience still heavily relies on cross-border cooperation and stakeholder engagement.

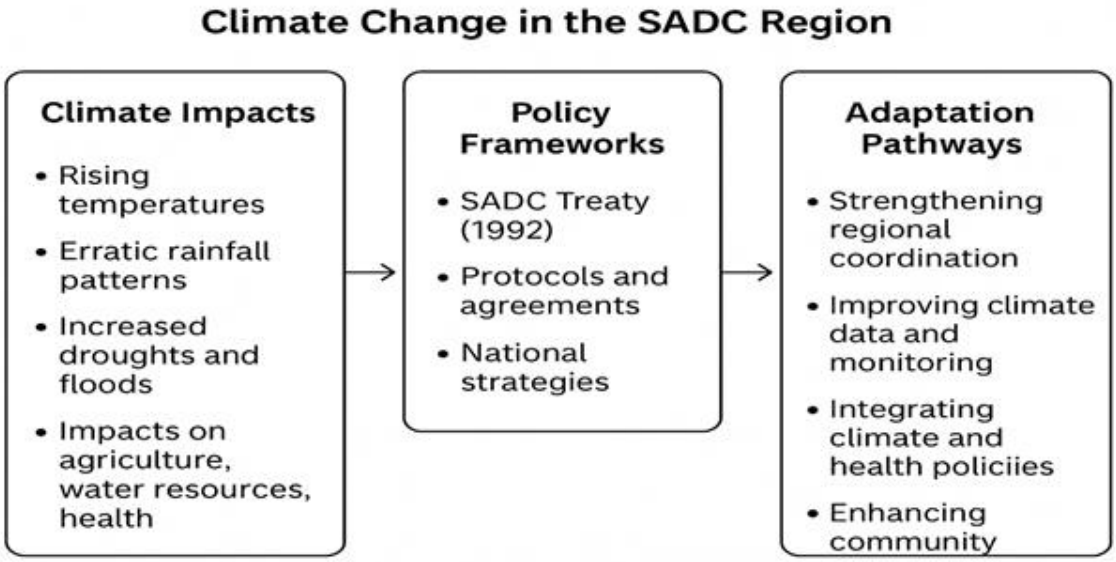

Figure 2: CC Impacts, Policy Frameworks and Adaptation Pathways in the SADC Region.

Gendered Dimensions of CC Impacts

Not all populations are equally impacted by CC; in the SADC region, its effects are strongly gendered and reflect underlying social, economic and cultural disparities that influence resilience, adaptability and vulnerability (Stadler et al., 2024).

Differential Exposure and Vulnerability

In the SADC region, people's sources of livelihood and the resources available to them largely determine how exposed they are to climate risks, with gender being a major factor. (Mapedza et al., 2019). Due to their disproportionate participation in agriculture, water collection, and caregiving, women are particularly vulnerable to cyclones, floods and droughts (Mapedza et al., 2019). Studies conducted in Malawi, Mozambique, and Namibia have shown that their reliance on delicate ecosystems and lack of viable livelihood options make them more vulnerable to environmental shocks (Meyer et al., 2024). Due to their high prevalence among the rural poor, women are disproportionately affected by poverty, which is closely linked to this vulnerability (Haule, 2021; Moayedi and Hayati, 2023). The foundation of women's livelihoods is agriculture and fishing, the most climate-sensitive industries; however, recurrent climate shocks weaken their resilience and perpetuate the feminization of poverty (Ndlovu, 2025). Their ability to adapt is further weakened by limited access to land, agricultural inputs and financial credit, which leaves women farmers with few options for recovery or diversification (Spear et al., 2018). Structural and cultural inequalities also increase these risks. For example, during Cyclone Idai in Mozambique, many women delayed evacuating because of their caregiving duties, which put them at a higher risk of dying during the disaster (UN-Women, 2021; MUSASA, 2023). In addition, women often have limited access to education and climate information and are frequently excluded from climate adaptation planning, limiting their capacity to anticipate or respond to hazards (Delavallade et al., 2025; MUSASA, 2023). Widows, elderly women, and marginalized groups are particularly vulnerable due to intersectional factors like age, disability, and marital status (Barasa, 2020; Nelson, 2024; Sode, 2019). Despite these challenges, women continue to play crucial role in building community resilience. An example is the Malawian women whose initiatives have helped pooled to access drought-resistant seeds and support livelihood during tough seasons (FAO, 2019; Sokona et al., 2021). However, as climate shocks grow stronger, local coping strategies are increasingly under pressure. To address this gendered challenges, policies that close resource gap, increase women's participation in decision making and recognize women not only as vulnerable groups but vital contributors to climate resilience are needed (Adhikari and Ghimire, 2025; Asomah, 2024). When combined, these factors show that CC in the SADC region is not gender-neutral but rather is ingrained in the region's social and economic inequalities. Therefore, it is important to understand how men and women differ in their vulnerabilities when creating strategies for equitable adaptation (Remteng et al., 2022). This viewpoint is a major component of the current study, which looks at how vulnerability, resilience and adaptive capacity are shaped by gendered experiences of CC throughout Southern Africa.

