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Effect of Institutional Support for Climate Change Adaptation on Gender Roles among Maasai Communities in Laikipia North Sub- County

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***Abstract**: The purpose of the study was to establish the effect of institutional support for climate change adaptation on gender roles among Maasai communities in Laikipia North Sub-County. The study adopted a mixed-method research design. The target population comprised 1,469 respondents, including self-help groups, community institutions, government bodies, and NGO/CBO representatives. A Sample size of 147 was drawn, a combination of purposive and cluster sampling techniques was used to select respondents. Data were collected through semi-structured questionnaires and focus group discussions (FGDs). The study evaluated content, construct, and face validity to ensure that the questionnaires and FGD guides accurately captured the targeted information and aligned with the research objectives. Both qualitative and quantitative techniques were applied to analyze the collected data. The findings showed that households receiving institutional support were more likely to agree that such support improves women's access to productive resources ($M = 3.87$, $SD = 1.04$) than those without support ($M = 3.31$, $SD = 1.22$), $t(106) = 2.56$, $p = 0.012$. This demonstrates that institutional interventions produce measurable, statistically significant improvements in resource access beyond household efforts. The study concluded that institutional support is the most gender-transformative of the three adaptation strategies examined, generating the largest gains in women's decision-making, joint household governance, and resource access. However, its reach remains limited to about half of households and performs poorly on workload reduction, constraining its transformative potential. Government agencies, NGOs, and community institutions such as self-help groups should expand coverage through mobile-extension models and peer-network outreach in remote pastoral wards while integrating labor-saving support into their programming.*

***Keywords:** Gender roles, institutional support, climate change adaptation, Community, Laikipia*

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1. Introduction

The Intergovernmental Panel on Climate Change (IPCC) reports that global temperatures continue to rise, extreme weather events are becoming more frequent, and vulnerable populations are disproportionately affected due to limited adaptive capacity (IPCC, 2023). To address these issues, the United Nations implemented the Sustainable Development Goals (SDGs), offering a framework to tackle climate change while encouraging social equity and sustainability. Africa remains highly vulnerable to climate change due to its reliance on climate-sensitive sectors like agriculture and pastoralism, widespread poverty, and limited institutional capacity to handle climate risks (IPCC, 2023). In East Africa, climate variability has worsened, with longer droughts, unpredictable rainfall, and recurring food insecurity affecting millions. Pastoral and agro-pastoral communities, which rely heavily on natural resources for their livelihoods, are especially vulnerable. Climate change adaptation has come to be understood as a gender-based process because research shows that gender-based inequalities create different effects on people's ability to adapt and their capacity to withstand climate feedback. The first global research studies demonstrated that climate change creates a heavier

burden on women because they lack access to resources and have restricted decision-making power while being expected to fulfill their traditional roles of childbearing and caregiving (Denton, 2002). Prakash et al. (2024) and Prakash et al. (2022) show that environmental institutions implement gender-sensitive approaches inconsistently, resulting in inadequate systems to verify whether organizations achieve their established commitments.

Although governments and development partners have promoted various climate adaptation strategies, research indicates that the gendered aspects of these approaches are often neglected, despite women's key roles in natural resource management, food production, and household resilience (FAO, 2022). This oversight is particularly prominent in pastoral areas, where traditional gender norms influence access to resources, decision-making, and participation in climate interventions.

In Kenya, climate change has become evident through rising temperatures, extended drought periods, erratic rainfall, and decreased access to water and pasture, especially in arid and semi-arid lands (Government of Kenya [GoK], 2022). These impacts are particularly pronounced in Laikipia North Sub-County, where many Maasai households rely on livestock keeping and natural resources for their livelihoods. Climate variability has placed pressure on traditional pastoral systems, prompting households to adjust their livelihood strategies and adaptation practices. Within Maasai communities, gender roles have historically been clearly differentiated: men have primarily been responsible for livestock herding, security, and community decision-making, while women have mainly handled domestic responsibilities such as water and firewood collection, childcare, milking, and small-scale farming (Njuki et al., 2021). However, climate change has altered the ecological and socio-economic context in which these roles are performed. Increased resource scarcity and livelihood uncertainty have necessitated changes in household and community responses to climate risks, which may affect existing gender relations, although these dynamics remain insufficiently documented in Laikipia North Sub-County.

