

**EFFECTIVENESS OF SOCIAL PROTECTION INTERVENTIONS IN
CLIMATE CHANGE ADAPTATION AMONG SELF-HELP GROUPS IN
SOUTH KABRAS KAKAMEGA COUNTY, KENYA**

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Technology.

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DECLARATION

This proposal is entirely original with no submissions to other evaluation bodies.

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CERTIFICATION

The undersigned confirm that they have reviewed and approve the thesis for acceptance as part of the academic requirements “**Effectiveness of social protection interventions for climate change adaptation among Self-Help Groups in South Kabras Kakamega County, Kenya**” by Masinde Muliro University of Science and Technology.

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DEDICATION

This thesis is dedicated to my loving spouse, Jacob Bushuru, and my children, Jan, Frankline, and Eliana, for their steadfast support throughout this study, as well as to my parents, Mr. Francis Mbuthia and Mrs. Margret Mbuthia, for their tremendous assistance throughout this endeavour.

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ABSTRACT

The National Adaptation Plan and the Kenya Climate Act of 2016 have significantly enhanced opportunities for climate change adaptation, particularly for vulnerable populations in Kenya. Self-Help Groups (SHGs) are recognized as crucial agents of change in adaptation efforts, yet inequalities in access to resources and distribution of opportunities continue to exacerbate climate-related vulnerabilities for marginalized groups. This study assessed the effectiveness of social protection (SP) interventions in fostering climate change adaptation among SHGs in South Kabras, Kakamega County, Kenya. Specifically, it aimed to: identify the nature of SP interventions adopted by SHGs; evaluate the extent to which these interventions address structural vulnerabilities; and examine the challenges and opportunities in implementing adaptive SP measures. Guided by the Empowerment Theory of Perkins and Zimmerman (1995) and Ecofeminism Theory by Françoise d'Eaubonne (1994), the study employed a descriptive research design and correlation analysis. A sample of 302 SHG members was drawn from a population of 1,240, complemented by 15 purposively selected key informants. Data collection involved semi-structured questionnaires and interview guides, analyzed through descriptive, inferential, and thematic methods. The study's reliability was established using Cronbach's Alpha, while content validity was enhanced through feedback-driven refinement of tools. Findings revealed a statistically significant relationship between SP interventions—categorized as provisional, preventive, promotive, and transformative—and climate change adaptation ($R = 0.959$; $p = 0.001$; $F = 228.186$; $p = 0.000$). Challenges such as inequitable resource access and funding limitations were identified, alongside opportunities to leverage SHGs for equitable and sustainable adaptation measures. This study highlights the critical role of SP interventions in addressing structural vulnerabilities and enhancing resilience to climate change, offering insights for policymakers to strengthen grassroots adaptation strategies. On extent of social protection addressing structural vulnerability result revealed that 26.9% of the respondents could not negotiate with external resources, non-access to land title deeds which enables them to improve infrastructure and diversify livelihoods. According to the study's findings, adaptive social protection initiatives may help SHG members become more resilient to the effects of climate change. However, because various groups have varied adaptation needs, this study suggests that the present ASP be restructured to make it more need specific. The study also suggests that academic programs should highlight the ethical aspects of climate justice education since climate change makes already-existing socioeconomic disparities worse. This will prepare future social workers to advocate for policies that address the disproportionate impacts on marginalized communities. The study further recommends a repression of barriers in access to adaptive social protection interventions. The study findings may be adopted by policy makers to enhance the capacities of Self- Help Groups in climate change adaptation.

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LIST OF ABBREVIATIONS AND ACRONYMS

ASP:	Adaptive Social Protection
CCA:	Climate Change Adaptation
CDDC:	Committee Driven Development Committee
CIGs:	Common Interest Groups
CIDP:	County Integrated Development Plan
FAO:	Food and Agricultural Organization
MGNREGA:	Mahatma Gandhi National Rural Employment Guarantee Act
NAP:	National Adaptation Plans
NASW:	National Association of schools of social work
PLWDs:	Persons living with disability
PSNP:	Productive Safety Net Programme
UNFCCC:	United Nations Framework Convention on climate change
UNDA:	United Nations Development Agency
VUP:	Vision Umurenge programme
VUM:	Vulnerable and Marginalized
VSLA:	Village Savings and Loans Association
WII:	Weather index Insurance

OPERATIONAL DEFINITION OF KEY TERMS

Adaptation: This term refers to the steps taken to help Self-Help Groups become more resilient to the effects of climate change.

Adaptive Social Protection: This refers to the efforts made by both the public and commercial sectors to prevent the poor and the vulnerable from falling further into poverty as a result of climate change.

Climate Change: Directional change in climatic variables over a long-term period.

Communities: Refers geographical location with diverse groups of people who have similar characteristics

Self Help Groups: Refers to social change-promoting organizations that bring together vulnerable communities to support one another via common issues or difficulties. The objective is to establish a safe space where participants may talk about their difficulties, trade coping mechanisms, and support one another.

Social Protection: In this study, the term refers to safeguarding against social risks, such as discrimination. This includes formal and informal programmes that provide social assistance to extremely low-income people and households, social services to populations that would otherwise not be able to access basic services or require special care, social insurance to protect people and families from the financial consequences of unanticipated life events, and social justice.

Social protection Interventions: Means specific strategies and measures aimed at safeguarding vulnerable communities from the adverse effects of climate change.

Structural Vulnerability: In this study refers to an inherent weakness or susceptibility within a system, community, or society that makes it more difficult for some segment of the population to adapt to the impacts of climate change.

Transformative Adaptive Social Protection: This means social protection interventions that reduce structural vulnerabilities to climate change adaptation, allowing the most vulnerable members of society to participate fully in economic growth while still protecting their basic human rights.

Vulnerability: Refers to the degree to which the members of self -help groups are susceptible to, and unable to cope with, the adverse effects of climate change.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The effects of climate change on vital resources essential for human life and natural systems have been particularly harsh on the poor and vulnerable, who often lack the resources and means to withstand climate-related shocks. The Food and Agricultural Organization (FAO), 2015 highlighted climate change as a profound and growing risk to sustainable development, particularly emphasizing its impact on vulnerable populations who often bear the brunt of its consequences. Hurn et al (2015) points out that climate change directly affects natural resources essential for human well-being, such as water, soil, and biodiversity, all of which are critical for agriculture and food security. This shift makes it increasingly difficult for these communities to sustain their livelihoods and puts their food security at serious risk.

Social work practice is firmly committed to the principles of cultural diversity, human rights, and social justice (Healy and Thomas, 2020). In this regard, professionals' have a critical role in addressing the social dimensions of climate change, advocating for vulnerable populations, and promoting community resilience through empowerment and collective action. Their understanding of the interplay between social issues and environmental challenges equips them to be effective agents of change in building more sustainable and equitable communities (Healy and Thomas, 2020).

Knight and Gitterman (2018) alludes that community groups form an essential part of social work clientele by offering a range of benefits, including social support, empowerment, advocacy, resource sharing, skill building, prevention, and intervention. By promoting collective action and mutual support, SHGs can help communities respond to climate challenges more effectively.

Most vulnerable and marginalised communities' resort to coping mechanisms that are unsustainable and jeopardise their capacity to adapt in the future (Hallegatte, 2016). These mechanisms include drastic measures like reducing consumption to one meal a day, selling off production assets, withdrawing children from school, and an over-reliance on forests and their resources Onyenekwe, (2018). To assist these vulnerable populations in mitigating and recovering from catastrophic climate events, a range of intervention strategies have been developed and implemented. One promising approach is through social group work, typically in the form of Self-Help Organizations, where like-minded individuals come together to acquire knowledge, skills, and pool resources for sustainable initiatives.

Self - Help Groups, as highlighted by Deshpande and Khanna (2021) serve as a platform for grassroots social protection, enabling collective action, capacity-building, and resource mobilisation. Further, various conventions and legislation at both international and national levels embrace the principle of Self-Help Groups (SHGs). For instance, The UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) highlights the importance of women's economic empowerment through mechanisms like SHGs, and encourage member states to implement policies that promote women's financial independence and access to resources (Gilleri, 2020). Additionally, The International Labour Organization (ILO) also underpins the principles of SHGs in its recommendation No. 193 on the Promotion of Cooperatives (2002) underscoring the importance of self-reliance and collective action, which are foundational to SHGs and by further encouraging governments to support these groups to enhance economic opportunities. Further, in Kenya the Kenya Social Protection Policy recognizes SHGs as instrumental in enhancing community resilience and economic stability, while Bangladesh has integrated SHGs into its rural development

strategies to empower rural women and alleviate poverty. The United Nations Development Programme (UNDP) also stresses the significance of social welfare groups in advocating for climate justice and ensuring that adaptation strategies prioritise the needs of vulnerable communities (UNDP, 2019).

The Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR) champions climate change adaptation and mitigation at a global level by providing a comprehensive approach to disaster risk management that integrates the realities of climate change. The framework places a strong emphasis on protecting vulnerable populations, least developed countries (LDCs), and marginalized groups, which are disproportionately affected by climate change. By promoting inclusive policies and strategies that address the specific risks these groups face, the SFDRR helps build climate resilience at the community level (Atwood, 2021).

Smit and Pilifosova (2003) assert that adaptation involves making changes to procedures, techniques, and organisational frameworks to mitigate potential negative effects or seize available opportunities. Human adaptation, as highlighted by the American Meteorological Society (2000), is driven by a desire to minimise adverse effects and maximise advantageous ones. Vulnerable populations often bear the brunt of climate impacts. Adaptation efforts can help address these inequalities by empowering communities and improving access to resources.

African countries face a unique blend of challenges, including high poverty levels, inequality, and exposure to the adverse effects of climate change (World Bank, 2018). Consequently, The African Union Agenda 2063 framework reaffirms the centrality of social protection as a key instrument in adapting to unpredictable and varied threats to livelihoods such as those posed by climate change.

Traditional social protection systems often prove insufficient in addressing these multifaceted issues, giving rise to the emergence of adaptive social protection strategies. As revealed in the Organization for Economic Co-operation and Development (2017) report, several demographics, economic, and environmental trends ground Africa's vision for social protection. Adesina (2011) argues that social policy in African nations should broaden its focus beyond poverty and vulnerability to encompass broader ideals of development, equality, and solidarity.

In different countries different initiatives have been implemented towards this end. In Rwanda, the Umurenge (VUP) Program exemplifies climate-proofing efforts, balancing central principles of socioeconomic development with local participation procedures. Mugabo (2018) note that the program employs adaptive social protection and no-regrets techniques to encourage risk reduction measures, particularly in food security and related health or nutrition issues among vulnerable communities. By combining a highly decentralised governance structure with an innovative community-based targeting method, the Umurenge (VUP) Program has successfully avoided fragmented pilot programs, aligning contributors with government priorities and positions. Tekwa and Adesina (2018) further highlight the transformative potential of social policies, particularly in poverty alleviation and the transformation of social institutions and relationships, with a focus on gender, within the framework of transformational social policy.

Government of Kenya, (2019) defines social protection as a framework of policies and actions, including legislative initiatives, that strengthen the abilities and opportunities of the poor and vulnerable to improve their lives and secure sustainable livelihoods. This protection allows income-earners and their dependents to maintain a stable income through decent work and ensures their access to affordable healthcare, social security,

and social assistance. In a complementary perspective, Devereux and Sabates-Wheeler (2006) broaden the concept of social protection to include all measures that enhance the well-being of the impoverished, focusing on increasing resource accessibility, safeguarding against risks that threaten livelihoods, and advancing the rights of marginalized groups. Their definition emphasizes that social protection should offer both short-term relief and long-term security.

Adaptive social protection, as described by Devereux and Sabates-Wheeler, involves programs specifically designed to boost the resilience of vulnerable households, equipping them to anticipate, manage, and adjust to various shocks, thereby preventing deeper poverty. This adaptive approach connects the objectives of social protection, disaster risk reduction, and climate change adaptation, as all three domains seek to reduce individuals' susceptibility to adverse events and enhance recovery prospects. This convergence of purpose has led researchers at the Institute of Development Studies in the UK to introduce the concept of "Adaptive Social Protection," highlighting the integration of social support mechanisms with disaster and climate resilience efforts to create more robust, future-focused interventions (Chandni et al., 2018).

Devereux and Sabates-Wheeler (2006) further categorise adaptive social protection into four components: provisional adaptive social protection, which alleviates deprivation; preventative adaptive social protection, designed to stop deprivation; promotion-oriented adaptive social protection, aimed at increasing income and capabilities; and transformative adaptive social protection, which addresses social fairness and exclusion by enhancing adaptable capacity. Transformative adaptive ability necessitates the promotion of minority rights, anti-discrimination measures, and social funds to combat underlying social and political vulnerabilities.

In Kenya, the effects of climate change, including frequent flash floods, droughts, protracted dry spells, and rising temperatures, continue to wreak havoc in various regions of the nation. Mburu et al., (2015) have illuminated the growing realisation that sustainable solutions to climate change problems lie at the grassroots level. The Kenya Social Protection Policy 2019, aligned with the International Labor Organization, introduces a life cycle approach to social protection. This approach integrates protection, prevention, promotion, and transformation components to address a range of challenges.

This policy shift has resulted in the adoption of climate-related projects, such as the Kenya Climate Smart Agricultural Project (KCSAP), funded by the Kenyan government and the World Bank. The project, running from 2017 to 2023, aligns with the National Climate Change Response Strategy Framework, aiming to enhance Kenya's climate resilience and provide prompt and efficient responses to qualifying catastrophes through the Immediate Response Mechanism (IRM). The IRM offers international development association clients a forum for discussion on crisis management and disaster risk reduction (Sayah and Jahangiri 2018). Additionally, in the event of a crisis, most notably a natural disaster or an economic shock, IRM offer immediate funding to support recovery efforts, including the establishment of programs to stimulate the economy, the repair or restoration of basic physical assets, the activation or expansion of safety nets to lessen the impact on vulnerable populations, and the protection of vital development expenditures like those on health and education (Sayah and Jahangiri 2018).

Additionally, Jannat & Kusakabe Another vital program, the Adaptation Fund's Integrated Programme to Build Resilience to Climate Change and Adaptive Capacity of Vulnerable Communities, focuses on arid and semi-arid areas, offering training on

sustainable land management and supporting infrastructure development, like the construction of sand dams, to secure water supplies. These programs not only aim to reduce climate vulnerability but also empower local communities by improving their knowledge and resources for long-term climate resilience (Tenzing, 2020).

However, despite policy efforts and climate change adaptation initiatives, Kakamega County, with its poverty rate of 51.3% (KNBS, 2019), faces increased risks from food insecurity, prolonged dry spells, erratic rainfall and rising temperatures, hindering development efforts. The county's climate change adaptation plan for 2020–2025 recognizes the disproportionate impact of resource constraints on the poor and vulnerable populations. Belchior (2018) further highlights the role of social inequality, arising from factors such as poverty, age, gender, and social class, in exacerbating vulnerability.

In particular, Maripe (2017) identifies structural disparities in administration, policy, and social factors perpetuating marginalisation, oppression, and poverty, limiting the capacity of vulnerable populations to adapt to climate change. Therefore, it becomes imperative to design and implement adaptive social protection policies and programs, which can address precarious living conditions, tackle underlying vulnerabilities, and enhance resilience to climate change (Arnall et al., 2010). These interventions hold promise, provided the adaptive social protection approach is adopted, and any obstacles are effectively addressed. Given this multifaceted context, this study assessed the role of social protection interventions in climate change adaptation among Self-Help Groups in South Kabras, Kakamega County, Kenya.