Impacts on Health, Livelihood and Food Security

Women's health and livelihoods in the SADC region are more severely affected by climate hazards because of socioeconomic inequalities, cultural limitations and limited access to healthcare (Meyer et al., 2024). Disasters such as floods, droughts and cyclones often disrupt rural health services, increasing the risk of dehydration, pregnancy complications, maternal and child malnutrition, and diseases spread through contaminated water and disease-carrying insects (Dumbuya et al., 2024; Meyer, 2023; Nyahunda, 2021). Stress and trauma are two mental health issues that further impair women's ability to provide care (Gulbicki et al., 2024; Silaule et al., 2024). In climate-sensitive industries like subsistence farming, fishing and raising livestock, women predominate. However, in Zimbabwe, Zambia, Mozambique, Tanzania, Namibia and Botswana, inconsistent rainfall, droughts and diminishing fish stocks lower income and food security (Asomah, 2024; Chanza and Musakwa, 2021). In order to protect livelihoods, food security and health, gender-responsive interventions are desperately needed. These compounded vulnerabilities also limit adaptive capacity and prolong poverty cycles.

Women's Role in Natural Resource Management

With everyday tasks like farming, water collection, firewood gathering and household resource use supporting both survival and community resilience, women are essential to the management of land, water, forests and biodiversity (Nyahunda, 2021). Food security and ecosystem sustainability are improved by their traditional ecological knowledge, which includes crop rotation, intercropping, early environmental change detection and organic soil management (Mthembu et al., 2019). Large-scale monocrops are less drought-resistant than home gardens in Malawi and Zambia (Habowa et al., 2024). In Namibia's Kunene region, women's locally created well-monitoring and rotation systems perform better than traditional interventions in water management (Angula and Menjono, 2014). Women's contributions to conservation and revenue generation are further demonstrated by their leadership in forestry and biodiversity projects, such as sustainable reed harvesting in Botswana and woodlot projects in Zimbabwe (Ndlovu, 2025). However, structural obstacles still exist, including restricted land rights, exclusion from governance, and limited access to training and credit. Gender equity and climate resilience are strengthened when women's traditional knowledge is combined with contemporary methods (Kasase et al., 2024; Remteng et al., 2022).

Case studies

It's critical to take into account both national realities and regional trends to comprehend the gendered effects of CC in Southern Africa. Regional analyses show broader trends of inequality, resilience and adaptive capacity, while SADC case studies in Table 1 show how climate hazards interact with social and cultural elements to create unique vulnerabilities for women. When combined, these viewpoints offer a more complete picture of the cross-scale interactions between gender and CC. The following table summarizes the most important findings from national and regional studies, demonstrating how policy gaps, cultural norms, and structural injustices influence women's perceptions of climate risks and adaptation tactics.

Table 1: Gendered CC Impacts and Adaptation in Selected SADC Countries

Country	Major Climate Hazards	Gendered Impacts	Women's Adaptation Roles / Responses
Angola	Droughts, floods	Women farmers face reduced food security; water scarcity increases workload.	Women engage in community water projects and small-scale farming diversification.
Botswana	Droughts, water scarcity	Rural women walk longer distances for water and fuel; livestock loss affects household income.	Participation in water user associations, eco-tourism and handicrafts.
Comoros	Cyclones, coastal erosion	Women lose coastal farming and fisheries livelihoods; housing insecurity rises.	Women lead mangrove restoration and coastal protection initiatives.
DRC	Floods, deforestation	Women experience food insecurity due to degraded soils and displacement from floods.	Women's groups promote agroforestry and fuel-efficient stoves.
Eswatini	Droughts, erratic rainfall	Women-headed households struggle with crop failures and food scarcity.	Women-led cooperatives adopt drought-tolerant crops and small-scale irrigation.
Lesotho	Harsh winters, droughts	Women face fuelwood shortages and reduced livestock productivity.	Women participate in soil conservation, home gardening and savings clubs.
Madagascar	Cyclones, droughts	Women in coastal and rural areas suffer from food insecurity, displacement and health risks.	Women's associations engage in reforestation, disaster preparedness and alternative livelihoods.
Malawi	Floods, droughts and soil degradation	Women bear responsibility for food, fuel and water; climate stress reduces girls' education.	Cooperatives promote agroforestry, climate-smart farming and female extension networks.
Mauritius	Cyclones, sea-level rise	Women in the fishing and coastal sectors face declining incomes along with heightened housing and health risks.	Women participate in eco-tourism, small-scale enterprises and coastal ecosystem restoration.
Mozambique	Cyclones, floods, droughts	Women face displacement, gender-based violence, and food insecurity.	Women's groups promote irrigation, seed saving, and diversified livelihoods.
Namibia	Prolonged droughts	Women pastoralists lose livestock and face water scarcity.	Women engage in conservancies, handicrafts, and sustainable grazing initiatives.