In response to climate change, Maasai households and institutions have increasingly engaged in a range of adaptation strategies, including livelihood diversification, adoption of climate-smart practices, and participation in programs supported by governmental and non-governmental institutions (FAO, 2021; IPCC, 2022). Livelihood diversification may involve engagement in multiple income sources, women's income participation, gendered labor shifts, and joint livelihood decisions (Eriksen et al., 2021; Njuki & Sanginga, 2023), while adoption of climate-smart practices may include access to climate information, gendered labour demands, decision-making on adoption, and control of practice benefits (FAO, 2021; World Bank, 2023). Additionally, institutional support for climate change adaptation, such as gender-responsive policies, women's institutional inclusion, access to support services, and the capacity of local institutions, has become an important component of climate resilience efforts (IPCC, 2022; UN Women, 2022). While these adaptation responses are widely promoted as mechanisms for enhancing resilience, there is limited empirical evidence on how they relate to gender roles within Maasai households and communities in Laikipia North Sub-County (Kimani et al., 2022; Omolo et al., 2021). Consequently, there is a need for context-specific research that examines how climate change adaptation strategies intersect with gender roles among the Maasai. This study therefore seeks to examine the effects of livelihood diversification, adoption of climate-smart practices, and institutional support for climate change adaptation on gender roles among Maasai communities in Laikipia North Sub-County, in alignment with the principles of SDG 5 and SDG 13.

1.1 Problem Statement

Climate change has increasingly disrupted traditional pastoral livelihoods of Maasai communities in Laikipia North Sub-County through recurrent droughts, erratic rainfall, and declining access to water and pasture, compelling Maasai households and institutions to adopt various adaptation strategies such as livelihood diversification, climate-smart practices, and participation in institutional support programs for climate change adaptation. Although these strategies are promoted as pathways to enhance climate resilience, their social implications, particularly with regard to gender roles in a traditionally patriarchal Maasai society, remain insufficiently understood. Existing studies on climate change adaptation in pastoral contexts have largely emphasized economic and environmental outcomes, with limited empirical attention to how such adaptation strategies interact with and potentially reshape gender roles among the Maasai communities. This knowledge gap constrains the development of gender-responsive climate adaptation interventions aligned with SDG 5 (Gender Equality) and SDG 13 (Climate Action). Therefore, this study seeks to examine the effect of institutional support for climate change adaptation on gender roles among Maasai communities in Laikipia North Sub- County.

2. Literature Review

2.1 Empirical Review

Research studies from various countries worldwide show that institutional frameworks determine how men and women will respond to climate change adaptation practices. Institutions that follow gender-responsive policies achieve equal participation through financial systems that enable all members to join the decision-making process, and through programs that develop skills and activities that apply gender equality principles (Prakash et al., 2024; Anuradha & Saggu, 2023). Global reviews further show that climate policies and institutions often recognize gender differences rhetorically yet fail to translate this recognition into meaningful redistribution of resources, authority, and decision-making power. The implementation of adaptation initiatives leads to better resilience outcomes because they address existing gender relations directly, but their approach limits the success of their gender-transformative efforts (Ahmed et al., 2022). The evidence shows that weak institutional coordination together with technocratic policy designs and gender-

blind implementation methods create unintentional reinforcement of existing inequalities because these practices demand more unpaid work from women while they prevent women from participating in important decision-making processes.