1.2 Statement of the problem

Despite Kenya's progressive climate adaptation policies, such as the Kenya National Adaptation Plan 2015-2030 and the Kenya Climate Act of 2016, significant disparities exist in the accessibility and effectiveness of climate change adaptation measures

among different population groups. Vulnerable communities, particularly in rural areas like South Kabras, Kakamega, face persistent challenges such as poverty, domestic violence, and structural barriers like inadequate resource distribution and policy inertia. These factors exacerbate inequalities in climate adaptation, leaving marginalized populations—especially women and the poor—disproportionately affected by climate hazards.

While Self-Help Groups (SHGs) have emerged as critical grassroots mechanisms to support economic and social resilience, their role in climate change adaptation remains underexplored. Existing research predominantly focuses on technological solutions related to agriculture, food security, and water resources, with limited attention to the potential of adaptive social protection interventions to address the unique vulnerabilities faced by these groups. Furthermore, the contributions of SHGs to Kenya's sustainable development goals, particularly Goal 5: Gender Equality, Goal 10: Reduced Inequality, and Goal 13: Climate Action, have not been sufficiently documented or analyzed in relation to climate adaptation.

This study sought to address this gap by assessing the effectiveness of adaptive social protection interventions in enhancing climate change adaptation among Self-Help Groups in South Kabras. It also explored the transformative potential of Self-Help Groups in overcoming barriers that impede inclusive and equitable adaptation efforts, thereby contributing to Kenya's broader sustainable development agenda.

1.3 General objective of the Study

The general objective of this study was to assess the effectiveness of social protection interventions in climate change adaptation among Self-Help Groups in South Kabras Kakamega, Kenya.

1.3.1 Specific objectives of the study

This study was guided by the following specific objectives;

1. To determine the nature and extent of adaptive social protection interventions adopted by Self- Help Groups in climate change adaptation in South Kabras Kakamega, Kenya
2. To investigate the extent to which social protection measures address structural vulnerabilities in climate change adaptation among Self- Help Groups in South Kabras, Kakamega, Kenya
3. To assess the challenges and opportunities in adoption of social protection in climate change adaptation among Self-Help Groups in South Kabras Kakamega, Kenya

1.4 Research Questions

1. What is the nature and extent of adaptive social protection interventions adopted by Self-Help Groups in climate change adaptation in South Kabras Kakamega, Kenya?
2. To what extent do social protection interventions address structural vulnerabilities in climate change adaptation among Self- Help Groups in South Kabras Kakamega, Kenya?
3. What are the challenges and opportunities in the adoption of social protection interventions in climate change adaptation among Self-Help Groups in South Kabras Kakamega, Kenya?

1.5 Study justification

The following were the justification for this study;

1.5.1 Philosophical Justification

The philosophy of collectivism provides a powerful framework for addressing vulnerability in the face of climate change. Adaptive social protection measures which

aim to increase the resilience of communities that are already at risk by giving them the tools, resources, and assistance they need to deal with the negative effects of climate change, serve as the foundation of this study.

The study followed a pragmatic philosophical approach, incorporating both qualitative and quantitative research methods. Its focus was on achieving practical results, aiming to assess the real-world effects of social protection interventions on climate change adaptation within Self-Help Groups in the South Kabras region. The study identified the challenges faced by members of SHG and offers practical solutions to improve the effectiveness of the interventions.

1.5.2 Academic Justification

Regardless of empirical research available today (Boetto and McKinnon, 2013; Liru, 2014, Saalu, 2017) little of it specifically addresses the revolutionary effects of adaptive social protection in the majority of vulnerable populations in African nations, including Kenya. This study expands the corpus of knowledge by looking at largely neglected aspect of adaptive social protection in climate change adaptation. The goal of this study is to add to the increasing body of research on social work responses to climate change by making a clear connection between adaptive social protection and climate change adaptation.

1.5.3 Policy Justification

The Kenya Climate Act of 2016 and Kenya National Adaptation Plan 2015-2030 advocate for meaningful engagement of vulnerable populations in climate change adaptation. The study generated recommendations that all stakeholders including: Government agencies, Civil Societies, Social Workers, and Members of Self- Help Groups might use to address any difficulties encountered in addressing barriers in

access and adoption of Adaptive Social Protection in Climate Change Adaptation. The study also generated strategies that can be used to make adaptive instruments more need specific.

1.6. Scope of the Study

The study was conducted in South Kabras Kakamega County. The study was carried out in January 2023 and included 1240 members of Self- Help Groups and 25 key informants. The study was limited to Self- Help Groups funded under the Kenya climate smart Agricultural project in South Kabras ward within Kakamega county Kenya.

1.7 Limitations of the Study

In the course of conducting this study, the following limitations were encountered;

- i. Some respondents were not willing to fully disclose the required information during the data collection process due to fear of intimidation by their facilitators. This limitation was overcome by clearly communicating the purpose, procedures, and potential risks and benefits of the study to participants during and after the study.
- ii. Accessing the respondents was a challenge since data was being collected when respondents were preparing their farms for the planting season. To overcome this limitation the agreed upon timelines were adhered to.

1.8 Assumptions of the Study

The study assumed that:

- i. Participants would voluntarily engage in the study and contribute pertinent information and data.
- ii. Social protection interventions are relevant to the particular demands and difficulties experienced by Self-Help Groups in South Kabras Kakamega, Kenya, both culturally and contextually.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature based on the study objectives in accordance with the following; the type of social protection interventions that Self-Help Groups use to adapt to climate change, the extent to which adaptive social protection address structural vulnerabilities in climate change adaptation, the challenges and opportunities in the adoption of climate change adaptive social protection in climate change adaptation. The theoretical framework, conceptual framework and summary of literature review were also discussed.

2.2 Social Protection and Climate Change Adaptation

At the global level, social protection has gained recognition as a critical component for supporting vulnerable populations against various risks, including poverty and climate-related challenges. Devereux and Sabates-Wheeler (2004) define social protection as a combination of formal and informal initiatives designed to provide social services to underserved groups, offer social assistance to the extremely poor, and establish social insurance for protection against livelihood shocks. These interventions promote social equity by safeguarding against social risks like discrimination, reinforcing the global commitment to inclusive support structures.

Osiro (2016) emphasizes that social protection has been increasingly acknowledged within major international frameworks, such as the Sustainable Development Goals (SDGs), the Paris Agreement, and the Sendai Framework for Disaster Risk Reduction, as a vital subset of social policy tools for addressing vulnerabilities tied to climate change. The Warsaw International Mechanism for Loss and Damage (UNFCCC, 2016) further supports this by allocating funds to developing countries, helping them to

modify their social protection systems to cope with climate-induced losses and damages.

A study by Kuriakose et al., (2013) examined how adaptive social protection (ASP) frameworks can reduce vulnerability in the context of climate change, noting that integrating social protection with disaster risk reduction (DRR) strengthens communities' ability to manage climate-induced shocks. By analysing ASP implementations across several low- and middle-income countries, the study found that these frameworks have measurable benefits in reducing income loss, food insecurity, and other adverse impacts of climate hazards (Kuriakose et al., 2013).

The World Bank and United Nations have widely advocated for ASP at a global level, providing technical and financial support for countries to develop systems that combine social protection, DRR, and climate adaptation. Another influential study by Hallegatte et al. (2016) highlights the importance of ASP in reducing the poverty traps induced by climate shocks. The study demonstrates how ASP frameworks, by providing timely financial and in-kind assistance, prevent climate-induced poverty and foster resilience among vulnerable populations (Hallegatte et al., 2016).

The SDGs represent a universal appeal for eradicating poverty, protecting the planet, and promoting peace and prosperity by 2030. Central to these goals is the “Leave no one behind” pledge, which underscores equitable access and prioritizes the needs of marginalized groups, including women, children, people with disabilities, Indigenous communities, and the impoverished (Miah et al., 2024). This principle of inclusivity has driven the United Nations Sustainable Development Group (UNSDG) to ensure development benefits reach these vulnerable communities, emphasizing the importance of social protection in realizing global sustainable development.

Similarly, Petersen (2020) and Tavanti & Sfeir-Younis (2024) highlight that the “Leave no one behind” pledge has galvanized governments, organizations, and communities worldwide to focus on human rights and social justice. Through initiatives such as climate adaptation programs, universal healthcare, and inclusive economic policies, the commitment to “Leave no one behind” anchors efforts to end poverty and inequality through sustainable and inclusive growth.

At the regional level in Africa, high rates of poverty are compounded by household risks such as droughts, floods, and other natural disasters, which frequently hinder progress and development. Riisgaard & Mitullah (2022) observe that these environmental risks tend to be covariate, impacting entire communities simultaneously, and are exacerbated by climate change, which amplifies extreme weather events and deteriorates health-related factors, such as food and water security. African households often employ informal risk management strategies that rely on community and family networks instead of government or market-based tools (Rao et al., 2020). Coping strategies include diversifying income sources and investing in liquid assets, though the lack of insured risk often leads to conservative, low-return activities that restrict economic growth, perpetuating poverty cycles.

Sarabia (2020) argues that interventions to assist households with risk management can improve both efficiency and equity, as current social protection systems fail to mitigate the long-term impacts of shocks on human capital and household welfare. For instance, Takuva (2022) notes that a long-term study in Zimbabwe showed famine survivors of the 1980s drought faced stunted growth, reduced educational attainment, and lower lifetime earnings, highlighting the persistent impact of climate shocks. Similarly, in rural Ethiopia, drought-induced asset losses disproportionately affected poorer households, aggravating inequalities as the impoverished recovered more slowly.

At the national level in Kenya, the government has shown a commitment to addressing climate challenges, starting with endorsing the Kyoto Protocol in 2005. Kenya has participated in regional climate initiatives and supported the UNFCCC process, highlighting its dedication to climate preservation for the benefit of present and future generations. Kenya's Constitution provides a strong legal foundation for addressing climate change, mandating ecologically sustainable development that aligns with the national Vision 2030 framework, which promotes sustainable growth while tackling environmental issues.

The Kenya Climate Act of 2016 outlines programs aimed at improving the resilience and adaptive capacity of both human and ecological systems to cope with climate change impacts. This legislation emphasizes the importance of public engagement in climate change discussions and capacity-building efforts, which are critical to ensuring community resilience. Additionally, the National Climate Change Framework Policy (Sessional Paper No. 5 of 2016) underscores the government's obligation to support vulnerable and marginalized groups, directing policies to bolster social protection measures and ensure an inclusive response to climate challenges (Radeny, 2020). Through these frameworks, Kenya demonstrates a proactive approach to climate adaptation and social protection, setting an example for comprehensive national climate strategies in the region.

2.3 The Nature of adaptive social protection interventions in climate change adaptation

Adaptive social protection (ASP) integrates social protection, disaster risk reduction, and climate change adaptation strategies to enhance resilience among vulnerable populations facing climate risks. These interventions are tailored to protect livelihoods, reduce vulnerability, and build adaptive capacity in response to environmental changes and extreme weather events (Aryal et al., 2020). The nature of some of the adaptive social protection initiatives available to vulnerable groups as part of climate change adaptation are briefly discussed below.

2.3.1 Public health education in climate change adaptation

At the global level, public health education serves as a foundational component of ASP, equipping communities with knowledge to manage health risks linked to climate change, such as heat stress, vector-borne diseases, and water-borne illnesses. Public health education plays a crucial role in climate change adaptation by equipping communities with knowledge to protect themselves against health risks associated with climate impacts. Semenza, Rocklöv, and Ebi, (2022). emphasize that public health professionals must be trained in climate science to communicate risks and protective strategies effectively, as this empowers communities to better understand and respond to climate-related health disparities. Building on this, Ensor and Berger (2009) advocate for community-based adaptation (CBA) methods, where participatory education—such as workshops and community forums—enables local populations to identify specific climate-related health risks and develop tailored solutions. Moreover, Maibach et al., (2011) highlights the importance of tailored health messaging in climate adaptation, noting that practical, actionable advice, such as reducing exposure during heatwaves or ensuring water safety during floods, can significantly improve public engagement and risk reduction.

Addressing health inequities is another critical aspect of climate adaptation. Frumkin et al., (2008) argue that public health education should prioritize vulnerable groups, including the elderly, children, and individuals with pre-existing health conditions, as climate risks often disproportionately affect these populations. Through inclusive educational interventions, public health programs can reduce disparities in climate resilience and promote health equity. Meanwhile, Rudolph et al., (2018) stresses the importance of integrating climate adaptation into public health training, recommending that such curricula prepare future professionals to handle emerging environmental health challenges.

Gould and Rudolph (2015) further emphasize the need for cross-sector collaboration in public health education, where environmental scientists, public health educators, and community organizations can jointly create comprehensive educational programs. This integrated approach strengthens educational outreach, covering diverse climate impacts and equipping communities with the necessary adaptive strategies to protect health and well-being. Together, these studies underscore the essential role of public health education in fostering resilient communities amid the growing challenges posed by climate change. Notably though, climate change adaptation from an adaptive social protection stand point is lacking.

2.3.2 Secure Shelter in climate change adaptation

Secure shelter is a fundamental component of climate change adaptation, providing essential protection against the increasing frequency and severity of extreme weather events, such as hurricanes, floods, and heatwaves. The Intergovernmental Panel on Climate Change (IPCC, 2021) highlights that inadequate housing significantly exacerbates vulnerability to climate impacts, particularly in low-income and marginalized communities. The necessity for secure shelter is further underscored by

the work of Baird et al. (2019), who argue that resilient housing must incorporate features that withstand climate-related stresses, including proper insulation, elevated structures, and access to sustainable energy sources. These adaptations not only improve safety but also enhance the overall quality of life for residents.

Furthermore, Adger et al. (2018) emphasize the importance of community engagement in the design and implementation of secure shelter solutions. Their research illustrates that involving communities in decision-making processes fosters a sense of ownership and ensures that housing adaptations are culturally appropriate and contextually relevant. This participatory approach can lead to more effective and sustainable outcomes, particularly in areas vulnerable to climate change. Additionally, the concept of "climate-proofing" housing is gaining traction, as outlined by Hamin and Gurran (2016), who discuss how integrating climate resilience into urban planning and housing policy can create long-term benefits for both people and the environment.

Moreover, the impact of secure shelter on mental health cannot be overlooked. Research by Shultz et al., (2020) indicates that stable housing significantly mitigates the psychological stress associated with climate-related disasters, thereby contributing to overall community resilience. In summary, secure shelter is not only crucial for physical protection against climate impacts but also for fostering community engagement and improving mental health outcomes. As climate change continues to pose significant challenges, prioritizing secure shelter in adaptation strategies is essential for enhancing resilience and ensuring the safety of vulnerable populations.

2.3.3 Basic social transfers(food/cash) in climate change adaptation

Basic social transfers, such as food and cash assistance, play a crucial role in climate change adaptation, particularly in vulnerable communities. These transfers provide immediate relief and support long-term resilience by enhancing food security and

economic stability. For instance, cash transfers can empower households to make decisions that best suit their needs, allowing them to invest in productive assets or diversify their income sources (Holmes & Bhuvanendrah (2013). Social protection and resilient food systems: The role of cash transfers. *London, UK: Annual Report, Overseas Development Institute.*). Similarly, food transfers can ensure that families maintain adequate nutrition during climate-induced shocks, such as droughts or floods, which can severely impact agricultural productivity (Holmes & Bhuvanendrah 2013). Moreover, social transfers can mitigate the effects of climate change on livelihoods by reducing vulnerability and fostering adaptive capacity. For example, in regions prone to climate variability, cash and food transfers can help stabilize consumption and protect against asset depletion (Kuriakose et al., 2013). Additionally, these transfers can promote social equity by targeting marginalized groups, including women and the elderly, who often bear the brunt of climate impacts (Alston, 2013). By integrating social transfers into broader climate adaptation strategies, policymakers can address both immediate needs and long-term resilience, ultimately enhancing the adaptive capacity of communities facing the challenges of climate change (Mastrorillo et al., 2016).