Seychelles	Sea-level rise, coastal erosion	Women in fisheries and tourism face declining income; households are at risk from flooding.	Women participate in eco-tourism, marine conservation, and small enterprises.
South Africa	Heatwaves, droughts, floods	Poor rural and urban women face food, water, and energy insecurity.	Women lead urban gardens, renewable energy projects, and advocacy for gender-sensitive climate policy.
Tanzania	Droughts, coastal erosion, and floods	Women farmers and fishers face productivity decline and higher household burdens.	Women engage in climate-smart farming, mangrove restoration, and seaweed farming.
Zambia	Droughts, floods	Women face food insecurity and restricted land rights, limiting their ability to adapt to changing conditions.	Women promote conservation agriculture, small livestock rearing, and village banking.
Zimbabwe	Droughts, erratic rainfall	Women experience reduced yields and lack adaptation resources due to land tenure issues.	Women adopt drought-tolerant crops, community gardens, and savings groups.

Adaptive Capacity and Gender

In Southern Africa, gendered roles, responsibilities and resource accessibility have a significant impact on adaptive capacity, which is a crucial factor in determining how societies react to CC. Analyzing these relationships reveals the opportunities and obstacles that influence fair and long-term adaptation routes.

Understanding a Gendered Context of Adaptive Capacity and Barriers to Women's Adaptation

The institutional, human and financial resources available will determine Southern Africa's capacity to adjust to CC (Baudoin and Ziervogel, 2017). However, coordinated responses are made more difficult by the region's political, socioeconomic and geographic diversity (Sharon, 2022; Wamukonya and Rukato, 2001). People modify their behaviors, practices and systems in response to changing risks and opportunities through the ongoing and iterative process of adaptation (Akinboade et al., 2023; Ziervogel et al., 2008). Reducing losses and capturing long-term co-benefits are made possible by integrating adaptation into development pathways and providing support through qualified institutions (Ozor et al., 2020). The most vulnerable, particularly women, who contribute the least to CC but bear the greatest burdens, need targeted support because adaptive capacity is still unequally distributed (Meyer, 2023). Actions to lower risks or a broader social change process that maintains well-being in the face of changing climate conditions are two different definitions of adaptation (Shoko Kori et al., 2025). Local organizations are crucial because they channel resources, mediate effects, and coordinate group responses. The ability of women and communities to deal with shocks can be facilitated or hindered by inclusive decision-making, access to finance, technology, education, health care, and climate information (Jones, 2012; Manwa et al., 2016).

Barriers to Adaptation in SADC

SADC nations face systemic obstacles to adaptation in spite of the urgency. Important challenges consist of: Economic and financial constraints, such as underdeveloped financial markets, limited bankable projects and high debt costs (Pillay et al., 2025). Political challenges in mobilizing finance from international and domestic sources (Chevallier, 2012). Technical barriers include weak institutional capacity to assess climate finance requirements and insufficient knowledge of alternative adaptive practices (Shackleton et al., 2015). These obstacles limit resilience-building at the local and regional levels by causing gaps between policy ambition and implementation.

Gendered Barriers and Vulnerabilities

Men and women experience climate risks in different ways. While women oversee daily food security, water, childcare, and healthcare, men frequently decide how to divide up household resources during emergencies. Because women have less say in decision-making, adaptation programs are less effective, and inequality is maintained (Spear et al., 2018). In addition, women experience increased health risks and a shorter life expectancy as a result of heatwaves, droughts, and floods (Jerneck, 2018). Restricted availability of weather alerts and other climate information. Girls are exposed to early marriage and school dropout as coping mechanisms due to the intersections of poverty and gender norms (Tanner et al., 2022).

Intersectionality

Age, disability, race, and education all influence vulnerabilities in addition to gender (Udo et al., 2025). Women are active agents of adaptation and this is overlooked when they are only framed as victims (Garutsa et al., 2018). Therefore, intersectional inequality and women's agency in climate action must be acknowledged in effective responses. In South Africa, for instance, past injustices like forced relocation under the Natives Resettlement Act (1954) still influence climate vulnerability, especially for Black women living in marginalized communities (Udo et al., 2025).

Women as Agents of Change

Women are spearheading adaptation efforts throughout the region in spite of systemic obstacles. Gladys Chigamba encourages climate-smart fish processing and assists women in watershed management in Malawi (Kayamba-Phiri et al., 2020). Through the CLARE initiative, Jackline Makokha promotes women's leadership in Kenya and connects climate resilience research and action (Garrido et al., 2020). These instances demonstrate that women are not only at risk but also pioneers and leaders in the field of climate adaptation.

Policy Gaps and Recommendations

Despite the introduction of various frameworks by SADC, gender integration is still uneven:

- The 2012 SADC CC Policy Paper emphasizes the effects of multiple sectors, but it falls short in addressing gender and indigenous knowledge.
- The 2011 SADC Water Adaptation Strategy acknowledges the water burdens faced by women, but it does not include gender-sensitive metrics.

- The 2008 SADC Protocol on Gender and Development encourages equal access to resources and land, but it leaves out CC.

Although SADC policies generally demonstrate progress in environmental and gender governance, gendered vulnerabilities have not received enough attention due to a lack of integration between the two (Garrido et al., 2020).