The studies from Sub-Saharan Africa and South Asia demonstrate that institutional quality and governance systems act as mediators for adaptation support which results in changes to gender roles throughout the region. The research evidence from Ethiopia and South Asia shows that institutional and socio-cultural barriers create substantial gender differences in adaptation adoption which results in different outcomes than those which would arise from individual characteristics (Aryal et al., 2022; Mushtaq & Afzal, 2024). Women lose their ability to adapt because formal institutions such as extension services and climate finance and seed systems and policy forums remain inaccessible to them. The analysis across the entire region shows that when women gain institutional access to civil and political and economic decision-making processes their climate vulnerability decreases while their resilience capacity improves (Mushtaq & Afzal, 2024). The regional research studies show that institutional support systems treat women as a single vulnerable category which prevents them from understanding how different factors like age and marital status and ethnicity and livelihood systems affect their vulnerability (Upadhyay & Bastola, 2024).

Institutional dynamics in East Africa specifically in Kenya determine how women and men adapt to agricultural and pastoral practices. The research on seed systems and climate adaptation institutions in Kenya, Tanzania and Uganda demonstrates that women utilize informal social networks more than formal organizations because they face climate stress just like men do (Marimo et al., 2021). The reliance on these informal systems prevents women from accessing advanced technological solutions and climate data and official recognition which creates barriers to social mobility for women. Qualitative evidence from rural East Africa shows that men hold primary decision-making power for household and community adaptation efforts while women participate only in domestic tasks and in female-led households (Niemann et al., 2023). The climate changes in pastoral areas that force people to abandon their traditional livestock-based livelihoods create new challenges for men because it forces them to develop new skills and adapt to new realities which demonstrates how adaptation processes bring changes to both women's roles and men's social status (Dormal, 2025).

Local-level studies provide additional insights into how institutional support can either enable or constrain gender-equitable adaptation. Evidence from Namibia and Tunisia shows that civil society organizations, public institutions, and research actors play a critical role in strengthening women's adaptive capacity when gender analysis is integrated at the project design stage (Angula et al., 2021; Mazhoud et al., 2025). Where institutional support is fragmented, short-term, or poorly coordinated, adaptation interventions may exacerbate household tensions, deepen gender inequities, and marginalize women from benefit-sharing (Ahmed et al., 2022). Conversely, participatory institutions that promote women's leadership, recognize indigenous and experiential knowledge, and align financing with gender-specific needs contribute to more inclusive and sustainable adaptation outcomes (Gicheru et al., 2024).

Despite the increasing number of research studies available, essential research areas still need further exploration. First, existing studies focus on policy frameworks and institutional intentions rather than testing the actual effects of institutional support on reshaping gender roles within families and communities. Second, Kenyan research mainly investigates agricultural and seed systems institutions, resulting in insufficient study of adaptation governance frameworks and local policy implementation. Third, researchers possess minimal data about how institutional climate change adaptation support affects gender roles within

Laikipia North Sub-county's pastoral and agro-pastoral environments. The research study investigates these missing areas by examining how institutional climate change adaptation support affects gender roles, participation, and decision-making processes, producing local evidence that helps develop gender-equal adaptation policies and practices.

2.2 Theoretical Review

2.2.1 Gender and Development (GAD) Theory

The Gender and Development (GAD) theory emerged in the 1980s as a response to the limitations of the Women in Development (WID) approach, which treated women as separate beneficiaries who received development programs while ignoring the entire social, economic, and political systems that create gender-based discrimination (Challinor, 2010). GAD shifts the focus from women alone to the social relations between men and women because it requires people to study how gender-based power structures operate and their impact on development work. The theory requires development projects to apply gender analysis at every stage of the project to achieve equality while solving systemic discrimination problems (Inberg & Holvoet 2014).

GAD developed from feminist WID critiques because it showed that development work that supports women only fails to achieve real change unless actual social norms and institutional barriers get addressed. GAD implementation reached its first major milestone with the 1995 Beijing Declaration and Platform for Action, which established gender mainstreaming as a development policy requirement while emphasizing the need to resolve structural boundaries instead of only focusing on women's involvement (Inberg & Holvoet, 2014). The fundamental principles of GAD demonstrate that social systems practice gender discrimination through their established norms and institutional frameworks and their distribution of resources. The theory demands that people should have equal asset rights to land and access to financial resources and technological systems and informational content and decision-making authority in their households and organizations. The system acknowledges how gender intersects with different social categories which include age and class and ethnicity. The GAD framework has provided valuable insights yet it has encountered multiple challenges which critics identify. The framework treats female sexuality and reproductive

health issues as public health matters rather than essential elements for female empowerment because it fails to address these critical areas (Robertson, 2019). The empowerment programs face a risk because they prioritize women while needing to include men who understand how their identities shape traditional masculinity (Þorkelsson, 2014). The connection between GAD theories and modern neoliberal development frameworks creates a gap which affects educational and economic policies so these theories lose their ability to create change (Unterhalter, 2025).