The Hunger Safety Net Program in Kenya is frequently cited as an example of a program with a flexible component that enables horizontal expansion in an emergency since it is designed to be a permanent safety net for homes that are prone to vulnerability. As a result of the precautions taken and the emergency funds set aside at the outset, it has developed the capacity to anticipate and respond to any threats within the system.

The Productive Safety Net Programme (PSNP) in Ethiopia has increased institutional coherence by integrating climate change, social protection, and disaster risk reduction (DRR). By offering temporary work in public works in exchange for cash or food

transfers, the PSNP protects household assets and eases the transition away from emergency food aid and toward a more predictable and targeted safety net, thereby reducing the likelihood that households will go hungry during the hunger period. Research into Mexico's Oportunidades program, which began in 1998, found that monetary aid had a good effect on children's health, growth, and development (Fernald et al., 2008).

Programs that distribute money might be either conditional or unconditional. The former suggests meeting particular standards like health, education, or nutrition, while the latter might encompass a wide range of services like retirement plans, disability payments, and welfare (Baird et al., 2011). Studies have proven that cash transfers benefit not just the individual household but the entire community. The vulnerable are afforded the ability to plan and invest in productive activities, as well as the freedom to budget for immediate basic consumption, thanks to the regular and predictable nature of non-contributory transfers (Holm, 2010).

The 2030 Agenda for Sustainable Development and its Sustainable Development Goals set a series of key development goals for developed and developing countries to eliminate poverty, protect the planet and ensure the prosperity of all people. One of the priorities agreed by Member States is social protection, which has been repeatedly mentioned in the agenda as the main means of reducing poverty and eliminating inequality. In recent past issuing vouchers is one of the ways in which a government or non-profit organization implement social welfare program as near-cash transfer has some benefits, such as increased income, consumption, improved outcomes (Hidrobo, 2014).

2.3.4 Linkage and Referrals in Climate Change Adaptation

Linkages and referrals are critical components in enhancing climate change adaptation efforts, as they facilitate the collaboration between various stakeholders, including government agencies, non-governmental organizations (NGOs), and community-based organizations. Effective linkage strategies enable the sharing of resources, information, and expertise, ultimately fostering a more integrated approach to adaptation (Mastrorillo et al., 2016). For instance, when local communities are connected with technical experts and climate information services, they can make more informed decisions regarding climate-resilient agricultural practices (Hassan et al., 2019).

Moreover, referrals between agencies can streamline access to financial resources and technical assistance, which are essential for implementing adaptation strategies. For example, community members may be referred to specialized organizations that provide funding or training for sustainable agricultural practices, thus enhancing their adaptive capacity (Schwerdtle et al., 2018). This approach not only helps to bridge gaps in knowledge and resources but also empowers local actors by involving them in the decision-making process, which is crucial for building ownership and sustainability in adaptation initiatives (Khan et al., 2020). Furthermore, establishing robust networks of referral systems can ensure that marginalized and vulnerable populations receive the support they need to cope with climate impacts, thereby reducing inequality and enhancing resilience across communities (Mastrorillo et al., 2016).

2.3.5 Public work Programmes in climate change adaptation

Public work programs (PWPs) are increasingly recognized as effective instruments for climate change adaptation, particularly in developing countries where vulnerable populations are disproportionately affected by climate impacts (Silchenko & Murray, 2023). These programs provide temporary employment through community-

based projects that enhance resilience while simultaneously addressing immediate economic needs. For example, PWPs can involve activities such as reforestation, soil conservation, and infrastructure development, which not only create jobs but also improve the community's adaptive capacity to climate change (Farrington et al., 2010). Studies suggest that these initiatives contribute significantly to food security by increasing agricultural productivity and reducing vulnerability to climate shocks (Barker et al., 2019).

Furthermore, PWPs are often designed to empower marginalized groups, including women and youth, by providing them with training and skills that improve their employability and promote gender equity in the workforce (Paz et al., 2019). By integrating social protection elements, such as cash transfers linked to participation in PWPs, these programs have been shown to enhance both economic stability and community resilience (Mastrorillo et al., 2016). Moreover, PWPs have the potential to foster social cohesion as communities come together to work on collective projects, reinforcing local networks and cooperation, which are essential for effective climate adaptation (Chakrabarty et al., 2021).

2.4 Promotive strategies in climate change adaptation

Promotive strategies in climate change adaptation are approaches and actions designed to actively promote and facilitate adaptation to the impacts of climate change. These strategies aim to enhance resilience, reduce vulnerabilities, and enable societies, ecosystems, and economies to cope with and thrive in a changing climate. Hawley and Williford (2015) point to a lack of adaptive capacities including finance access and uneven access to assets as a reason why women are disproportionately impacted by climate change events. They recommend that a fund for women to use in the event of climate-related shocks be established and made readily available.

Liru (2017) similarly concluded that social support and government programs are important for women in Kakamega while adjusting to the uncertainties posed by climate change. Interventions that promote long-term adaptation by easing the transition to and diversification from vulnerable livelihoods, like those that increase assets, skills, and incomes, are crucial.

2.4.1 Access to credit in climate change adaptation

Downie et al., (2018) used a Positive Deviance framework to discover that participation in a Village Savings and Loan Association (VSLA) is a significant factor in households in Somalia having greater food security and coping abilities. The results of a study using a variety of research approaches on 2,300 people from 40 different rural and urban communities found that membership in village savings and loans associations increased participants' resilience in several different ways.

The level of capacity and resilience development in response to climate change was shown to be highly dependent on the availability of loans and the priority placed on savings. Businesses expanded, new ones were started, crops were planted, people moved to better pastures, and water was sold with the help of loans. Participants believed they gained social capital, self-esteem, and empowerment through the groups, which in turn made it easier for them to deal with adversity. Savings, loans, and the availability of financial institutions are crucial for families to recover from adversity. According to Börner et al., (2015) access to rural credit facilities is associated with better asset-based coping strategies for shocks that concurrently affect a considerable proportion of the population, according to an assessment of 8,000 rural families in 25 developing nations (i.e., covariate shocks). However, this is not always the case as many financial institutions lack adequate understanding of climate risks and their potential impacts on borrowers. Consequently, they may be hesitant to provide credit for climate

change adaptation projects, as they perceive them as high-risk investments (Dasgupta, 2017). Akerlof et al., (2018) in a similar vein observes that in many developing countries, potential borrowers may lack the necessary collateral or credit history required to secure loans. This hinders their access to credit for climate change adaptation, perpetuating the vulnerability of already marginalised communities.

2.4.2 Asset transfers in climate change adaptation

Asset transfer is crucial in climate change adaptation, particularly for vulnerable communities. As climate change increasingly affects the world, it is important to recognize that certain communities are disproportionately affected. These communities often lack the resources and assets necessary to adapt to the changing climate, leading to greater risks and vulnerabilities. Asset transfer programs aim to address these disparities by providing the necessary resources to help these communities adapt to the changing climate (Araos et al, 2021).

One example of asset transfer in climate change adaptation is the transfer of land rights to indigenous communities. In many parts of the world, indigenous communities have a deep understanding of the local ecology and have developed sustainable practices over centuries. However, they often lack formal land rights, making it difficult to protect and manage their traditional lands. By transferring land rights to these communities, they are better able to protect and manage their land, which can help mitigate the impacts of climate change.

Another example of asset transfer in climate change adaptation is the provision of financial resources to vulnerable communities. This can include cash transfers or the provision of credit to help communities invest in adaptation measures. For example, in Bangladesh, the government has provided cash transfers to vulnerable households to help them invest in climate-resilient infrastructure, such as raising their homes above

flood levels or investing in drought-resistant crops (Brouwer et al., 2016). These programs have been successful in helping vulnerable households adapt to climate change and reduce their risk of disaster.

Asset transfer programs can also help vulnerable communities access the technology and knowledge necessary to adapt to climate change. For example, in Ethiopia, a program has been implemented to transfer solar-powered irrigation pumps to smallholder farmers, which has helped increase crop yields and reduce the risk of drought (Jagger et al., 2016). This program has not only helped farmers adapt to the changing climate but has also provided them with a sustainable source of income.

However, it is important to recognize that asset transfer programs are not without their challenges. One of the main challenges is ensuring that these programs are implemented in a way that is equitable and does not perpetuate existing power imbalances. For example, transferring land rights to indigenous communities may not be effective if they do not have the necessary support and resources to manage their lands. Similarly, providing financial resources to vulnerable households may not be effective if they are not given the necessary knowledge and support to invest in effective adaptation measures.

2.4.3 Access to Common Property Resource in climate change adaptation

The term "common property resource" refers to any type of natural asset that is used by multiple persons on a regular basis (not necessarily ownership rights). These can be found in places like forests, villages, pastures, rivers, lakes, oceans, and streams. Irrigation ponds, village wells, and paved roads are all examples of such man-made resources. Manikandan and Palanevelu (2018) note that the natural world has a significant impact on human economic and social growth.

Common property resources are crucial to the long-term success of communities in developing countries. Gathering organic materials like firewood, fodder, crop scraps, cow dung, and manure is part of this process. The rural poor are unable to use the common property resource due to substantial strain on environmental resources, which has dire repercussions for their ability to make a living as a result of climate change. specifically shared assets (Palanivelu and Manikandan, 2018). As climate change intensifies, prioritizing CRP access and sustainable governance is essential for communities worldwide. Hariram, Mekha, Suganthan, and Sudhakar, (2024) observes that, with thoughtful policies and support, CRP can play a central role in a resilient, adaptive approach to climate change, ensuring that natural resources continue to sustain vulnerable populations in the face of growing environmental challenges.

2.4.4 Access to starter packs in climate change adaptation

Starter packs, which provide small inputs such as seeds, fertilizers, and tools, are a targeted intervention designed to support climate adaptation by enhancing food security and encouraging climate-resilient agricultural practices. These packs, often distributed to vulnerable farmers, facilitate quick transitions to adaptive farming methods, especially in regions heavily impacted by climate variability. Research shows that starter packs can increase crop yields and enable farmers to experiment with more resilient crop varieties, thus reducing their susceptibility to extreme weather events (Dorward & Chirwa, 2011). They also act as a safety net, reducing the risk of crop failure and fostering resilience among low-income farming communities by helping farmers adopt climate-smart agricultural techniques without incurring significant financial risk (Denning et al., 2009).

However, critiques highlight that starter packs may offer only short-term relief rather than sustainable, long-term solutions. Because the inputs are often provided for limited

periods, farmers may struggle to maintain adaptive practices once external support is withdrawn, making the model less sustainable than intended (Snapp et al., 2018). Additionally, while starter packs can reduce short-term vulnerability, they may not address underlying issues like inadequate access to markets, financial services, and technical training, which are crucial for sustained adaptation (Mellor & Dorosh, 2010).

2.5 Promotive strategies in climate change adaptation

The negative coping mechanisms, such as selling productive assets and exploiting the forest ecosystem, that come from livelihoods that are dependent on the weather can be avoided through preventative measures including livelihood diversification, weather-based crop insurance, and developing response capacity.

2.5.1 Livelihood diversification in climate change adaptation

Ellis (2000) offers a foundational understanding of livelihood diversification, describing it as the process through which rural households pursue multiple income-generating activities beyond agriculture to improve their economic resilience and standard of living. This concept has proven valuable in analyzing rural livelihoods, especially in regions facing economic uncertainty, environmental variability, or limited access to resources. However, Ellis's work primarily provides a conceptual framework, leaving certain empirical aspects underexplored, such as how specific contexts and factors (e.g., environmental, social, or policy-related) uniquely shape diversification efforts. His framework might also benefit from integrating more dynamic insights into how diversification strategies evolve with changing economic conditions and environmental challenges, which have intensified since the work was published.

Gebru et al., (2018) builds on Ellis's framework by empirically investigating livelihood diversification among smallholder farmers in the Saesee Tsaeda Emba region, demonstrating that diversification strategies directly enhance resilience. Findings

reinforce Ellis's claim that livelihood diversification is often driven by the imperative to increase survival chances, but they take the analysis further by showing the tangible outcomes for households with diversified income sources. The study highlights the improved economic performance and resilience of diversified households compared to those relying solely on agriculture. However, while Gebru et al. provide valuable empirical evidence, the study does not fully address the structural challenges—such as market access, institutional support, and climate-related threats—that can restrict or enable diversification in rural areas.

In sum, Ellis's conceptual model provides a solid theoretical basis for understanding livelihood diversification, which Gebru et al., (2018) substantiate with empirical data from a specific region. Still, a deeper analysis of how contextual factors constrain or enhance diversification options could strengthen both the theoretical and practical insights of these works. Together, these studies contribute significantly to our understanding of rural resilience strategies, although further research could focus on a broader range of factors influencing the sustainability of diversification in rural areas.

2.5.2 Weather-indexed crop insurance in climate change adaptation

The Global Index Insurance Facility (GIIF) of the World Bank Group offers smallholder farmers, micro business owners, and microfinance institutions in developing nations solutions for catastrophic risk transfer and index-based insurance. This approach makes sure that farmers are not pressured to use ineffective and costly coping methods like those mentioned above, which is an important consideration given the widespread use of such strategies in light of climate change (Holmes et al., 2007). Rai, (2019) found that the Pradhan Mantri Fasal Bima Yojana, an Indian crop insurance program, had lowered farmers' risk aversion by providing coverage to 41% of them.

Osumba and Kaudia's (2015) research found similar results, showing that WII is a practical method for adjusting to climate change.

Many smallholder farmers have difficulty comprehending the program's operation, according to a survey and choice experimental data that sought to assess the experience with an existing Weather Indexed Insurance (WII) program and how particular improvements in the contractual form would increase uptake. Farmers' willingness to pay for WII would grow dramatically if accurate rainfall readings and thresholds were regularly provided. Farmers also place a high value on mechanisms that mitigate basis risk, though not to the same amount as they value greater openness. According to Sibiko, Veettil, and Qaim (2018), insurance uptake may be boosted if contracts were made available to local groups rather than individual farmers. But it runs into problems with its infrastructure, its logistics, and its finances.

Makaudze (2018) highlights important barriers to the adoption of Weather Index Insurance (WII) in Malawi, noting specifically the limited use of technology such as mobile phones, which constrains the scalability and accessibility of insurance solutions. This observation is insightful, as it identifies digital infrastructure as a critical factor in promoting WII uptake in rural areas. The comparison to Kenya—where mobile technology has successfully facilitated WII access—adds valuable context, suggesting that Malawi could potentially benefit from similar technology-driven approaches to extend insurance reach. However, Makaudze could strengthen this argument by examining the underlying reasons for Malawi's low technology usage, such as economic, educational, or policy-based factors that prevent smallholders from accessing mobile technology. This would provide a more comprehensive understanding of the structural issues that prevent WII expansion in the region.

Makaudze also identifies a lack of familiarity with formal insurance as a barrier to WII adoption, which is a common challenge in regions where subsistence agriculture prevails and risk management relies more on informal networks. While the lack of familiarity with formal insurance is significant, the study could delve deeper into how cultural attitudes, levels of financial literacy, or experiences with past programs impact farmers' trust and willingness to adopt WII. Addressing these socio-cultural factors might offer more targeted solutions to promote WII among smallholder farmers in Malawi.

The author's assertion that effective WII implementation could disrupt the cycle of high exposure, low investment, and low return among subsistence farmers is compelling, as it emphasizes WII's potential to transform agricultural livelihoods. However, this claim would be strengthened by a discussion of the practical challenges in implementing WII effectively, such as the need for reliable weather data, the costs associated with setting up and maintaining insurance schemes, and the regulatory support required to sustain them. Without these considerations, the claim might come across as overly optimistic. In summary, while Makaudze (2018) provides valuable insights into the potential and limitations of WII in Malawi, a more in-depth analysis of the socio-economic, cultural, and infrastructural challenges could offer a more nuanced perspective. The work effectively highlights technological and awareness barriers but could benefit from a broader discussion on the systemic and contextual factors that impact WII's viability as a tool for enhancing resilience in Malawi's agricultural sector.