Traditional Knowledge and Women-Led Adaptation

Indigenous knowledge systems that have been developed over many generations offer vital information for forecasting weather, preserving soil and guaranteeing food security (Alvera, 2013; Anukwonke and Okonkwo, 2025; Senanayake, 2006). In Malawi and across the SADC region, women play an important role in preserving these practices, such as using organic fertilizers and observing weather patterns to prepare for emergencies (Mweta and Juma, 2020). The adoption of climate-smart agriculture, resource mobilization and farmer capacity-building can all be strengthened by embracing indigenous knowledge and local institutions (Makate, 2020). However, these practices are frequently ignored or under-documented in national strategies, which limits their inclusion in policy frameworks (Louis et al., 2019; Nawrotzki and Kadatska, 2010).

Institutional and Community-Based Adaptation

When developing National Adaptation Plans (NAPs), countries in the SADC region were guided by the United Nations Framework Convention on Climate Change (UNFCCC, 1994) However, many of these plans failed to include Indigenous knowledge or recognise the roles of women (Louis et al., 2019; Ozor et al., 2020). Community-Based Adaptation (CBA), which focuses on community-led actions based on local knowledge and priorities is often underused even though it can be more effective (Mfitumukiza et al., 2020). Research shows that while women's vulnerability is often acknowledged, policymakers tend to underestimate their contributions to long-term solutions (Nyahunda, 2021). As a result, women are often limited to traditional coping methods, and opportunities for innovation are reduced. Institutional frameworks must be in line with community-led strategies for CC adaptation in SADC (Omoyo et al., 2022). Traditional knowledge systems and gender-responsive strategies must be actively incorporated into national commitments under the UNFCCC (Pimpalkhute, 2021). Women are leaders, innovators and first responders, so their involvement is not optional but crucial. Successful adaptation necessitates the conscious acknowledgement of women's agency and local knowledge, as IPACC (2016) highlights (Namuyiga, 2020). By funding the documentation, scaling, and institutional integration of these components, resilience will be increased and equitable and sustainable adaptation in Southern Africa will be guaranteed.

Policy and Governance Responses

Addressing the gendered effects of CC in Southern Africa requires strong governance and policy frameworks (Cold-Ravnkilde, 2019; Joseph, 2025), as they decide how national strategies, institutional mechanisms and regional commitments are translated into concrete measures for equity and resilience. Countries in the SADC are recognizing more and more how gender and CC intersect in their policy agendas. Nonetheless, there are still disparities in the extent of gender mainstreaming and implementation efficacy. Table 2 presents a comparative analysis of a few SADC

nations, highlighting important climate policies, the level of gender integration, any gaps that exist, and their overall efficacy.

Regional and National Climate-Gender Policies in SADC Countries

Extreme climate variability is already having a greater impact on Southern Africa, making climate change (CC) one of the most urgent global issues (Scholes and Engelbrecht, 2021). These effects are not gender-neutral: because they are over-represented in the population living in poverty, depend on climate-sensitive resources, and play a major role in providing care and subsistence, women and girls frequently bear the brunt of these effects (Louis et al., 2019; Rao et al., 2019). The CC policy of South Africa, for example, recognizes the importance of rural women as agricultural producers who play a key role in promoting sustainable development (Meyiwa et al., 2014). Given the disproportionate effects on women and the significance of their involvement in climate action, several SADC member states are creating gender-responsive CC policies and action plans. Although some progress has been made, there are challenges yet to be resolved. These include ensuring that women are meaningfully involved in decision- making, improving their access to resources and turning policy commitments into real actions at the local level.

Regional Policy in the SADC

The SADC provides a regional structure for promoting gender-responsive climate governance; however, its impact differs across member states. While the framework encourages cooperation and policy coordination, putting these commitments into action at the national level often depends on strong political commitment, adequate technical capacity and sufficient financial support.

Regional Mandates and Cross-Cutting Requirements

Gender is integrated in the SADC CC Strategy and Action Plan (CCSAP, 2020–2030) (Mandlenkosi et al., 2025). The strategy states that youth inclusion and disaster risk reduction should be treated as cross-cutting priorities in both adaptation and mitigation policies (SADC, 2015c). In addition, the SADC Protocol on Gender and Development (2008) provides a legal framework that requires member states to adopt gender-responsive laws and policies. Three guiding principles for national practice are established by these instruments taken together:

- Gender mainstreaming across sectors
- Targeted support for the most vulnerable
- Monitoring and reporting against regional targets

Institutional Pathways at the Regional Level

The SADC Secretariat's Gender Unit, together with its Environment and Climate Change Directorate, is responsible for overseeing the strategy's implementation at the institutional level. The Gender Unit promotes gender analysis, capacity building and sectoral policy integration. Implementation cycles of five years are planned by the CCSAP, with monitoring at the Secretariat and member state levels. However, reliance on donor funding and national differences in political commitment limit effectiveness (SADC, 2015c).

Linking Regional Policy to National Practice

The SADC Protocol and the CCSAP mandate that member states incorporate gender mainstreaming into their national climate policies, NDCs, and NAPs, but they do not offer standardized solutions. Peer review procedures, training courses, and technical guidelines are employed to assist with national implementation. In order to operationalize these commitments, many nations rely on a combination of external and domestic funding. Therefore, even though the regional framework is sound, national translation calls for more institutional strength, gender-neutral metrics, and long-term domestic funding (Tuba and Lawack, 2023).