The adoption and adaptation of climate-smart agricultural methods and practices which demonstrate gender differences in their implementation need GAD as their main theoretical framework. The research shows that men and women have different reactions to adaptation programs because structural inequalities prevent them from accessing land and credit and extension services and climate information. The theory determines whether institutional mechanisms which include inclusive financing and capacity-building programs and participatory planning lead to actual power shifts or result in temporary inclusion of women into decision-making processes. The research investigates social norms combined with gender-based work patterns which affect pastoralists climate-smart practices adoption and their ability to make decisions and deal with climate change impacts. GAD theory supports this research because it defines gender as a social element that develops through social interactions and ties to other social variables to determine which climate smart practices and rural adaptation strategies are effective and fair in their implementation.

2.3 Conceptual Framework

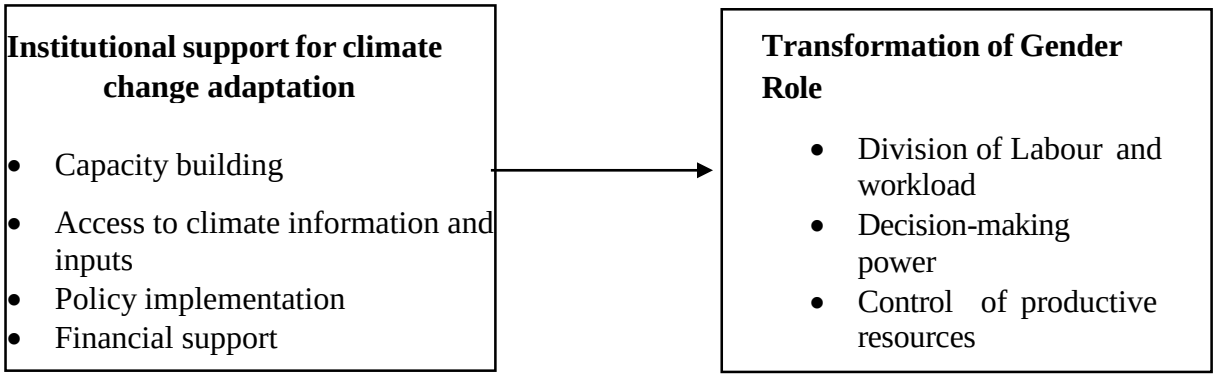

Figure 1: Conceptual Framework

3. Methodology

This study adopted a mixed-method research design. The design provided the researcher with a profile to explain relevant aspects of the phenomenon of interest from the viewpoint of individuals in Laikipia North Sub-County, of Kenya's Laikipia County. The total target population comprised 1,469 respondents, including Self-help groups, community institutions, government bodies, and NGO/CBO representatives. A sample size of 147.This study employed a combination of purposive sampling and cluster sampling techniques to select respondents. Purposive sampling was used to select Laikipia North Sub-County due to its high vulnerability to climate change and the predominance of pastoralist livelihoods. On the other hand, Cluster sampling was used to select respondents from the three wards: Sossian, Mukogodo East, and Mukogodo West, where self-help groups and institutions served as clusters. Data for this study were collected through semi-structured questionnaires and focus group discussions (FGDs) . This study evaluated content, construct, and face validity to confirm that the questionnaires and focus group discussion guides accurately captured the targeted information and aligned with the research goals. Ethical approval for this study was obtained from the University Ethics Review Committee (EUREC). A research permit was subsequently secured from the National Commission for Science, Technology and Innovation (NACOSTI). Prior to data collection, all participants were informed about the purpose and procedures of the study, and written informed consent was obtained from each participant. Participation was voluntary, and respondents were free to decline or withdraw from the study at any stage without penalty. The study applied both qualitative and quantitative techniques of data analysis to analyse the collected data. Thematic analysis was used to analyse qualitative data and SPSS to analyse quantitative data.