2.6 Transformative adaptive social protection in climate change adaptation

Transformative social protection in climate change adaptation recognizes the interconnectedness of social, economic, and environmental challenges and aims to address them holistically. It is a comprehensive approach that combines social protection measures with climate change adaptation strategies. It aims to address the

social and economic vulnerabilities of individuals, communities, and countries in the face of climate change impacts. By combining social protection measures with climate change adaptation strategies, it seeks to create more sustainable and resilient societies that can effectively cope with the impact of climate change.

Self-Help Groups (SHGs) have emerged as vital actors in implementing transformative social protection measures, empowering vulnerable communities and fostering resilience. Scientists and activists are increasingly presenting transformation as solutions to environmental change and social sustainability. Alterations in appearance, organisation, or interpretation are all examples of transformation (Pelling, 2011). According to Obrien and Sygna (2013), transformation is a psycho social process that aims to liberate the human potential for commitment, care, and the effect of change for the better.

Transformative adaptation is closely tied to conceptualizations of vulnerability that account for the social, political, and cultural contexts in which people are most at risk (Pelling, 2011). As part of a larger, emerging agenda around realising economic, social, and cultural rights, the fight against discrimination based on ethnicity, gender, religion, disability, or sexual orientation is one area of social protection that addresses the direct "social" needs of socially vulnerable groups. An excellent illustration of this is the United Nations' Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) initiative, which ran in the 1990s and helped bring attention to the issue of discrimination based on gender in many nations throughout the world.

It has been established by Ajibade et al., (2017), the social, political, economic, and social-ecological systems must all undergo significant change for a transformational strategy to be effective. Béné, and Howland (2018) argue that transformational programs are especially likely to be rejected if they pose a threat to the established order

of things in an organisation. Adaptive transformations, in their view, are less likely to be rejected if their introduction is preceded by sufficient consultation and participation.

2.6.1 Access to Social Funds in climate change adaptation

To speed up adaptation, especially for disadvantaged populations, regions, and sectors, it is essential to build capacity and remove some barriers to accessing money. Climate change is a major threat to the global economy and policy, people are looking for ways to pay for actions to reduce its effects and adapt to them. As an example of the worldwide community's readiness to mobilise human and financial resources to deal with adaptation challenges and the complexity of the adaptation issues, the Parties to the Kyoto Protocol of the UN Framework Convention on Climate Change established the Adaptation Fund.

Resilient development in the face of climate change is promoted when different actors work together in fair and enabling ways to bridge gaps in their interests, values, and worldviews. Considerations for regional, national, and international climate consequences, risks, impediments, and opportunities by building on a wide range of information concerning climate risk and selected development routes (Wise et al., 2014). This includes rights-based methods that give priority to building capacity, ensuring that the most vulnerable groups are heard and included, and ensuring that they have access to necessary resources, such as funding, in order to mitigate risk and adapt. Funds can be raised through a combination of public and private sources, such as loans, grants, guarantees, equity, concessional debt, market debt, budgetary allotment, personal savings, and insurance. The ability to adapt is greatly facilitated by public funding. By addressing actual and perceived regulatory, cost, and market constraints, public mechanisms and funding, for instance through public-private partnerships, can leverage private sector investment for adaptation.

2.6.2 Minority Rights in climate change adaptation

Since human rights serve as a cornerstone for adaptation, livelihood resilience also highlights the responsibility governments have to safeguard their citizens and aid in their progress. Numerous minority groups are unable to obtain basic services including safe drinking water, healthcare, education, and information. According to Denton et al., (2002), these flaws restrict their ability to respond to climate-related problems. Hence, prioritising minority populations when allocating resources will provide fair access to the equipment and assistance they need. Governments can be held accountable for doing more to help individuals escape poverty and improve their precarious living conditions by reframing resilience in terms of rights (Tanner et al., 2014).

As stated in Resolution 7/23 passed by the United Nations Human Rights Council regarding human rights and climate change (UNHRC) in March 2008, it will not be sufficient to reach the poorest of the poor if discrimination and growing inequalities within and between countries are not combated and their fundamental causes are not eliminated. According to the UNHRC's preamble, it was expressly acknowledged that climate change affects human rights. The Inuit of Canada and the United States issued a petition in 2005 alleging that climate change infringed the human rights of the disadvantaged and future generations (Magraw and Wienhöfer, 2018), and the Maldives published The Male Declaration in 2007.

Climate change discussions have largely centred on the ecological and financial effects of agricultural adaptation measures (Conway, 2011). Extremely little research has been conducted to determine how vulnerable groups in South Kabras are affected by the adaptive social protection framework in response to climate change. Advocates in the social work field are trained to speak up for their clients in a variety of settings.

Awareness of one's rights, participation in decision-making processes, and the ability to affect one's own destiny are all benefits that can accrue through advocacy (Lee, 2007).

Bullard (2000), frequently described as the "father" of the environmental justice movement, invented the phrase "environmental racism" to draw attention to the disproportionate impact environmental deterioration has on low-income areas and its role in creating inequality, particularly in African-American neighbourhoods. He went on to say that the poor and the vulnerable are particularly at risk when exposed to a degraded environment, as is the case when industrial trash is dumped on disadvantaged neighbourhoods.

Dalrymple and Boylan (2013) affirm that social justice reflects the activity of advocacy and explain that it is a concept that mobilises individuals to take action to effect change. The power of social justice to activate potential, they argue, has been crucial in efforts to combat inequalities and injustices, despite the fact that the term has often been challenged. Getting social professionals off the sidelines and into social action is one such example. According to Reisch and Garvin, (2016) social justice is achieved when everyone in a society enjoys the same freedoms, responsibilities, and opportunities.

2.7 Structural Vulnerabilities to climate change Adaptation

Structure vulnerability is described as "the degree to which a system is sensitive to and unable to cope with, detrimental effects of climate change, including climate variability and extremes" (The International Panel on Climate Change (IPCC), 2007). Socioeconomic and political conditions that shape a community's resilience and ability to adapt to climate change, plays a critical role in determining the outcomes of climate adaptation efforts. Deficiencies in financial resources, education, access to healthcare, and critical information all contribute to a system's structural vulnerability or its susceptibility to experiencing significant difficulties or threats (Denton, 2002).

Intergovernmental initiatives, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, attempt to combat climate change, but development is still sluggish. Structural barriers, including power

imbalances in negotiations and insufficient funding for adaptation in vulnerable regions, hinder effective global action. For instance, developed countries' commitments to provide climate finance often fall short, leaving vulnerable regions struggling to implement adaptation strategies (UNFCCC,2020).

According to Dominelli (2012), structural inequalities include poverty, unequal distribution of power and resources, and various "isms." To address these structural inequalities and secure the policy changes and social transformations needed to improve the well-being of people and the planet both now and in the future for the benefit of everyone, not just a privileged few, requires reforming the socio-political and economic forces that negatively affect the lives of the poor and marginalised populations.

In Kenya, structural vulnerability to climate change adaptation is influenced by both global and regional factors. As a sub-Saharan African country, Kenya faces unique challenges, including changing rainfall patterns, prolonged droughts, and increased temperatures. These impacts affect agriculture, water availability, and food security, which are central to the livelihoods of a significant portion of the population (Ayanlade, 2022).

Structural barriers in Kenya include limited access to credit and financial services (Oberlack and Eisenack, (2014), inadequate infrastructure, inadequate distribution of public goods, lack of institutional capacity, dependency on specific sectors, policy inertia and fragmentation, inadequate risk assessment and planning, and governance issues. These barriers in the words of Riisgaard, Mitullah, and Torm, (2022) impede the adoption of climate-resilient technologies and practices, leaving many vulnerable communities struggling to adapt. Additionally, Kenya faces challenges related to land tenure and resource distribution, leading to conflicts over diminishing resources in already vulnerable areas.

According to Bohle (2001), there are internal and external sources of vulnerability. The external side includes vulnerability to risks and shocks that are impacted by social disparities, the control of assets by the upper classes, population dynamics, the ability of cities to manage the environment, and the difficulty of individuals to acquire or manage assets through lawful economic means. Internal aspects, also known as coping capability, include things like asset and resource management, crisis and conflict resolution, and the ability to foresee, cope with, resist, and recover from the impact of a hazard.

Dominelli (2013) argues that the inability of both developing and developed governments to address the structural inequality in production and consumption exacerbates social crises among the most marginalised members of society. Kelly and Adger (2000) illustrate social vulnerability from the perspective of a "wounded soldier" by referencing vulnerabilities, the Latin root word for vulnerable (Late Latin). The Roman concept of vulnerability describes the state of a wounded soldier laying on the battlefield and so open to hostile attack. This analogy suggests that the preexisting condition (capacity) of a system or social grouping, in relation to a potentially dangerous event (climate change), is the most important determinant of its vulnerability.

This relationship is mediated, in part, by socioeconomic, demographic, and institutional factors. According to (Monteil, 2020) without people there is no disaster," suggesting that disasters include a social component. In a similar vein, the discriminating and excluding conditions that bar some community members from having the same chances for climate change adaptation are mediated by socioeconomic, demographic, and institutional variables.

In a similar vein, the discriminating and excluding conditions that bar some community members from having the same chances for climate change adaptation are mediated by socioeconomic, demographic, and institutional variables. In keeping with the United Nations Sustainable Development Goal pledge to "Leave no one behind," a fundamental trans-formative promise of the 2030 Agenda for Sustainable Development and its sustainable development goals, an increasing number of scholars are acknowledging that, while there exists a pool of studies that have concentrated on biophysical and environmental components of climate change vulnerability, Largely missing from climate change discourse is social protection perspective crucial in the development of policy measures that address specific human made strides in this area. In a study that evaluated social vulnerability level impacts and adaptation options in Ghana, Dumenu and Obeng (2016) found that high sensitivity was caused by structural vulnerability indicators such low education levels, high reliance on climate-sensitive occupations, lack of income diversity, and lack of access to information about climate change. This study's results underscore the need for enacting area-specific social protection policies to reduce vulnerability and promote adaptation within rural communities, and they show the usefulness of undertaking climate change risk assessments at the community level (Dumenu and Obeng 2016).

Whereas existing literature establishes, the opportunities and challenges faced by different categories of vulnerable population in climate change adaptation, few directly assess the role of social protection systems as comprehensive, independent mechanisms for addressing social vulnerabilities. Concurrently, climate change is predicted to increase populations' exposure to environmental dangers, exacerbating the already disparate vulnerability along axes of social difference including class, age, and gender (Binita, Shepherd, and Gaither, 2015). For instance, white households in the United States had a higher median income and wealth in 2014 (Wike, 2016) and were less

likely to experience home foreclosure as a result of the economic downturn of 2009 than did African-American households (Rugh and Massey, 2010).

When actors collaborate in fair and enabling ways to reconcile competing interests, values, and worldviews, they contribute to climate-resilient development. As mentioned by Cinner et al., (2018), both publicly available and privately held resources are relevant. Private funding, liquid assets, early warning systems, rapid response teams, shelter alternatives, insurance, food stockpiles, assistance with migration, long-lasting infrastructure, reliable transportation, and reliable communication networks are all vital. The irony is that just because these resources exist in a certain location does not indicate that people have access to them or that they may be used to lessen vulnerability. This then calls for scientists and policymakers to need a deeper grasp of what it means to have access to resources and adaptive ability in order to recognize and explain these variations.

The key to comprehending either is realising that they do not indicate a deficiency of resources but rather an uneven allocation of those that do exist. Therefore, climate change consequences and the suffering they produce "represent development failure when the root reasons of vulnerability blend with the roots of other development related crises" (Gaillard, et al., 2010). Key to enhancing the adaptive skills of disadvantaged groups to cope with and adapt to climate change is the adoption of transformative adaptive social protection measures that emphasise empowerment of the marginalised social groups, supply of social funds, and anti-discrimination campaigns. As a result, studies are needed to determine how well social protection systems account for the effects of climate change.

2.7.1 Social dimensions of climate change vulnerability

Scientific discourse on climate change primarily focuses on its physical and ecological aspects. Nevertheless, Belchior (2018) asserts that it is crucial to recognize that climate change is fundamentally a social issue and more so that social dimensions of climate change vulnerability are complex and multifaceted, impacting communities globally, regionally, and within specific countries. Hence, addressing these challenges requires a comprehensive approach that integrates social, economic, and environmental strategies to build resilience and promote sustainable development.

Vulnerable communities, often those with limited resources and minimal adaptive capacity, are disproportionately impacted by changing climate (IPCC, 2014). The impacts manifest through various channels, for instance food insecurity, displacement, health risks, and increased poverty levels, among others (Adger, 2006). These consequences exacerbate existing social inequalities and create new challenges for the most vulnerable populations, perpetuating a cycle of disadvantage and marginalisation. In sub-Saharan Africa, communities face heightened risks due to their geographical exposure to extreme weather events and limited adaptive infrastructure (UNDP, 2019). Consequently, the region often experiences challenges such as loss of livelihoods, increased migration, and conflicts over scarce resources, leading to social unrest and heightened vulnerabilities. Since vulnerability to climate change is deeply intertwined with social dimensions, including factors such as socioeconomic status, race, gender, and access to resources (Watt et al., 2018). Several international and national climate instruments are in support of the centrality of social protection as a key instrument in adapting to unpredictable and varied threats to livelihoods such as those occasioned by climate change. Extreme poverty is noted as the single most important factor in determining susceptibility to climate change and limiting adaptive capability. This has

warranted for the cushioning of the vulnerable populations through adaptive social protection instruments.

Accessibility and equitable distribution of productive factors for instance; access to land, money, credit, information, healthcare, personal mobility, and education is critical in determining a community's resilience to climate-related calamities and its willingness to undertake permanent adjustments and investments in order to adapt (Cinner, 2018). According to the United Nations, women are 14 times more likely than men to die during a disaster, primarily due to their roles as caregivers and their limited access to resources and decision-making power (UN Women, 2019). Despite research suggesting that women frequently possess valuable knowledge of regional ecosystems and sustainable practices that can contribute to effective solutions for coping with climate change, gender dynamics have a significant impact on climate vulnerability in Africa (Dankelman, 2010). Women are more vulnerable to hazards associated with climate change since they are frequently in charge of household food security, water collecting, and fuel gathering (UN Women, 2019). Furthermore, women's potential for adaptation may be constrained and their vulnerability to the effects of climate change may rise due to conventional gender roles and unequal access to resources.

According to UNICEF, (2020) fundamental human right, access to clean and reliable water sources is threatened for many African communities by climate change-related droughts and shifting precipitation patterns. Waterborne illnesses like cholera and diarrhoea, which disproportionately impact vulnerable groups such as children, the elderly, and marginalised populations are particularly at danger as a result of climate change's worsening effects on health disparities.

Stresses brought on by climate change, such as resource depletion and displacement, can intensify already existing societal tensions and fuel conflict. Conflict between

communities over few resources can result in communal violence, while environmental conditions that cause relocation can result in waves of climate refugees. Moreover, Vulnerable communities are frequently forced to leave their homes as a result of climate-related migration in Africa (Baldwin, 2019). Kenyan women spend 70-80% of their day on unpaid agricultural labour, which has increased due to climate-induced challenges. Climate variability affects crop yields and water availability, increasing the workload for women who must travel longer distances to fetch water and find alternative food sources. This exacerbates their labour burden, limiting their time for education and income-generating activities (Mwangi, 2024)

The ensuing instability can impede development efforts even more and make poverty worse. Climate change adaptation is the term for measures that reduce the harmful consequences of climate change while taking advantage of any benefits in the future. It entails modifying courses of action and policy in response to climate change, both observed and predicted. It also encompasses the measures taken by individuals and organisations in light of or in reaction to climate change. Both the things they do and how they accomplish them may undergo revisions (Abbass et al., 2022)

2.7.2 Cultural factors as sources of Vulnerability in climate change adaptation

Cultural factors play a pivotal role in determining the level of vulnerability that a community or group may face in the face of climate change. Adger et al., (2013) observes that factors such as beliefs, traditions, knowledge systems, and social norms shape a community's vulnerability to climate change in various ways. For example, indigenous communities often possess unique ecological knowledge that has been passed down through generations. This knowledge can be critical for adapting to changing environmental conditions and mitigating the impacts of climate change.