Gaps in Gender Mainstreaming in SADC Countries

In order to address inequalities and advance equality, gender mainstreaming in SADC entails incorporating a gender perspective into all climate-related policies and initiatives (Smout, 2020). Although the objective is clear, regional implementation is still inconsistent. For instance, South Africa has promoted gender equality frameworks based on its laws and Constitution, and its National CC Adaptation Strategy (2019) recognizes the vulnerabilities faced by rural women (Chingarande et al., 2020). However, the absence of clear operational gender provisions in the CC Act (2024) and Draft CC Bill (2018) reflects a lack of interministerial cooperation and a lack of gender-disaggregated data (Engel, 2025; Mvubu and Hlongwane, 2024). Similar patterns are seen in regional trends. Although it mainly depends on donor funding, Zambia's CC Gender Action Plan (2019) connects gender with climate goals (Mukoni, 2021). Despite having inadequate institutional capacity and underfunded women's organizations, Mozambique integrates gender into disaster risk reduction policies (Dlamini and Mungoni, 2023). Although Namibia's updated National Climate Policy (2021) recognizes the roles that women play in adaptation, it does not include gender-responsive budgeting in crucial areas (Chaka and Amadhila, 2022). Gender is a cross-cutting theme in Zimbabwe's National Development Strategy 1 (2021–2025) and National Climate Policy (2017), but implementation is hindered by a lack of quantifiable indicators and inadequate local government capacity (Banda and Nyoni, 2024).

Persistent Regional Barriers

SADC encounters structural challenges at the regional level, such as:

1. Weak capacity within the gender and climate ministries
2. Lack of gender-disaggregated climate data
3. Absence of gender-responsive budgeting in climate policies
4. Overdependence on donor funding
5. Limited local capacity to mainstream gender at subnational levels
6. Weak binding frameworks to enforce gender commitments

These disparities show how urgently stronger institutional frameworks, standardized policy design, and resources specifically allocated to gender-climate integration are needed. Without these changes, climate action runs the risk of escalating already-existing disparities and weakening regional resilience.

Table 2: Climate Policy Effectiveness, Gender Responsiveness, and Governance

Country	Key Climate Policies & Strategies	Gender Integration in Climate Policy	Identified Gaps	Recent Reference (2020–2025)	Policy Effectiveness/ Status
South Africa	CC Act (2024); National CC Adaptation Strategy (2019); National CC Response White Paper (2009)	The adaptation strategy and the White Paper recognise women's role in adaptation.	CC Act lacks gender provisions; weak enforcement of gender clauses; limited gender-disaggregated data; poor inter-ministerial coordination.	(Engel, 2025)	Partial implementation
Zambia	CC Gender Action Plan (2019); National Adaptation Plan (2022)	Strong linkages between gender & climate; includes gender-disaggregated indicators.	Implementation donor-driven, weak domestic financing, and limited integration into national budget planning.	(Mukoni, 2021)	Partial implementation
Mozambique	National CC Adaptation & Mitigation Strategy (2021); Disaster Risk Reduction Master Plan (2020)	Gender integrated into disaster risk management; emphasis on women in resilience building.	Weak institutional capacity; poor M&E frameworks; women's groups are underfunded.	(Dlamini and Mungoni, 2023)	Partial implementation
Namibia	National Policy on CC (2021, review); National Gender Policy (2019)	Acknowledges women as a vulnerable group; promotes women in decision-making.	Absence of gender-responsive budgeting; lack of cross-sectoral data.	(Chaka and Amadhila, 2022)	Full implementation

Zimbabwe	National Climate Policy (2017); National Development Strategy 1 (2021–2025)	Gender is treated as a cross-cutting theme.	Lack of clear indicators; insufficient capacity in rural local governments.	(Banda and Nyoni, 2024)	Weak implementation
Malawi	National CC Management Policy (2016); National Resilience Strategy (2018–2030)	Policies recognise women's vulnerability and promote inclusion in resilience programs.	Limited resources for women's empowerment; weak institutional frameworks; insufficient climate-gender data.	(Gondwe and Msiska, 2023)	Partial implementation
Botswana	National CC Policy (2021); National Development Plan 11 (2017–2023)	Gender referenced in development planning; some efforts to mainstream women in climate adaptation	Gender integration remains superficial; lack of monitoring indicators, and limited participation of rural women	(Ozor et al., 2020)	Weak implementation

Role of NGOs and International Organizations in Advancing Gender-Responsive Climate Governance in SADC

Non-governmental organizations (NGOs) and foreign partners have emerged as key players in bridging the gap between the promises made in climate policy (Figure 3) and practical action for women throughout the SADC. When state institutions fail, these actors act as funding catalysts, policy advisors, trainers, and advocates to lessen the impact. By promoting policies that more accurately represent women's lived realities, they have transformed the region's approach to gender and climate security, building on more than three decades of cooperation that began in the 1990s. The contribution of NGOs and international organizations to the advancement of gender-responsive climate governance throughout SADC is summed up in Table 3.