4. Results and Discussion

4.1 Effect of institutional support for climate change adaptation on gender roles among Maasai communities in Laikipia North Sub-County

This section presents findings related to the study objective, which was to evaluate the effect of institutional support for climate change adaptation on gender roles among Maasai communities in Laikipia North Sub-County. First, respondents were asked if they had received institutional support for climate adaptation. Table 1 presents the results.

Table 1: Have You Received Institutional Support for Climate Adaptation? (N=108)

Response	Frequency (n)	Percentage (%)
Yes	53	49.1
No	55	50.9

Table 1 indicates that only 53 respondents (49.1%) received any form of institutional support for climate adaptation, while 55 (50.9%) did not. This gap in coverage has significant implications for gender equity, as formal support systems, such as government programs, NGOs, and community organizations, are essential channels for women to access resources, training, and decision-making opportunities that are often limited by patriarchal norms (UNDP, 2022; UNEP, 2022). For households that received support, the study also aimed to identify the specific types of institutional support provided; the findings are shown in Table 2.

Table 2: Distribution of Types of Institutional Support Received (N=53)

Type of Support	Frequency (n)	Percentage (%)
Capacity building (Training)	36	67.9
Access to farm tools and inputs	28	52.8
Infrastructural support (dams, boreholes)	13	24.5
Policy implementation support	10	18.9
Financial support	7	13.2
Relief food only	5	9.4

Table 2 indicates that training for capacity building was the most common support, accounting for 36 instances (67.9%), followed by access to farm tools and inputs at 28 (52.8%). Infrastructural support, including dams and boreholes, was noted 13 times (24.5%), while policy implementation support appeared 10 times (18.9%), financial aid 7 times (13.2%), and relief food 5 times (9.4%). The prominence of training as the main support form is promising for gender empowerment, as it can improve women's knowledge, confidence, and skills to adapt. Nonetheless, the very low level of financial support at 13.2% raises concern: access to finance is crucial for women's agency, enabling autonomous investment in assets (Barnett & O'Neill, 2010; Mushtaq & Afzal, 2024). Simply providing knowledge transfer programs cannot fully address the asset and capital gaps that restrict women's adaptive capacity (Marimo et al., 2021).

The household respondents were also asked to indicate who participates in or benefits from the institutional support. Table 3 presents the results.

Table 3: Who Participates in/Benefits from Institutional Support? (N=108)

Beneficiary	Frequency (n)	Percentage (%)
Both men and women	50	46.3
Women only	32	29.6
Men only	26	24.1

From Table 3, it can be observed that 50 (46.3%) of the households benefited from institutional support that was jointly participated in by men and women, 32 (29.6%) women only participated, and 26 (24.1%) men only participated. The percentage of women, alone or with men, grouped together, is much larger than the men-only benefit, suggesting an intentional gender targeting through self-help groups and women's cooperatives. However, the GAD framework cautions that the mere inclusion of women within programmes, without addressing the underlying causes of power imbalances, does not constitute true empowerment (Kabeer, 1994; Moser, 1989). The 24.1% of households benefiting only men show the exclusion of women from some ongoing support mechanisms. This could be attributed to male dominance in community barazas and farmer groups that offer extension services.

4.2 Likert Scale Perceptions of Institutional Support and Gender Roles

Respondents were asked to indicate their agreement with statements about how institutional support influences gender roles. Table 4 presents the Likert-scale responses.