Furthermore, cultural factors can influence a community's ability to access resources and services necessary for adaptation. Socioeconomic disparities that result from historical injustices can exacerbate vulnerability among marginalised cultural groups. Discrimination and lack of access to education and healthcare can limit the capacity of certain communities to adapt effectively (Hino et al., 2017). Cultural factors also play a role in shaping perceptions of risk and attitudes toward climate change, which can affect the adoption of adaptive behaviours (Leiserowitz et al., 2019).

Tanjeela (2018) research on the impact of culture on women's participation and experience in climate change adaptation programs in Bangladesh uncovered unequal power dynamics in those initiatives. Due to this, most people's abilities went unused, and not everyone reaped the same benefits from the programs. Since only a tiny fraction of a group (leaders or volunteers) are typically involved in the day-to-day operations of a project, it was determined that the involvement of group members was passive.

Furthermore, the unequal distribution of power between men and women stems from a lack of gender parity in positions of authority, as women are traditionally assigned to perform tasks that are viewed as lower on the social hierarchy. This implies that whether an individual is single, married, or in other marital arrangements can impact vulnerability, resource distribution, decision-making, gender Ranucci, Romano, & Tiberti, (2023) suggests that individuals who are single or divorced often experience higher levels of vulnerability due to reduced social support networks.

Marriage often provides a built-in support system, allowing for shared resources and responsibilities, which can prove invaluable during climate-induced crises. Single individuals might lack the immediate emotional and financial assistance that can help cope with the aftermath of extreme weather events or other climate-related disruptions, dynamics, and community-level resilience. Overall, the results of the study suggest that

gender relations have a substantial role in shaping women's access to resources and power in their communities. This study concludes that a shift in gender relations is necessary to achieve a gender-equal society that values women's needs, roles, and contributions in the context of climate change.

Nielsen (2024) found that cultural hurdles restrict individuals from adopting four of the most efficient livelihood options, which include labour migration, working on development projects, gardening, and women's participation in economic activities. According to Liru (2014) research on women's contributions to food security, gender-based inequalities at every stage of food production make it harder for women to achieve food and nutritional security. Moreover, a lack of legal reforms that account for multiple-use rights to land, especially women's rights, and the various ways in which women gain access to land, such as divorce and inheritance systems, were also seen to exacerbate this problem.

Liru (2020) observes that despite having a gender-equality policy framework in place, communities continue to uphold gender discrimination in access to major production assets. In addition to rendering women more susceptible to the consequences of climate change and less able to adapt and become resilient in the face of these effects. Patriarchy also plays a significant role in the biased decision-making and distribution of resources that keeps them that way. Constitutional reform and fostering gender equity should be at the heart of all interventions.

Even though gender inequality arises from the unequal distribution of farm-related power, assets, and resources, it is the women must in the event of a natural or environmental disaster (Women's UN Reporting Network, 2017; Holmelin, 2019). This research is necessary because trans-formative social protection has not been explored as a potential option.

2.7.3 Political Vulnerability in climate change adaptation

Dominelli (2013) contends that the Earth's flora and fauna populations are controlled by ignorance of power relations based on geopolitical social structures, which has a detrimental effect on social work clientele (the poor and marginalised) and their quality of life. Drawing inspiration from Fraser's theory of social justice, O'Reilly (2016) finds affirmative and trans-formative approaches to addressing inequalities, and so lends credence to this view. Moreover, Cappelli, (2020) shows that preexisting inequalities in vulnerability to climate change, environmental degradation, and natural catastrophes are affected and perpetuated by disparities mediated by social, economic, and political institutions.

Raleigh (2010) notes that political marginalisation, climate change, and conflict in the African Sahel nations exacerbate and harm developing states disproportionately and that climate change disrupts the political stability of poor and undeveloped states, increasing the likelihood of environmental violence. Despite arguments opposing climate change as the sole cause of conflict, its potential to worsen existing conflicts and inequality is anticipated. For instance, Darfur, Somalia, and Mali are all examples of the increasing frequency and severity of resource-related wars (Cilliers and Sisk 2013). Raleigh, (2010) makes the following observation to explain the relationship between climate sensitivity in politics and economics and the prevalence of communal violence among different ethnic groups:

Communities that experience political and economic marginalisation have fewer options when faced with unfavourable physical changes. Governments are less inclined to provide limited public goods to groups regarded politically irrelevant and low-capable than they are to wage a major campaign against the government to address the growing susceptibility to climate change “non-threatening.”

Watts (1983) notes that many poor and marginalised people have limited access to resources because of the difficulty of navigating the complex web of social ties and power systems. Some members of society have historically lacked the freedom to

determine their own destinies, including where they would like to live and how they would like to make a living. This is mostly attributable to problems associated with race, caste, and gender discrimination, as well as poverty and power imbalances, all of which contribute to developmental failures (Gaillard, 2010).

Logan et al., (2016) note that how speedily a community recovers from climate-related shocks depends on how well it can adapt. For instance, Weiss, Lebrón, and Chase (2018) contrast the devastation caused by Hurricane Maria in Puerto Rico with that of Hurricane Harvey in Texas in 2017 and find that while both regions were severely affected, Texan communities recovered much more quickly after Harvey. Further, recovery processes in Texas and Puerto Rico differed in terms of their duration and challenges. Texas, with its stronger infrastructure and resources, made significant progress in rebuilding within a relatively shorter time frame. However, Puerto Rico's recovery was more protracted due to the island's vulnerabilities and preexisting economic struggles.

The process of rebuilding critical infrastructure and restoring services, such as electricity, proved particularly challenging and raised concerns about the long-term viability of Puerto Rico's infrastructure. In the case of Hurricane Harvey, Texas Governor Greg Abbott took an active role in coordinating the state's response and working closely with federal agencies. The governor's leadership was generally praised, and there was a strong sense of unity among state and local officials. In Puerto Rico, Governor Ricardo Rosselló faced criticism for his handling of the crisis. There were concerns about the government's transparency, effectiveness, and ability to meet the needs of the population.

2.8 Challenges and opportunities in the adoption of adaptive social protection in climate change adaptation

The sustainable development agenda of the Kenyan government is oriented toward protecting local communities and the vulnerable from climate-related disasters. The adoption of social protection within climate change adaptation strategies presents significant opportunities to strengthen resilience, particularly for vulnerable populations. However, to realize these benefits, countries must overcome challenges related to financing, governance, and policy integration. By doing so, they can ensure that social protection contributes to both immediate relief from climate shocks and long-term resilience-building, promoting more inclusive and sustainable development.

2.8.1 Challenges in adoption of adaptive social protection in climate change adaptation.

The prospects for ensuring that the marginalised and vulnerable are at the centre of climate change discourse. Adopting adaptive social protection (ASP) as part of climate change adaptation strategies presents several challenges, particularly in vulnerable regions where the need is greatest. ASP combines traditional social protection measures—like cash transfers, public works, and insurance—with adaptive strategies that help communities cope with climate-related shocks. However, the adoption and effectiveness of ASP face several key obstacles. This section highlights various challenges.

2.8.2 Lack of institutional coordination as a challenge in adoption of adaptive social protection in climate change adaptation

Climate change poses a significant threat to vulnerable populations necessitating the adoption of adaptive social protection interventions in adapting to changing climate. according to smith et al., (2018) limited awareness and understanding of climate dynamics among institutional actors. According to the study without a comprehensive

understanding of the evolving climate patterns, institutions struggle to develop and implement adaptive measures. This has often led to misallocation of resources and ineffective policy formulation. Another critical dimension contributing to the lack of institutional coordination is the insufficient allocation of financial resources.

IPCC (2019), asserts that budgetary constraints often hinder the development and implementation of adaptive social protection programs. Agrawal et al., (2023) state that low stakeholder participation, accountability, and openness limits the efficacy of institutional coordination amongst the various institutions that carry out social protection programs. In developing nations, adequately funded social protection programs will guarantee that the benefits of increased wellbeing and reduced vulnerability are realised.

Kundo (2022) opines that the integration of climate change consideration into existing policies is essential for effective adaptive social protection measures. However, studies have shown that the measures utilised to facilitate adaptation can operate as a barrier to adaptation in and of themselves. For instance, Eriksen & Lind (2009) argue that climate change policies and strategies that limit local and regional adaptation alternatives are generally the product of external development support that "disregards the logic of people's adaptation plans." For example, (DAAF, 2008) submission report No. 183 for "drought-affected households" quotes a respondent as saying:

Those who are not directly involved in the rural industry frequently do not comprehend the sadness and loss endured by farmers and rural communities. It is crucial that rural residents have easy access to resources and that service providers possess extensive knowledge of the mental and physical repercussions of chronic stress.

The study emphasised the need for adaptive policy frameworks that can respond to changing circumstances and account for uncertainties associated with climate change. Additionally, the study highlighted the importance of mainstreaming adaptation into existing policies and sectors, such as agriculture, water management, and urban

planning. Similarly, Adger et al., (2018) review of capacity building for adaptation and identified institutional factors as key determinants of success. The study emphasised the need for institutions to provide resources, information, and technical support to enhance adaptive capacity. Effective knowledge dissemination through education, training, and public awareness campaigns was highlighted as a crucial institutional function. Furthermore, the study underscored the importance of institutions in fostering social learning and knowledge exchange among stakeholders.

Biesbroek et al., (2013) examination on the role of policy in climate change adaptation in the Netherlands and Germany, found that policy coherence and flexibility were crucial for successful adaptation. Nyanga et al., (2011) argue that the social components (culture, attitudes, and values) that influence the acceptance of new technologies are not well addressed by extension services in Zambia. The authors believe that a technical concentration prevents farmers from making the adaptive mental shifts required by climate change and conservation agriculture. Ludi et al., (2012) also argue that the top-down approach to planned adaptation support, which is typically provided by NGOs and governments, can impede long-term adaptation owing to the lack of emphasis on developing local innovation and agency through the provision of knowledge and learning opportunities.

'Climate change citizenship' is viewed as a means of promoting involvement for approaches that undervalue sufficient engagement of local people and other stakeholders. Such approaches are likely to be rejected and fail. In addition, a perception of adaptation's urgency has frequently led to rapid fixes that disregard more "inclusive procedures of debate and negotiation" and, consequently, more responsible and ethical decision making as well as the potential for learning and experimenting. A planned adaptation that disregards the impact of adaptation alternatives on what people value most is likewise likely to encounter challenges.

2.8.3 Sustainability Dilemma as a challenge in the adoption of adaptive social protection in Climate Change Adaptation

Adaptation efforts are essential because climate change is already causing disruptions in various aspects of society, such as agriculture, water resources, and coastal communities (IPCC, 2014). Moreover, the impacts of climate change are not evenly distributed, disproportionately affecting vulnerable populations and exacerbating social inequalities (Adger et al., 2007). Therefore, adaptation is not only an environmental imperative but also a matter of social justice and equity.

Dominelli (2014), notes that those on the margins see striking a balance between protecting their environment, maintaining their standard of living, and relocating to large cities as a top goal. The implementation of sustainable development is incredibly complicated by this issue. The impoverished and disadvantaged populations cannot afford the costs of diversification to ecologically benign alternatives (Conference of parties 26). While sustainability is utilised as a framework to guide communities in solving energy problems, managing trash, developing green parks, urban planning, and reviving local economies, Western thought is considered to have placed man against the environment with its hierarchical and binary perspective (Dorn, 2019). The difficulty of creating a direct link between environmental degradation and people's daily lives is what prevents them from contributing to solutions, according to the argument. The typical desire for quick gratification is the source of the sustainability problem, as the choice of a short-term aim for environmental sustainability takes precedence over the long-term objective of an inhabitable earth. In the view of the US secretary of state; “The problem is that it is hard to focus on long-term planet goals when so many Americans are a few hundred bucks away from disaster”. Vogel, (2021) notes that after the signing of the Paris agreement, in 2017, the United States announced its intention to withdraw from the agreement, citing concerns about the economic impact of the

agreement on US businesses a clear indication of noncommittal stances put forward by governments in especially developed countries is a major determinant of the climate change agenda.

2.8.4 Opportunities in the adoption of adaptive social protection in climate change adaptation

The opportunities provided by different actors in climate change adaptation are covered in this section.

2.8.4.1 Provisions of Climate Act of 2016 and Kenya climate adaptation plan (2015-2030) in climate change adaptation

The Environment Demonstration of 2016 - Environmental Change Reaction Measures and Activity portrays the exceptional necessities and conditions of individuals and geographic regions that are especially powerless against the antagonistic impacts of environmental change to incorporate however not restricted to, weak gatherings like ladies, kids, the old and people with inability. The Demonstration further blueprints the freedoms that these exceptional gatherings are qualified for which incorporate;

Part V — 24. (1) of the demonstration expects that public elements at each degree of government will, consistently while creating techniques, regulations and investment. approaches connecting with environmental change, attempt public mindfulness and lead public discussions.

Section (2) expresses that public cooperation and admittance to data will be embraced in a way that guarantees the public commitment has an effect on the edge of navigation.

Part VI of a similar demonstration gives a rule for monetary arrangements (environmental change store) which is a supporting system for financing need environmental change activities and intercessions endorsed by the chamber. Further,

Area (5) expects that in the regulating the asset, the gathering will set vital bearings for utilizations of the Asset as follows; characterize qualification standards for the Asset to back environmental change activities and upgrade accomplishment of low carbon environment strong turn of events; set out techniques for dispensing, recuperation and reimbursement of credits including interest; set out methods to guarantee orientation and intergenerational value in admittance to monies from the Asset.

Moreover, the board is ordered to recommend procedures and frameworks to assist the country with accomplishing maintainable improvement despite an evolving environment. Remembered for this are plans for state funded training and contribution in environment reaction and disaster avoidance, as well as plans for adjusting to and relieving the impacts of environmental change. In particular, provision five of section three determines that the bureau secretary should consider (a) the monetary circumstance, particularly what the activity is probably going to mean for the financial prosperity of any area or part of the populace, and (b) the financial circumstance, particularly the way in which the activity plans, systems, and strategies are probably going to influence the minimized and distraught populaces, while making the Public environmental change activity plan.

The Kenya Public Variation Plan 2015-2030 that Kenya, as other African nations, is feeling the impacts of climatic inconstancy and change. This has incited the requirement for a purposeful work to fix the related security blemishes. It has been proposed that variation and flexibility ought to outweigh everything else as answers for environmental change. In such manner, the US government fostered the Public Environmental Change Reaction Technique (NCCRS) in 2010 and the Public Environmental Change Activity Plan (NCCAP 2013-2017) in 2013. The strategy has gotten acclaim from all through the globe for being inventive and careful. As a result of the negative social and monetary repercussions of environmental change and the rising weaknesses of the different areas,

variation is made obvious as the first concern for the country in the activity plan (Patterns, 2017).

Considering a changing environment that has unfavorable monetary, social, and natural impacts, the Public Environmental Change Transformation Plan makes it richly clear that reasonable improvement is trying to accomplish; thus, variation and improvement objectives should work pair. The Arrangement records various need transformation activities in the space of climate, energy, schooling and preparing, wellbeing, water and sterilization, and land changes. Reinforcing weak populaces' capacity to adjust is the focal point of this drive for ladies, vagrants and weak youngsters, the old, and people with inability (Adenuga et al.,2021).