Figure 3: Ecosystem of gender-responsive climate governance in SADC: flow from grassroots NGOs, through national and international partners, to regional coordination, highlighting key challenges and resulting outcomes.

Regional Champions Driving Change

There are organizations in the SADC region that are well-known in the fields of gender and climate. Since 2010, more than 15,000 women leaders have been empowered by Gender Links, the Women in Politics Support Unit, Gender and Media Southern Africa, and the Southern African Research and Documentation Centre, forming a powerful network of grassroots and political change agents (Made and Morna, 2009; Nedziwe, 2024). Particularly significant are legal advocacy organizations like Women and Law in Southern Africa (WLSA) and Women in Law and Development in Africa (WiLDAF), which have pushed for reforms in 12 SADC nations (Bond, 2019; Nedziwe and Tella, 2023a). Between 2018 and 2023, eight countries passed gender-responsive climate laws as a result of their persistent lobbying. More than 250,000 women in rural areas have benefited from the integration of climate-health education into current programs by health-sector NGOs like SAfAIDS and the Regional HIV and AIDS Initiative (Made and Morna, 2009). Conversely, education-oriented, a new generation of climate-conscious leaders has been raised by organizations like Education of Girls and Women in Africa (FAWE), which has implemented climate resilience modules in 180 schools, educating 45,000 girls.

National-Level Success Stories

- South Africa: Between 2020 and 2024, NGOs like Gender CC Southern Africa and the Women in Energy and CC Forum have secured R2.8 billion in gender-responsive climate finance, trained 2,500 local officials in gender-responsive climate planning, and assisted 150 women-led renewable energy cooperatives that produce 25 MW of clean power (Gender, 2024; Marema and Vogel, 2023).

- Zambia: Through its collaboration with 85 rural women's cooperatives, the Zambia CC Network has promoted climate-smart farming, which has improved food security for 12,000 farmers and raised crop yields by 35%. Zambia's National CC Policy was revised in 2022 as a result of its grassroots advocacy (Ngoma et al., 2023).

International Partners Stepping Up

The UN system has played a critical supporting role:

- The UNDP has spent $45 million to improve gender-responsive climate policies in ten SADC nations, impacting historic frameworks like Mozambique's disaster risk reduction plan and Namibia's National Climate Policy (UNDP, 2022).

- 75,000 women in Mozambique, Madagascar, and Malawi have benefited from UN Women's "Women's Resilience to Disasters" program, which has also trained 1,800 women to be disaster risk reduction advocates and established 320 early-warning systems (Women, 2023).

- In order to create CC Gender Action Plans (ccGAPs), the IUCN collaborated with governments in six nations (Botswana, Eswatini, Tanzania, Lesotho, Namibia, and Zambia), involving 450 stakeholders and obtaining $78 million in climate finance (IUCN, 2021).

- 95 women-led adaptation projects, such as water cooperatives, sustainable agriculture programs, and renewable energy cooperatives that currently power 28,000 households, have been funded by grassroots initiatives backed by Oxfam Southern Africa and the Southern African Trust (Oxfam, 2022).

Building Regional Momentum

Gender priorities have been incorporated into the Regional CC Strategy and Action Plan (2020–2030) at the continental level by the SADC Gender Unit in partnership with the African Development Bank and the SADC Climate Services Centre. In addition to creating gender focal points in each of the 16 member states, this initiative raised $125 million in funding. However, due to limited local capacity and resource constraints, only roughly 60% of planned activities have been carried out (Dlamini and Mungoni, 2023).

Persistent Challenges

Despite these successes, several barriers hinder transformative impact:

- Sustainability: The majority of projects have stop-start programming because they depend on donor cycles that last two to five years. When funding expires, about 65% of projects led by women come to a standstill.

- Misaligned Priorities: Despite the fact that 80% of vulnerable women reside in rural areas, about 70% of climate funding is allocated to urban areas.

- Coordination Gaps: Duplication and fragmented influence are frequently caused by weak ties between NGOs and governments.
- Local Capacity Limitations: Many communities lack the technical know-how necessary to maintain climate initiatives over the long run.

The Path Forward

NGOs and international organizations are undeniably key to promoting gender-responsive climate governance in the SADC region. Their contributions are shown in areas like influencing national policies, securing climate funding, and training thousands of women leaders. However, to make real progress, stronger coordination among institutions, improved donor priorities that reflect local realities, and enforceable accountability measures will be crucial. SADC can only accomplish sustainable, transformative, and genuinely gender-responsive climate governance through such thorough coordination.