Table 4: Frequency Distribution and Descriptive Statistics on Institutional Support (N=108)

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	SD
Institutional support reduces women's workload	7.4(8)	25.9(28)	33.3(36)	25.9(28)	7.4(8)	3.00	1.07
Institutional support promotes equitable labour	4.6(5)	21.3(23)	31.5(34)	31.5(34)	11.1(12)	3.23	1.08
Institutional support increases women's decision-making	0(0)	14.8(16)	28.7(31)	40.7(44)	15.7(17)	3.58	0.94
Institutional support strengthens joint decision-making	2.8(3)	14.8(16)	25.9(28)	42.6(46)	13.9(15)	3.55	0.99
Institutional support improves women's access to resources	4.6(5)	16.7(18)	31.5(34)	36.1(39)	11.1(12)	3.32	1.04
Institutional support supports gender-responsive policy	2.8(3)	12.0(13)	33.3(36)	38.0(41)	13.9(15)	3.49	0.98

Table 4 shows that institutional support had the highest score on the Likert scale among the three adaptation strategies across all gender-role aspects. Both decision-making items, women's decision-making (M=3.58, SD=0.94; 56.4% agree) and joint decision-making (M=3.55, SD=0.99), had the highest mean scores in the study. Notably, no respondent strongly disagreed that institutional support enhances women's decision-making, making this the only statement among all 18 Likert items with zero strong disagreements, highlighting a strong consensus on its transformative potential. High scores for women's access to resources (M=3.32; 47.2% agree) and gender-responsive policies (M=3.49; 51.9% agree) suggest that institutional support affects household and policy levels simultaneously. This dual impact distinguishes it from livelihood diversification and CSP and supports Gicheru et al. (2024), Aryal et al. (2022), and the GAD view that sustainable gender equality depends on systemic institutional reform (Inberg & Holvoet, 2014).

On the other hand, the idea that institutional support decreases women's workload received the lowest average score on this scale (M=3.00, SD=1.07), with 33.3% of respondents disagreeing or strongly disagreeing. While agency scores are high, institutional support is not perceived as reducing women's work, consistent with the critique of the 'add women and stir' approach in GAD theory (Rathgeber, 2020). This paradox is partly due to the limited diffusion of infrastructure support. Boreholes and water dams, which are most directly related to reducing women's water-collection burden, reached only 24.5% of the support recipients. This was clearly illustrated in FGD responses: 'training increased workload, technology reduced workload' and suggests a need for integrated programs that combine capacity building with labor-saving technology (Roy et al., 2022). The high standard deviation (1.07) on the workload item indicates variation by program, with some programs making large reductions and some not, highlighting the significance of program-specific workload monitoring.

4.3 Independent Samples T-Test Analysis

A t-test analysis was conducted to test the effect of selected climate adaptation strategies on gender roles. Table 5 presents the results of the independent-samples t-test.

Table 5: T-Test Results for Key Variables (N=108)

Variable	Group	n	Mean	SD	t-stat	p-value
	Female	77	3.52	1.20		
Institutional support improves women's access to resources	Yes (Support)	53	3.87	1.04	2.56	0.012*
	No (Support)	55	3.31	1.22		

* Significant at $\alpha = 0.05$. All df = 106.

Findings showed that households that received institutional support were more likely to agree that such support improves women's access to productive resources (M=3.87, SD=1.04) compared to those without support (M=3.31, SD=1.22), t(106)=2.56, p=0.012. This demonstrates that institutional interventions produce measurable, statistically significant improvements in resource access beyond household efforts.

4.4 Qualitative Findings

Regarding decision-making, 47.8% of key informants reported joint household decision-making on adaptation strategies, compared to 34.8% reporting husband-dominated decisions and 17.4% wife-led decisions — a more equitable picture than the household survey (husband-only: 30.6%; joint: 59.3%), likely reflecting the institutional bias of key informants who are embedded in gender-mainstreaming programmes and therefore interact with households where deliberate joint decision-making has been promoted. This divergence is analytically important: it suggests that households engaged with institutional support programmes achieve more equitable governance arrangements than the broader community average, providing prospective evidence for the institutional support mechanism identified as the most gender-transformative strategy in the Likert and ranking analyses. Key informants identified two principal structural constraints to gender-transformative diversification, persistent male control over strategic assets and cultural norms restricting women's autonomous decision-making, that directly correspond to the GAD distinction between access (improving) and control (lagging): funds rarely reach women's groups directly, and men continue to control livestock sales regardless of women's expanding income contributions (Moser, 1993; Koech & Khaemba, 2022).