The public authority is focused on accomplishing orientation uniformity in all circles of society, furnishing kids with major freedoms, including youngsters of any age (15-35) in the workforce at all levels, and working on the situation with weak people (counting vagrants and weak kids, people with handicaps, the matured, widows, single men, inside uprooted people, minimized people, and pastoralists). These people group are particularly helpless against climatic fluctuation and change because of their absence of command over assets (like cash and land) and their area in regions where the weather conditions is flighty (like deserts and ghettos). Diminished accessibility of food because of environmental change is supposed to intensify unhealthiness, which can have dependable repercussions on the strength of youngsters (Alemayehu, Tolera, and Tesfaye, 2019).

Kenya has thought of a variety of social security drives which are in progress for example The projects Yearning Wellbeing Net, Variation Consortium, Public Dry spell and Fiasco Possibility Asset, Finishing Dry season, African Gamble Limit, and Coordinated Program to Construct Versatility to Environmental Change and Versatile Limit of Weak People group are a couple of models. The goals of the Variation

Learning System for Africa, the Ladies and Youth business venture Asset, and the Provincial Vocations Transformation to Environmental Change in the Horn of Africa Task are to: "Further develop admittance to the young and ladies endeavor reserves." reinforce and widen social security nets and insurance contracts against significant environment gambles. To diminish rustic metropolitan relocation and to advance and support environment versatile feasible livelihoods, it is suggested that available and reasonable credit lines be laid out for the ruined in both metropolitan and provincial regions, youth, and other weak gatherings. Also, consciousness of environment potential open doors for ladies and youth ought to be raised. These activities are important for the Kenya Environment Demonstration of 2016.

2.8.4.2 Provisions of the United Nations Framework convention on climate change

Vulnerability, as defined by the AR, I. W. (2014) is the tendency or inclination to be negatively impacted. According to Feild et al. (2012), it is the outcome of a complex web of interrelated drivers and system conditions that are shaped by historical and current cultural, social, political, environmental, and economic factors. People who are minimized in the public eye, the economy, culture, governmental issues, establishments, or in alternate ways are especially defenseless with the impacts of environmental change (AR, I. W. (2014). As a result of their monetary circumstance, the devastated in both provincial and metropolitan regions, as well as secluded networks, have a confined capacity to adjust, which leaves them more defenseless than different pieces of society. People who are minimized in the public eye, the economy, culture, governmental issues, establishments, or in alternate ways are especially helpless with the impacts of environmental change (IPCC, 2014).

Moreover; Intergovernmental Board on Environmental Change Working Gathering II commitment to the IPCC 6th Evaluation Report underscored in its reports the lopsided effect of environmental change on weak populaces, featuring the requirement for designated transformation measure, while Joined Countries Improvement Program advocates for comprehensive and fair variation systems that focus on the necessities of weak populaces, zeroing in on versatility building and economical turn of events.

The World Bank underscores the significance of putting resources into transformation methodologies that explicitly target weak populaces, particularly in non-industrial nations. Joined Countries Structure Show on Environmental Change (UNFCCC): The UNFCCC recognizes the weakness of specific gatherings and nations to environmental change influences and urges part states to incorporate transformation measures into their strategies, with an emphasis on supporting weak networks.

2.8.4.3 Social Work Practice in Climate Change Adaptation

By plainly focusing on advancing supportability and value as to ecological advantages and weights, proficient changes to public sets of rules and global social work strategy explanations have laid out a connection between natural equity and civil rights (Worldwide Organization of Social Specialists [IFSW], Worldwide Relationship of Schools of Social Work [IASSW], and Worldwide Gathering on Friendly Government assistance [ICSW], (Drolet,2012). Moreover, a rising corpus of social work writing communicates worry about what impeded individuals are lopsidedly meant for by natural corruption and an unnatural weather change, as well as the need of utilizing an ecosocial work way to deal with training (Dominelli, 2012).

This expert development lays out an endorsed necessity for social work activity with respect to fostering an eco-social work practice base. Taking into account this association is essential while working with in danger populaces. Rocha (2018) contends

that social work has forever been related with the social calculated system for the progression and assurance of common liberties. Further, social work's advancing social combination, prompting change, and change is persuaded and legitimized by civil rights and common freedoms, for example, those encroached by environmental change peculiarities. Social specialists can be political problem solvers by quickly jumping all over the chance introduced by the environmental change peculiarity to encourage a culture of activity that is more in line with individuals' real necessities (Appleby, Chime and Boetto 2017)

2.9 Conceptual Framework

Maua (2016) argues that having a theory to guide the construction of the relationships between independent and dependent variables is essential. Ecofeminism theory and the philosophy of empowering individuals and groups will serve as theories to inform concepts.

2.9.1 Ecofeminism Theory

Ecofeminism emerged from both the environmental movement and second-wave feminism in the 1960s and 1970s which saw a rise in environmental consciousness. The term *ecofeminism* was first introduced by French feminist Françoise d'Eaubonne in (1974). d'Eaubonne felt that environmental crisis and the oppression of women were interconnected and that women's empowerment was essential for addressing ecological destruction. According to ecofeminist thinkers, the breakdown of crucial social values that restrict certain groups from accessing community resources is a direct result of human inventions of oppressive social institutions. Mies and Shiva (2014) argue that these inequities—combined with poverty, discrimination, and a lack of representation in leadership—intensify women's vulnerabilities to environmental crises, especially in disaster-prone or resource-scarce regions.

Despite its contributions, ecofeminism faced significant criticism, particularly around issues of essentialism, cultural appropriation, and lack of intersectionality. Therefore, in response to accusations of essentialism, ecofeminists began to emphasize more intersectional approaches, exploring how race, class, and colonialism intersect with gender and environmental issues. Simply put, contemporary ecofeminism has evolved and continue to evolve toward a more nuanced and inclusive approach (Gaard, 2015). Kaijser & Kronsell (2014) point out that, an intersectional approach, developed within critical feminist theory, is advantageous. Kaijser & Kronsell (2014) assert that intersectionality study of climate change sheds light on how various people and groups respond to the issue in different ways because of their position within power systems that are founded on dynamic and context-specific social categorizations. Therefore, social groups for instance, members of Self – Help Groups benefit from a number of ecofeminist contributions which centre on addressing the diverse experiences of marginalized groups by offering a holistic and equitable approach to adaptation that can contribute to a more just and sustainable future for all.

Additionally, by challenging the exploitation inherent in both patriarchal and capitalist systems, ecofeminism advocates for sustainable, community-driven solutions to climate change that prioritize resilience and equity over profit. Hence, providing a crucial framework that brings together environmental sustainability and social justice. By emphasizing gendered vulnerabilities, ecofeminism highlights the need for inclusive adaptation policies that empower marginalized voices, particularly those of women Sturgeon (2016). Intersectionality generally sketches out a pathway that stays clear of traps of essentialisation, enabling solidarity and agency across and beyond social categories.

2.9.2 Empowerment Theory

In international social work, the empowerment approach is seen as a model since its theoretical framework includes all the elements necessary to work with marginalised communities across borders (Rocha, 2018). According to empowerment theory, people's lives, workplaces, and neighbourhoods can all benefit through giving members a voice in policy making processes that affect them. Tanner et al., (2015) claim that a large portion of the work on climate change adaptation has centred on scientific and technical discourses that have little in common with the everyday activities of regular people. As a result, the ability for human (rather than environmental) transformation is at the centre of adaptation, but essential questions of human agency and empowerment, such as politics and power relations, ideologies, risk perception, the diversity of cultural values, and so on, are often overlooked. Since, exclusion and inequalities that undermine the capacities of the marginalised to adapt to climate change events are a direct outcome of the existence of institutional injustices that promote patterns of oppression.

The empowerment theory emphasis on participation, agency, and self-awareness, makes it pertinent to the research at hand. Social reform and policy formulated from a position of empowerment gives marginalised individuals and communities a chance to rethink their relationships with those who they view as oppressors.

2.10 Conceptual framework model

Independent Variable

Dependent Variable

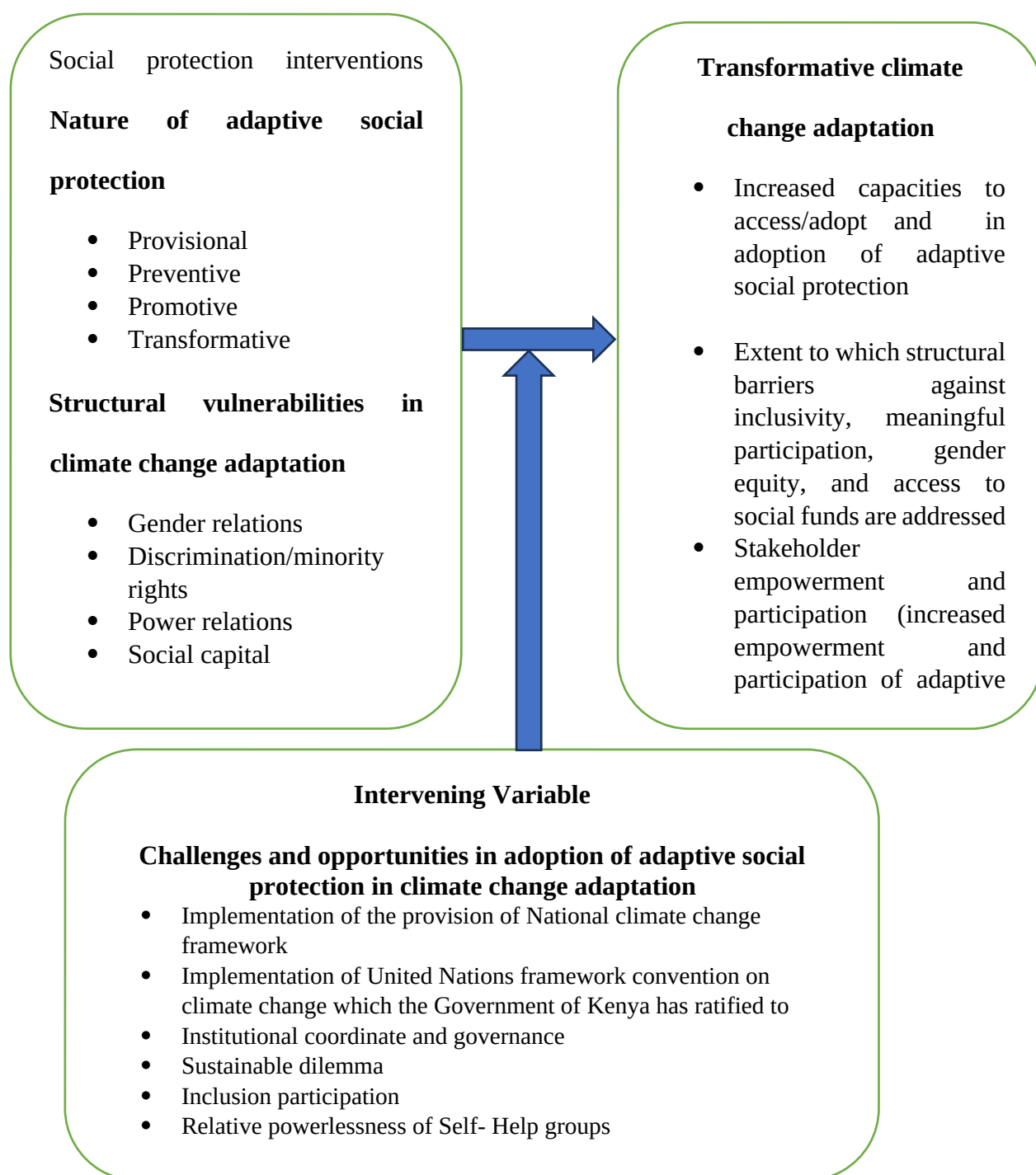


Figure 2. 1: Relationship between social protection in climate change adaptation among Self - Help Groups

Source: Researcher, 2023

Climate change adaptation is the dependent variable in this study, whereas adaptive social protection tools are the independent variable. This is centred on Social Work principles of social justice, cultural diversity and human rights. The goal of adaptive social protection is to safeguard vulnerable groups from the consequences of climate change. The degree to which Self-Help groups addressed structural vulnerabilities—gender, political, cultural, and social capital—was a measure of their capacity to adapt to climate change.

The difficulties in adopting adaptive social protection and the opportunities available to members of self-help groups were among the intervening variables. These chances included the National Climate Change Policy, the National Adaptation Plan 2015–2030, the National Climate Change Act of 2016, and the National Climate Change Action Plan (NCCAP) 2018–2022. On the other side, difficulties included sustainability issues and a lack of institutional cooperation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The systemic aspect of this review is addressed in this section. Exam configuration, region, target population, test size and inspection system, information collection strategy and tools, and information investigation and display are all addressed. There are also reflections about morality.

3.2 Research Design

A research design is the pattern that the research intends to follow and the plan or strategy for conducting the research (Alston, (2020)). The study adopted descriptive research and collational research design. The descriptive research design was important for the first and second objectives as it allowed the study to systematically document the current status, nature, and challenges of adaptive social protection measures among Self-Help Groups, while the correlational research design was instrumental for the first objective as it sought to reveal relationships and associations between these measures and various factors influencing their adoption and effectiveness.

3.3 Study Area

According to the Kenya national population and housing census South Kabras Ward is one of the seven wards forming Malava Sub County, Kakamega County. This locality was chosen due to its unique challenges related to climate change, its proximity to Kakamega forest, a crucial sink to greenhouse gases and the presence of Self-Help Groups funded under the climate adaptation fund that are critical for social protection interventions. The population comprised 1,240 potential primary respondents, drawn from the Kenya Climate Smart Agricultural initiative. This initiative, supported by the World Bank, seeks to build resilience to climate change risks in the targeted self-help

groups in Kenya, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response. The study site focused mainly on South Kabras ward which lies between Latitude of 00° 10' N and 00° 21' N and longitudes of 34° 47' E at about 1600m above sea level and also a host to Kakamega forest the only remaining rainforest in Kenya and is the furthest east remnant of the Guineo-Congolian rainforest. Most of the population in this area depend on the forest and its products for their livelihoods. The goals of the Paris Agreement on Climate Change cannot be accomplished without the participation of forests, trees, and agroforestry (Harris et al., 2021). Self-Help Groups in the area have been given a larger share of the World Bank funding base (Climate change adaptation funds) than Lurambi, Shinyalu, and Navakholo sub-counties of Kakamega county as a result of integrating the potential of forest, tree, and agroforestry resources as an important sink for greenhouse gases and also a need-based survey, making it suitable for the study.

3.4 Target Population

The researcher targeted forest adjacent dwellers who were members in Self- Help Groups. The study population comprised 1240 primary respondents, 80 of whom were beneficiaries from vulnerable and marginalised groups, and 1160 from common interest groups. The choice of Self-Help Groups was informed by Social Work group work method which identifies SHGs as crucial population for assessing social protection in climate change adaptation due to their vulnerability, role in grassroots adaptation, contribution to social protection, and representation of marginalized communities' needs. Wannewitz and Garschagen (2023) also asserts that 'collective adaptation' has recently become a widely used concept in climate change science and advocacy work.

Social welfare groups, including non-governmental organisations, community-based organisations, and advocacy groups, play a pivotal role in raising awareness about the disproportionate impacts of climate change on vulnerable populations. These

organisations engage in research, advocacy, and public education campaigns that shed light on the specific challenges faced by marginalised communities (UNESCO, 2020). The study also targeted 25 key informants who comprised of 4 sub-chiefs, 1 director Environment and Climate Change, 1 director Gender and Social Protection department, 3 Community Forest Association officials ,5 Kenya Climate Smart Agricultural Project service providers, and 5 Community development driven committees’ members and 4 representatives of non- governmental organisations, and 2 group leaders.