Table 3: Role of NGOs and International Organizations in Advancing Gender-Responsive Climate Governance in SADC

Actor / Organization	Focus Areas	Key Achievements / Impact	Challenges
Gender Links, WIPSU, Gender & Media Southern Africa, SARDC	Women's empowerment, leadership, media & policy advocacy	Empowered 15,000+ women leaders since 2010; built grassroots and political networks	Limited funding cycles; uneven reach in rural areas
WLSA, WiLDAF	Legal reforms, women's rights, policy advocacy	Influenced 8 SADC countries to adopt gender-responsive climate laws (2018–2023)	Implementation gaps in the enforcement of laws
SAfAIDS, Regional HIV & AIDS Initiative	Health, climate-health education	Reached 250,000+ rural women with integrated climate-health programs	Lack of sustainable funding
FAWE	Education, climate awareness	Introduced climate resilience modules in 180 schools, reaching 45,000 girls	Limited integration into national curricula
South Africa (Gender CC, Women in Energy & Climate Forum)	Gender-responsive climate planning, renewable energy	Trained 2,500 officials; supported 150 women-led cooperatives (25 MW renewable power); secured R2.8B climate finance	High urban focus, less rural impact
Zambia CC Network	Agriculture, food security, advocacy	Supported 85 cooperatives, boosting yields by 35%; influenced the 2022 National Climate Policy	Scaling remains a challenge.
UNDP	Policy support, finance	Invested $45M in gender-responsive policies across 10 countries	Dependence on donor cycles

UN Women (Women's Resilience to Disasters)	Disaster risk reduction, women's leadership	Benefited 75,000 women; established 320 early-warning systems; trained 1,800 champions	Limited reach beyond pilot regions
IUCN (ccGAPs)	Climate & gender action planning	Engaged 450 stakeholders, mobilized $78M finance in 6 countries	Monitoring and evaluation remain weak
Southern African Trust & Oxfam	Grassroots adaptation, women-led initiatives	Supported 95 projects (water, farming, energy) impacting 28,000 households	Post-project sustainability concerns
SADC Gender Unit + AfDB	Regional strategy & policy	Integrated gender into SADC Climate Strategy (2020–2030); mobilized $125M	Only 60% of planned activities were implemented

Examples of Gender-Responsive Policy Interventions

Climate change affects women more severely, and persistent gender inequalities often limit their ability to adapt and respond effectively. As a result, research on gender-responsive policy interventions has become increasingly important in Southern SADC countries (Tirivangasi and Nyahunda, 2019). The conversation has changed over the last ten years from portraying women as merely vulnerable groups to acknowledging them as proactive change agents in the fight against climate change (Adeola et al., 2023a; Morna and Dube, 2014). This perspective aligns with international commitments, including the Sustainable Development Goals, particularly SDG 13 on climate action and SDG 5 on gender equality—which underscore the importance of integrating gender considerations into climate policies (Adeola et al., 2023b). Although women make up a large part of SADC's agricultural workforce, structural barriers to decision-making and access to resources make them more vulnerable to climate impacts (Nyahunda and Tirivangasi, 2022; Perelli et al., 2024). Strategies that specifically address these inequalities while empowering women within climate adaptation and mitigation framework are referred to as gender-responsive policy interventions (Angula et al., 2021; Mapedza et al., 2022). Given the intersectionality of social identities and power dynamics that influence adaptive capacities, promoting gender equality is both a goal in itself and a strategy to enhance the effectiveness of climate action (Mubaya and Mafongoya, 2017; Onyango et al., 2023; Rainard et al., 2023). This review examines how gender is operationalized in SADC climate governance by analyzing policy design, implementation, and outcomes (Alber, 2024; Gerhard et al., 2023). Its main aim is to assess how gender-responsive interventions affect the results of gender equality initiatives within climate programs, highlighting best practices, challenges, and gaps in policy frameworks (Nikghadam-Hojjati et al., 2025; Tirivangasi and Nyahunda, 2019). By filling in these gaps, the review provides useful information for researchers, practitioners, and policymakers looking to improve gender integration in climate action (Boudalia et al., 2024; Mutsvangwa-Sammie and Manzungu, 2021). Important Results and Remarks from Important Research in SADC Countries, respectively, are shown in Table 4.

Table 4: Key Findings and Remarks from Significant Studies in SADC Countries

Study	Policy Design Inclusivity	Implementation Effectiveness	Institutional & Administrative Support	Socio-Cultural Contextualization	Budget Allocation & Utilization	Key Findings / Remarks
(Perelli et al., 2024)	Mixed gender roles in farm decision-making; context-specific policies required	Women's decision-making boosted CSA adoption in Malawi; limited impact elsewhere.	Limited institutional focus on gender in agriculture	Social, regulatory, and cultural factors shape empowerment	Not explicitly addressed	Women's decision-making enhanced CSA adoption in Malawi; mixed roles highlight the need for context-specific policies. Limited impact observed in other locations.
(Doku, 2024)	Climate finance is recognized as a gender mainstreaming tool	Climate finance reduces gender inequality in both the short- and long-term	Institutional climate finance mechanisms support gender goals	Rainfall variability exacerbates gender inequality	Climate finance strengthens gender equality	Climate finance effectively mainstreams gender, reduces inequalities, and is supported by institutional mechanisms. Contextual challenges like rainfall variability persist.
(Kihoro et al., 2024)	Gender equality is linked to empowerment dimensions in adaptive capacities	Positive correlation between empowerment and CSA adoption	Institutional support for gendered climate information services is needed	Gender norms and resource access are critical	Not explicitly addressed	Empowerment positively influences CSA adoption; multi-dimensional approaches and gendered information services are essential; gender norms and resource access remain key barriers.
(Udo et al., 2025)	Integration of local women's knowledge into adaptation strategies	Sustainable, context-specific gendered adaptation practices	Limited formal institutional backing; bottom-up approaches emphasized	Intersectionality and feminist political ecology applied	Not explicitly addressed	Incorporating local women's knowledge enhances sustainability; bottom-up and intersectional approaches improve effectiveness despite limited formal support.