Regarding the effects on decision-making, FGD groups were unanimous that institutional support, particularly training, had increased women's decision-making power and voice. FGD2 Men (Mukogondo East) acknowledged that women are now included in decision-making through empowerment and knowledge transfer. Women's groups from Mukogondo West reported that women are now more vocal and included in leadership committees, while the Sosian women's group noted that women decide on income and buy land through group mechanisms, though individual household land control remains male-dominated.

All FGD groups that discussed institutional support reported receiving training and capacity building, farm tools and seeds, physical infrastructure (such as sand dams and water harvesting structures), and access to economic opportunities like ecotourism and VSLAs. This aligns with the household survey, which found that training (67.9%), farm tools (52.8%), and infrastructure (24.5%) were the main types of support. FGD participants across all groups agreed that women were the primary intended beneficiaries of most programmes, corroborating the survey finding that the combined woman-inclusive participation share (women-only: 29.6% + jointly: 46.3% = 75.9%) substantially exceeds men-only benefit (24.1%). The critical FGD2 Women (Mukogondo East) finding that institutional support sometimes excludes men is a strategic implementation insight that does not appear in the quantitative data: while deliberate women-targeting is appropriate for addressing gender equity gaps, blanket male exclusion may undermine household-level behaviour change by failing to shift male attitudes toward domestic labour sharing and women's resource control, consistent with the men-inclusive design recommendations of Roy et al. (2022) and Marimo et al. (2021). FGD groups' unanimous agreement that training increased women's decision-making power and voice substantiates the IS Likert finding that women's decision-making (M=3.58) and joint decision-making (M=3.55) received the highest scores of any sub-scale across the study, with no respondent strongly disagreeing, and confirms that the training mechanism, more than financial or infrastructure support, drives the perceived gender-equity gains of institutional support.

5. Conclusion and Recommendations

5.1 Conclusion

This study accessed institutional support mainly through self-help groups, NGOs, government extension, and community institutions. It therefore reached just over half of respondents but emerged as the most gender-transformative of the three strategies, producing the highest scores for women's decision-making, joint household governance, women's resource access, and gender-responsive policy engagement. It was, however, the weakest of the three strategies at reducing women's workload, indicating that institutional programmes have

not yet adequately addressed the labour burden associated with adaptation.

The study concluded that institutional support for climate change adaptation is the most gender-transformative of the three strategies examined, generating the largest gains in women's decision-making, joint household governance, and resource access. However, its reach remains limited to about half of households, and it performs poorly on workload reduction, meaning its transformative potential is currently constrained by coverage gaps and an insufficient focus on labor-saving support.

5.2 Recommendations

Based on the study findings and conclusions, the following recommendations are proposed to enhance the effectiveness and gender-transformative potential of climate change adaptation strategies:

1. Expand institutional support coverage. Government agencies, NGOs, and community institutions, such as self-help groups, should scale up institutional support beyond its current coverage by prioritizing households that are not yet affiliated with self-help groups. This can be achieved through mobile extension models and peer-network outreach targeting remote pastoral wards.
2. Integrate labor-saving interventions. Institutions providing climate change adaptation support should incorporate labor-saving technologies and practices into their programs to reduce the workload burden on women and promote more gender-transformative adaptation outcomes.
3. Strengthen financial support mechanisms. Policymakers and development partners should address the financial support gap by channeling climate finance instruments, including index-based livestock insurance and community savings groups, through existing institutional structures to enhance accessibility and effectiveness.
4. Promote research on institutional support modalities. Academic researchers should undertake comparative studies to evaluate the gender-equity impacts of different institutional support approaches. The findings should inform evidence-based policy and investment decisions aimed at enhancing gender-transformative climate change adaptation strategies.

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