Table 3. 1Target population

Category	Population Category	Population Size	Sampling Technique	Sample size
Primary respondents	Vulnerable and marginalised groups	80	Stratified Sampling	19
	Common interest groups	1160	Stratified sampling	283
Key informants	Director environment and Climate change	1	Purposive Sampling	1
	Sub-chiefs	4		3
	Community Driven Development Committees	5	Purposive sampling Purposive Sampling	2
	Non-government organisations	4	Purposive sampling	2
	KCSAP service providers	5	Purposive sampling	2
	CFA	3	Purposive sampling	2
	Director Gender and social protection department	1	Purposive sampling	1
	Group leaders	2	Purposive sampling	2
Total		1265		317

Source: Researcher, 2023

3.5 Sampling procedure and sample size

Sampling is the process of selecting a subset of a population from which generalisations can be made about the whole population (Rahi, 2017). Sampling methods are techniques the researcher uses to choose a sample. In this study both probability and non- probability sampling techniques were utilised. According to the Kenya climate smart projects database two categories' Self-Help Groups have been given grants to enable them adapt in changing climate. These categories of Self-Help Groups consisted of 1160 respondents under the Common Interest Groups and 80 vulnerable and marginalised respondents. Using this information, the researcher drew the sample by adopting a stratified random sampling technique. The target population stratified according to group type (common interest group and vulnerable and marginalised). The Yamane (1967) method was used to calculate the sample size since it allows for selection of a representative sample and takes into account the size of the population under study as follows; $n = N / 1 + N e^2$

where n = is the sample size for the study

N = is the total population of the sample e = is

the level of precision which is given by (0.05).

Therefore, the sample size for this study will be;

$1240 / 1 + (0.05)^2 = 302$ primary respondents

Neymans, (1937) allocation formula was utilised to acquire a sample size for each stratum because it optimises the sample size allocation across strata to maximise precision and efficiency. Neymans formula is given by $n_h = (N_h / N) * n$ where;

n_h = Sample size for h^{th} stratum

N_h = Population size for h^{th} stratum

N = Size of entire population

n = Size of entire sample-

Table 3. 2 Sampling distribution

CATEGORY	TARGET POPULATION	SAMPLE SIZE	SAMPLING TECHNIQUE
Vulnerable and marginalized	80	$80/1240 \times 302 = 19$	Purposive and stratified random sampling
Common interest groups	1160	$1160/1240 \times 302 = 283$	Purposive and stratified random sampling
TOTAL	1240	302	

Source: Researcher, (2023)

3.6 Data collection methods and Instruments

Both necessary and optional information were used in the review. Direct data gathered by the scientist throughout the review process is considered essential information (Flick, 2015). However, supplemental information includes research on the crucial data that has been proactively gathered (Edwards, 2020). Books, study reports, district incorporated plan reports, Kenya environmental change strategy records, state run administration reports, and online sources were among the many sources of optional information that the specialist looked into. This evaluation employed both interview and review techniques, and member data was gathered through the use of survey instruments and interview guides.

3.6.1 Questionnaires

Researcher assisted semi structured questionnaire (Appendix 2) was used to collect data from members of the self- help groups and included both open and closed-ended questions. This tool was chosen because it has the advantage of collecting data from a cross- section of participants at a single point in time (Kothari, 2004). The first section

of the questionnaire sought to collect the social demographic information of the respondents. The second section sought information on the nature of adaptive social protection interventions among Self- Help Groups whereas the third section sought to collect information on the extent that adaptive social protection addresses structural vulnerabilities in climate change adaptation. The fourth and last section collected information on challenges and opportunities in the adoption of adaptive social protection interventions in climate change adaptation.

This research technique was beneficial since it provided a quick, cost effective, and efficient way to collect a lot of data from a sizable sample. Open ended questions elicited qualitative data while closed ended questions elicited quantitative data. Open - ended questions provide participants the freedom to respond in as much or as little detail as they would like. On the other hand, participants had a limited number of predefined responses to pick from when answering closed questions.

3.6.2 Interview guide

Utilising an interview schedule (Appendix III), the researcher conducted interviews with various stakeholders, including three sub-chiefs, one director of the Environment and Climate Change department, one director of the Gender and Social Protection department, two officials from the Community Forest Association, two service providers for the Kenya Climate Smart Agricultural Project, two members of community development committees, two representatives from non-governmental organisations, and two group leaders. The interviewer guided the process by posing questions, and the interviewee answered them (Manning, 2016). In this study interviews were primarily conducted, during which the researcher asked the respondents general, open- ended questions and recorded their responses. To facilitate accurate transcription, audiotapes were used. Interviews were helpful for eliciting the background of

participants' viewpoints on the topic under study and in-depth data. Qualitative research interviews were significant as they helped in yielding overarching themes in the lives of the participants (Brooks, 2018).

The researcher used both structured and semi- structured interviews for this study. A structured interview is a type of interview in which the researcher poses a planned list of questions in an effort to learn more about a specific subject (Adams, 2015). On the other hand, unstructured interviews entailed the interviewer asking questions in accordance with the setting and objective of the systematic study (Roulston, 2023) guide was developed by the researcher through analysing the aspects that needed in-depth professional understanding. The tool had a list of pre- written questions to guide the conversation. The interviews were administered to officials of the organisations providing climate change services within Kakamega county. The researcher conducted face to face interviews with the key informants. The approach was used to collect information that complimented the data gathered from the primary respondents.

3.7 Pilot study

The study ensured instruments validity and reliability as hereby discussed. A pilot study was conducted to assess the efficacy of the data collection tools. According to Sounders (2008), a pilot study should have at least 10% of the intended population, hence the total of the pilot study had 30 participants. Kothari, (2004) opine that a pilot study is conducted in an away location, away from the study region to avoid pre-exposure of the data collection tools to possible respondents of the study. Armed with this information, South Nyakach Kisumu County, served as the site for preliminary research where the Kenya climate smart agricultural project was also underway. Cultural differences with regard to language and communication were gaped by engaging the local experts who assisted to translate study materials accurately and thoughtfully, ensuring that nuances are preserved. The study also made sure that the

study design and methodology did not infringe upon cultural norms, values, or sensitivities. The purpose and implication of the study was also clearly communicated. Among the things appraised were; appropriateness of language, time taken to complete the questionnaire, appropriateness of the font size and colour and completion rate of the tool.

3.7.1 Validity of instruments

The term validity is used to describe a research instrument's ability to accurately assess a target variable (Kothari, 2004). According to Mchopa (2021), seasoned researchers should be contacted in order to optimise the content validity of research instruments and therefore the researcher contacted the supervisors who were experts in the field. The expert review and judgement were used to evaluate and determine how well the test represented all the aspects of the topic under study before employing the test in actual data collection.

3.7.2 Reliability of data collection instruments

The reliability of a research study ensures the accuracy and consistency of the data collected (Gakuu and Kidombo, 2016). It evaluates how similar or different an individual's test results are when using different versions of an instrument or under different conditions (Gakuu & Kidombo, 2016). To determine the reliability of the data collection instrument, the researcher used a test-retest technique, administering the same instrument to a pilot group and then repeating the process after two weeks. This approach ensured that the time interval between the first and second test was not too short or too long, minimizing the likelihood of maturation effects.

In this method, factors likely to change in the respondents, aside from those associated with the independent variable, were controlled. The reliability of the instrument was

further confirmed using Cronbach's alpha coefficient, which measures internal consistency. The two tests produced a Cronbach's alpha value of 0.832, which is above the acceptable threshold of 0.70, indicating strong reliability (Ellen, 2011)

Table 3. 3 Cronbach's Test Outputs

Factors		No. of Variables Tested	Cronbach's Coefficient	Remarks
Adaptive Protection	Social	5	0.821	Reliable
Climate Programs	Change	5	0.848	Reliable
	Climate Adaptations	4	0.836	Reliable

3.8 Data analysis and presentation

Table 3. 4 Summary of data collection tools

Objective	Data collection	Data analysis	Data presentation
Demographic characteristics	Questionnaire	Descriptive statistics	Graphs and pie charts and tables
Nature of adaptive social protection	Questionnaire	Descriptive and inferential statistics	APA tables
Structural vulnerabilities in CCA	Semi-structured Questionnaires and interviews	Thematic analysis	Verbatims explanations
Challenges and opportunities in CCA	Semi-structured Questionnaires and interviews	Thematic analysis	Verbatims explanations

Source: Researcher, 2023

Essential information was examined to get data on friendly security mediations in environmental change variation among Self - Help Gatherings in South Kabras Kakamega, Kenya. The analyst in this study altered and encoded the polls to upgrade the nature of the information. Verifying whether the members answered the inquiries required going through the surveys during altering. Topical investigation, which utilizations subjects, classes, and coding to decipher subjective information was utilized for this case.

Every information corpus' center ideas were refined utilizing coding. Finding examples and associations was a stage in the process to further develop perception. Expansive

topics experiences going through the information, were viewed as examples emerging from the information. Word for word clarifications procedure was applied to introduce information.

Quantitative information was examined utilizing expressive measurements which remembered frequencies and rates for request to cause an outline of the example and the perceptions that to have been made. Inferential measurements was broke down for the main goal by utilization of Pearson item second connection to lay out the level of straight relationship between factors. Information gathered was introduced in diagrams, tables and outlines.

3.9 Ethical consideration

The study was implemented in observation of the following ethical standards; Research authorization: Authorization was first received by the respondent the Directorate of Post Graduate studies of Masinde Muliro University of Science and Technology to allow the researcher to proceed to collect data from the field through an official letter as seen in appendix National Research clearance: Using the authorization document from Directorate of postgraduate studies, the researcher applied for and obtained a research permit from the National Commission for science, Technology and Innovations (NACOSTI) and a permit obtained as seen in appendix VI.

The following ethical principles were also taken into account while conducting the study. Respect for human dignity; in this study, participants decided voluntarily whether to participate in the study without risking any penalty. The respondents were provided with information on the purpose of the study, expected duration of participation and unforeseen risk; which helped the respondents to make informed consent before the start of the interview. Justice; the right to fair treatment and the right to privacy are both based on this principle.

The study made sure everyone was treated fairly by choosing participants without bias, following the rules, and making sure that everyone was treated with respect and courtesy at all times. The right to privacy was protected by making sure that the names of the people who filled out the questionnaire were not written on it. Privacy; confidentiality was kept by putting hard copies of the information under lock and key, not sharing private information about respondents, and putting password on soft copies of documentation. Self- determination; this was taken into account by only letting people who wanted to take part in the research do so. Respecting respondents' autonomy meant taking into account their differences in age, sexual identity, and disability. Participants were informed of their right to withdraw from evaluation and research at any time without penalty. Research findings are being reported accurately. Data collection protocol was followed to ensure that data collection tools were applied correctly.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND

DISCUSSION OF FINDINGS

4.1 Introduction

The section presents the outcomes and conversations on the evaluation in versatile social security in environmental change transformation among Self improvement Gatherings in South Kabras Kakamega District. The review looked to respond to three inquiries in particular; one; what is the idea of versatile social security mediations embraced by Self improvement Gatherings for environmental change variations, two; how much does the versatile social assurance mediations address underlying weaknesses to environmental change transformation and three; what are the difficulties and amazing open doors in the reception of versatile social security for environmental change transformation among Self improvement Gatherings in South Kabras Kakamega Province, Kenya. The part additionally presents, talks about the reaction rate and discoveries on segment attributes of the respondents. Information show is coordinated in tables and figures in view of the review's particular goals.

4.2 Response rate of the respondents

A sum of 302 surveys were managed to individuals from Self improvement Gatherings under the Kenya Environment Savvy Rural ventures, 15 meetings were directed to key sources. Out of the absolute 302 surveys controlled just 260 polls were finished and 10 out of the 15 meetings led were effective. This gave the review a reaction pace of 85%. As per Creswell and Creswell (2017), a reaction pace of more than 70% is brilliant for reasons for speculation of discoveries onto the whole populace from which the example was drawn. In deciding whether information gathered was sufficient and proper for examination, the Kaiser-Meyer-Olkin (KMO) proportion of testing amplex was utilized to give a worth that demonstrates the testing sufficiency for the review. Field

(2009), states that any worth that is above 0.9 are heavenly; values that fall somewhere in the range of 0.8 and 0.9 are perfect; esteems that fall somewhere in the range of 0.7 and 0.8 are great, and values that fall somewhere in the range of 0.5 and 0.7 are fair. This study recorded a worth of 0.786, falling under perfect, and in light of the discoveries of the review, it uncovered that the information was satisfactory.

Bartlett's Trial of Sphericity was additionally utilized to test any connections in the relationship framework or on the other hand in the event that the grid was a character lattice (all relationship coefficients would be zero). For the information within reach, Bartlett's Test gave a profoundly huge outcome at 0.01 degree of importance, implying that the information was essentially satisfactory and proper for this sort of measurable investigation.

Table 4. 1 Test of sampling adequacy and Sphericity of data

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.786	
Bartlett's Test of Sphericity	Approx. Chi-Square	30421.635
	Df	2034
	Sig.	.000

Source: Field data, 2023

4.3 Social demographic characteristics of the respondents

Demographic information provides data regarding research participants and is necessary to determine whether the individuals in a particular study are a representative sample of the population for generalisation purposes (Salkind, 2010). Demographic characteristics which included group type, group years of existence and group size hinged on existing literature that show demographic characteristics within a group play a significant role in shaping the group dynamics, effectiveness and overall impact.

With respect to group type of the respondents, the findings are presented in figure 4.1

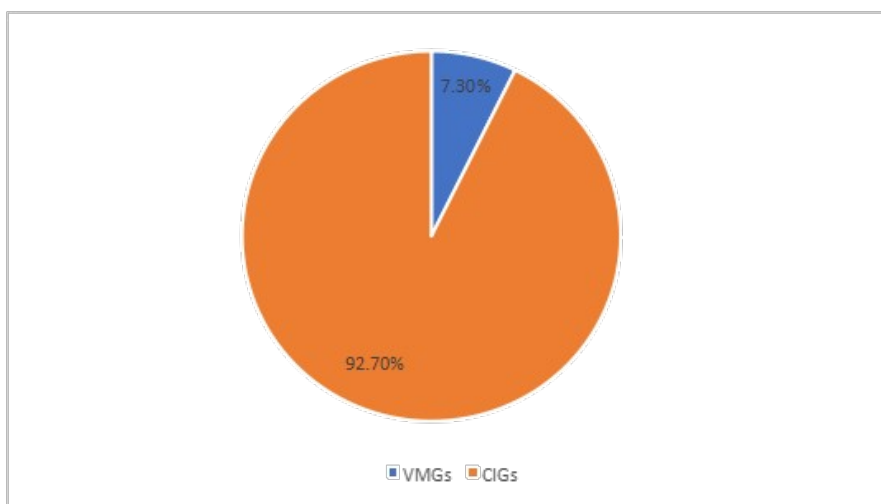


Figure 4. 1 Distribution of respondents by group type
Source: Field data, 2023

Respondents were requested to indicate the type of group they belonged to. Study findings from figure 4.1 above reveal that (240)92.70% of the respondents were members in common interest groups while (20)7.30% belonged to the vulnerable and marginalised groups. The finding that the majority of the respondents belonged to common interest groups implies that the majority of the population in the study area fell under this category in accordance with the KCSAP selection criteria. Self-Help Groups with similar interests come together to pool resources that help in leveraging the negative impacts from climate related effects. This variable was significant because community-based climate adaptation strategies, such as Self-Help Groups, have been found to be effective in enhancing resilience to climate change (Shaw, 2006).