(Sikhosana et al., 2024)	Gender-responsive budgeting (GRB) was proposed as a policy tool	GRB mitigates gendered climate vulnerabilities	Institutional challenges in operationalizing GRB	Gender analysis enhances understanding of vulnerabilities	GRB has the potential to address climate vulnerabilities	GRB is a promising tool to reduce gendered climate vulnerabilities; institutional challenges exist, but gender analysis improves policy targeting and effectiveness.

Research Gaps

Rising climate risks, such as frequent droughts, floods, cyclones, and changing rainfall patterns, are a concern for the SADC region (Duma and Mashimbye, 2024; Mberi and Zuva, 2024). Differentiated vulnerabilities are created among population groups by the intersection of these risks with structural injustices, land tenure insecurity, gendered labour divisions, and rural poverty (Chigudu, 2025; Stadler et al., 2024). There are several important research gaps when examining how CC affects genders differently in SADC. The main research gaps in gender-responsive climate governance in SADC nations are compiled in Table 3, which also highlights how these gaps affect women's vulnerability and ability to adapt. In order to close these gaps, it also suggests future priorities, such as better data collection, inclusive policy design, sustainable financing, and increased participation from women. For policymakers, researchers, and practitioners looking to improve gender integration in climate adaptation strategies, this overview offers a clear road map.

Table 5: Research Gaps, Impacts, and Future Priorities in Gender-Responsive Climate Governance in SADC

Research Gap	Impacts	Suggested Future Priorities
Lack of Gender-Disaggregated Data	Limits the design of targeted climate policies; women's vulnerabilities remain under-addressed (African-Development-Bank-Group, 2015; UN-Women, 2016)	Improve collection of sex-, age-, and context-specific climate data; integrate indigenous knowledge and marginalized groups (FAO, 2018; SADC, 2020c)
Policy Blind Spots & Weak Gender Mainstreaming	Gender-neutral policies fail to address differentiated vulnerabilities; women-headed households and youth farmers remain overlooked (Awiti, 2022; Sauer and Stieß, 2021)	Develop actionable, culturally sensitive, and gender-inclusive climate policies; implement Gender Impact Assessments (GIAs) (Wong and Mandondo, 2016)
Resource Misallocation & Funding Bias	Adaptation measures benefiting women (small-scale irrigation, CSA training) are underfunded; donor-dependent financing limits sustainability (Deininger et al., 2023; MUHWEZI and TURYASINGURA, 2025)	Establish sustainable, accountable, and gender-responsive climate financing mechanisms; prioritize localized adaptation interventions (FAO, 2018; SADC, 2020c)

Under-Representation in Community Participation	Aggregated participation figures mask gender disparities; women's leadership and decision-making influence remain limited (Wong and Mandondo, 2016)	Track gender-disaggregated participation; strengthen women's representation in governance; design technologies addressing women's specific needs (ASADC, 2008; UN-Women, 2016)
Weak Monitoring, Evaluation & Accountability	Inadequate sex- and age-specific indicators; inability to measure equitable outcomes; compliance with gender-responsive commitments remains weak (Deininger et al., 2023)	Integrate gender-disaggregated M&E indicators; set measurable targets; enhance accountability in national climate strategies (FAO, 2018; SADC, 2020c)
Intersectional & Contextual Gaps	Policies often overlook intersectionality (disabilities, socio-economic status) and local knowledge, reducing policy effectiveness (SADC, 2020c; UN-Women, 2016)	Incorporate intersectional approaches; value indigenous knowledge; ensure culturally appropriate interventions (UN-Women, 2016; Wong and Mandondo, 2016)

CONCLUSION

Women are disproportionately impacted by the complex interactions of CC, socioeconomic disparities, and gendered vulnerabilities in the SADC region, but they also play a crucial role as agents of resilience and adaptation. Gaps still exist in implementation, mainstreaming, and sustainable financing, despite the growing recognition of gender-climate links in regional and national policies. Although NGOs and international organizations have shown transformative potential through influencing policy reforms, empowering women, and developing local capacity, issues like short donor cycles, under-representation in decision-making, and poor coordination limit the sustainability of these initiatives. Women-led projects and indigenous knowledge are important but underutilized resources for climate adaptation. SADC must address intersectional vulnerabilities, perform gender impact assessments, gather data that is broken down by age and sex, and incorporate explicit gender provisions into policies in order to improve gender-responsive climate governance. Rural and community-led interventions should be given priority in sustainable, long-term funding, and capacity-building programs should empower women in disaster risk reduction, climate-smart agriculture, and renewable energy projects. To guarantee efficient, just, and sustainable climate adaptation, it is also crucial to record Indigenous knowledge, advance inclusive governance, improve multi-stakeholder cooperation, and set up strong monitoring and accountability systems. By putting these tactics into practice, SADC can change women from being passive recipients of aid into active leaders and innovators who will promote resilience and sustainable development throughout the region.

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