The eligibility criteria of micro – project grants include people who meet the World Bank’s criteria for “marginalisation” and the Government of Kenya’s criteria for ‘marginalised” and “minority communities" including; youths, indigenous people, elderly women, men, widows, orphans, the abled differently, recovering drug abusers and people living with HIV and AIDS. This aligns with the United Nations sustainable development group Transformative pledge to “Leave no one behind”. In the context of climate change adaptation Rocha, (2018) asserts that vulnerability is not caused solely

by exposure to hazards, but also by situations of social inequality caused by many factors such as poverty, age, gender, and social class. Data on group size was collected, analysed and presented in Figure 4.2.

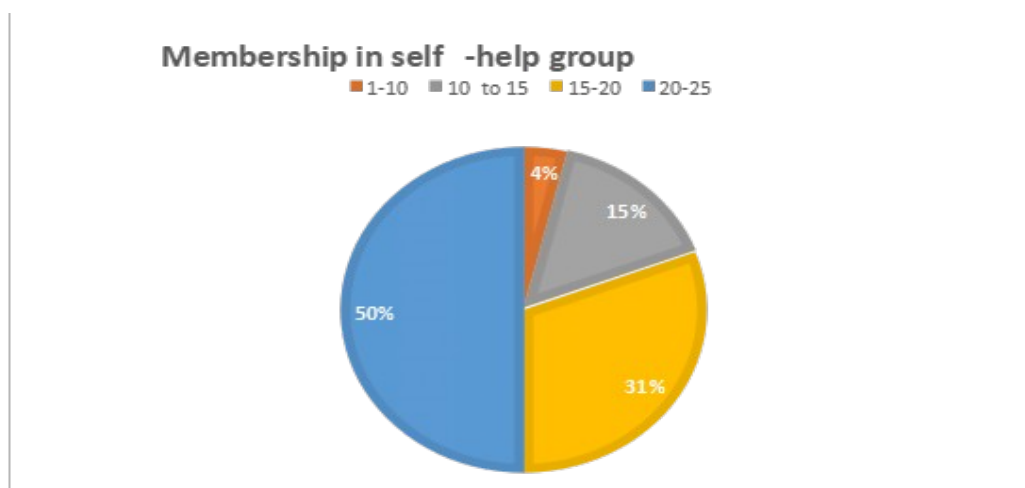


Figure 4. 2: Distribution of Self-Help Group by size

Source: Field data, 2023

The size of the group was taken into account for this study because it has been demonstrated to have a major impact on its dynamics, efficacy, overall experience, and the suitability of an adaptive social protection intervention for that specific number of participants (Wannewitz & Garschagen, 2023). Findings in figure 4.2 revealed that among 260 study respondents 50 % had a membership of 20-25 members, 31% had a membership of 15-20 members, 15% of the self-help group had members 10-15 and 4% of the Self-Help Groups had a membership and 1-10 members. This reveals that the majority of the Self-Help Groups were composed of 20-25 members. The justification for having Self-Help Groups of 20–25 members was that this was the minimum number required for registration with the social services department and that this number was also seen to be optimal for effective group dynamics, participation, and management as reported by a key informant.

Group composition provides adequate capacity for findings suggesting that Self-Help Groups provide a platform for communities to pool their resources and implement

climate adaptation measures, which enhances their adaptive capacities. A balance between larger and smaller groups, complemented by collaboration and partnerships across scales, can enhance the overall effectiveness of climate change adaptation efforts.

4.4 Group years of existence

The concept of "group years of existence" refers to the total number of years that a Self-Help Group (SHG) has been active and operating. In the context of social group work, "years of existence" is important because it influences key aspects like group cohesion, role differentiation, conflict resolution, and goal achievement. The longer a group has been in existence, the more likely it is to have well-established norms, trust, and cohesion, all of which are critical for successful group work (Wannewitz & Garschagen, 2023). Findings with regard to the Self-Help Groups years of existence are presented in figure 4.3

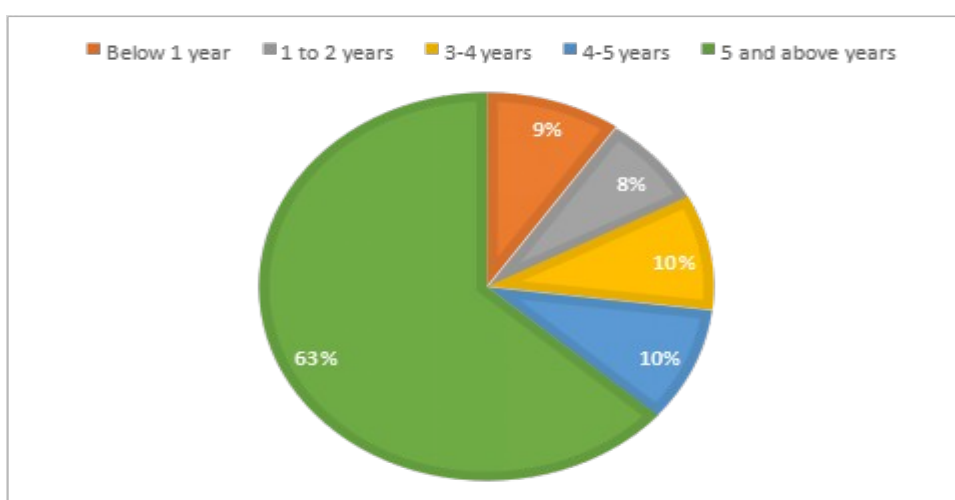


Figure 4. 3 Distribution of self -help group by years of existence

Source: Field data, 2023

The research findings show that 63% of the Self -Help Groups had been in existence for more than 5 years, 10% (4- years), 10% (3-4 years), 8% 1-2 years and 9% had been in existence for less than one year. This implies a likelihood that the Self - Help Group had accumulated more experience and knowledge in dealing with various challenges and issues that its members faced. This was alluded by a respondent who reported that:

Groups that have been in existence for a longer duration tend to have more diverse solutions to their challenges than newly formed groups there those in this project that are at the verge of breaking (RES133, 2023).

This experience can translate into a group being better equipped to offer effective support and guidance to its members. This was alluded by a key informant stated that;

Groups are heterogeneous and every group differs from the other. From our reports it is certain that the groups with more years of existence demonstrates ability to sustain itself over time, are more adaptive within their members and tend to be more cohesive with less dynamic (KI 1, 2023)

4.5 Respondents sex

On the question of respondents' sexual identity, data collected is as indicated in table 4.2

Table 4. 2: Sex of the respondents

Sex	Frequency	Percent	Valid Percent	Cumulative Percent
Male	60	23.1	23.1	23.1
Female	200	76.9	76.9	100.0
Total	260	100.0	100.0	

Source: Field data, 2023

Climate scholars are increasingly recognizing the importance of gender in climate change, for instance an intersection of gender and marital status in access to CCA strategies. Findings from table 4.2 reveal that the majority 76.9% (200) of the respondents were females while 23.1% (60) of the respondents were men. This could be attributed to the patriarchal nature of society where access to any form of empowerment is controlled by men. This has made Self- Help Groups popular among the females because they offer them opportunities to take charge of their financial, social, and personal well-being. Women are recognized as vulnerable populations with limited access to productive assets that can compensate for increased capacities in climate

change adaptation. This recognition of women as vulnerable populations also serves as a catalyst for bringing vulnerable groups together to improve their coping mechanisms in a changing climate.

This study findings are similar to the study findings of Goodrich et al., (2019) who reported that females are more sensitive to the effects of climate change and further that limited access to productive and economic assets and resources often make them form groups to enhance the resilience of their livelihoods. The fact that only 23.1 % were men presents a problem because they are the heads of households and major family decision makers. When the majority of the members are women their implementation of their proposed projects takes a longer time since they make more consultations than their male counterparts. A key informant from the group leader reported that;

In most cases formation of groups is the women's initiative They prefer having their spouse in the same self-help group because he is more agreeable with the implementation of projects because he has the same knowledge as I do which makes him supportive... we have groups composed of nuclear families' (KI 6, 2023).

These sentiments suggest the significance of having Self-Help Groups being gender diverse to help mitigate the power inequalities that can hamper the responsiveness to the specific gender needs of women in climate change adaptation. It recognizes the importance of including men in Self-Help Groups as a deliberate effort to build their capacity to mitigate the gender related structural issues that are pertinent to climate change adaptation.

A key informant reported thus;

In my observation I would say that widowed Self-Help Groups are doing well in terms of climate change adaptation because they consult less. Although they seem to be in need of specific assistance they are faring on well (KI 5, 2023).

4.6 Age of Respondents n=260

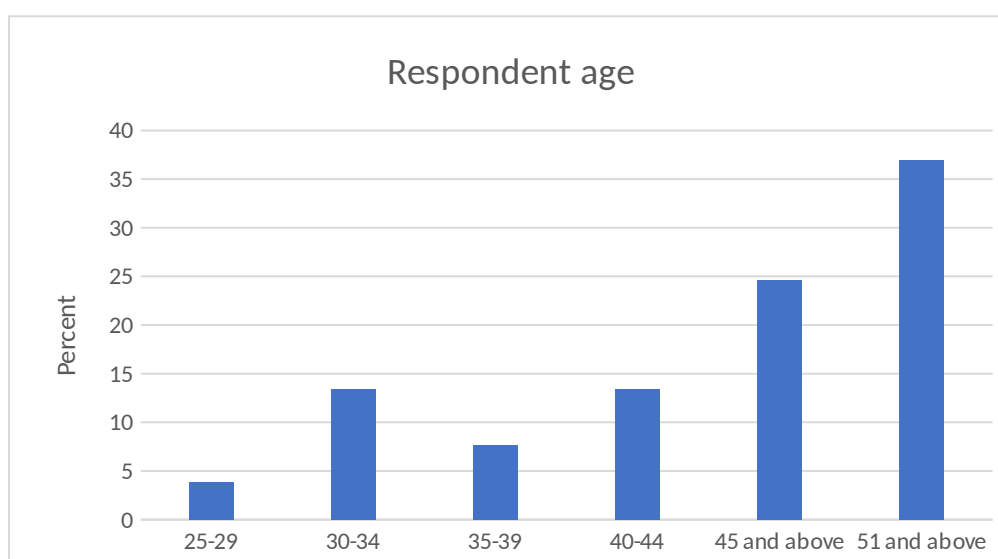


Figure 4. 4 Age of the respondents

Source: Field data, 2023

Study findings from figure 4.4 above reveal that, 36.0% of the respondents were 50 plus years, 24.6% were between 45 and 50, 14.6 % were between 40-44, 7.7% of the respondents were between 35-39 years, 13.5% were between 30-34, while 3.8% were aged 25-29. Thus, it is evident from the findings that the majority 36.0% of the participants were 50 plus years which is an indicator that members of 50 plus years were more actively involved in Self -Help Groups activities in climate change adaptation interventions.

The minimal involvement of members between the ages of 25-35 (3.8%) who represent youthful members can also be attributed to their lacking productive asset which is a prerequisite for funding. Young people are similarly underrepresented in Self-Help Group activities and appear uninterested in participating in the groups' activities, preferring to watch from the sidelines. An elderly member of the group reported that;

I fear that these projects will not be sustained because most of the young members in my self-help group are lazy (*Hawataki kuchoka*) meaning that they do not want to take up responsibility they do not show interest in source for funds or take any responsibility the group but wait for me to do everything despite the fact that I am now of old age (RES 12, 2023).

A key informant was however of a contrary opinion by observing that;

Young people's lack of excitement is not solely the fault of Self-Help Groups; other issues, such as their lack of ownership of productive assets, also play a part (KI 9, 2023).

This was corroborated by respondent 123 saying that;

For those of us who have been here for a longer time we can attest to the changing climate so we try where possible to live with the changes....

unlike the younger generation they will go to Nairobi (RES 123, 2023).

This suggests further that the respondents' limited mobility, familiarity with long-term climate changes, and age all had a role in their active participation in climate adaptation programmes among the elderly respondents.

4.7 Respondents' level of education

The study also established respondents' level of education hence the data on respondents' level of education were collected, analysed and presented in figure 4.5 below.

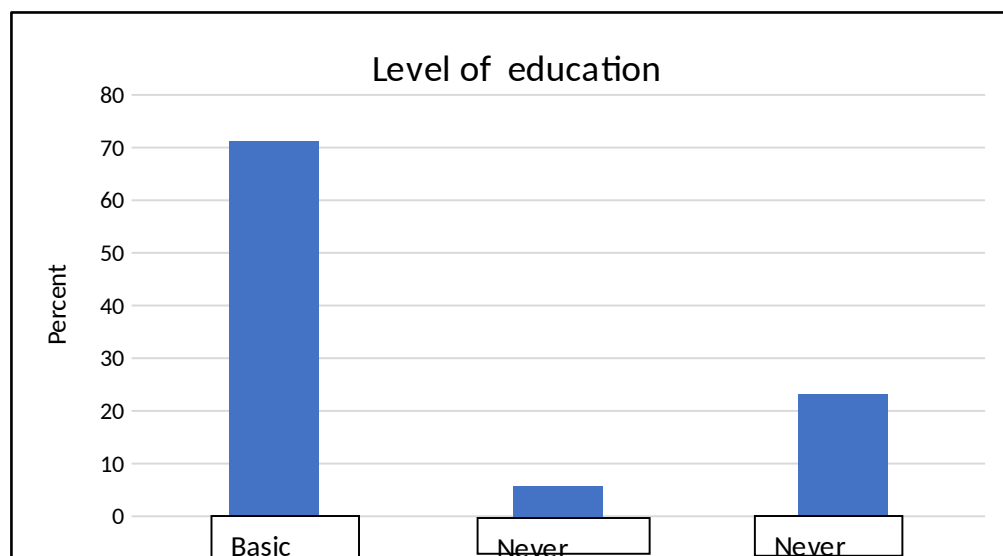


Figure 4. 5 Level of education of respondents

Source: Field data, 2023

Findings on figure 4.5 above show that majority 71%(185) of the respondents had attained basic level of education, 5.8%(15) were diploma holders and 23.1%(60) had no formal education. The findings indicate that the majority of the respondents had a low level of education. While low education levels may indicate limited formal education, the study revealed the potential for knowledge transfer through informal and traditional means from the older populations. This was affirmed by a respondent who said that;

Young people have no idea or very limited information about the changes in climate patterns...They need to sit with us to get this information to equip themselves for unpredictable changes in climate for their future. (RES 77, 2023)

These findings point to the value of preserving and sharing traditional knowledge.

Additionally, the study findings underscore the importance of inclusive approaches that consider the diverse educational backgrounds and needs of the population where inclusivity in policy and program design may be necessary. The lack of participants who had attained higher level of education and with only 5.8% college levels explains why most of the members were involved in agricultural activities which are skills based.

Self-Help Group helps to reverse this trend by bringing the likeminded populations together which enables them to discuss and learn from one another by training them to pool and accumulate funds and resources and consequently get liberated and onto the path of empowerment. Studies by Füssel and Klein (2006) demonstrate how individuals with low levels of education are more likely to experience financial constraints in implementing climate change adaptation measures. In a similar vein Adu-Bredu et al., (2017) indicates that lack of education can perpetuate social inequalities, hindering inclusive and equitable adaptation efforts. Education plays a crucial role in climate change adaptation, and the level of education is critical in shaping attitudes and behaviour towards climate change. Additionally, individuals with higher levels of education are more likely to have the knowledge, skills, and resources required to adapt to the impacts of climate change.

The finding that 23.1% of the respondents reported to have no formal education implies a need to deliberately create awareness about the complex set of factors interacting to produce vulnerability to climate change if these groups are to be effectively mobilised towards climate change adaptation efforts. Encouraging more young people who tend to be more educated to participate in climate change adaptation activities would also

provide a means of effectively promoting community-based climate change adaptation efforts that build their resilience against the impacts of climate change.

4.8 Respondents' marital status

This study also established the marital status of the respondents whose data was collected, analysed and findings presented in figure 4.6 below.

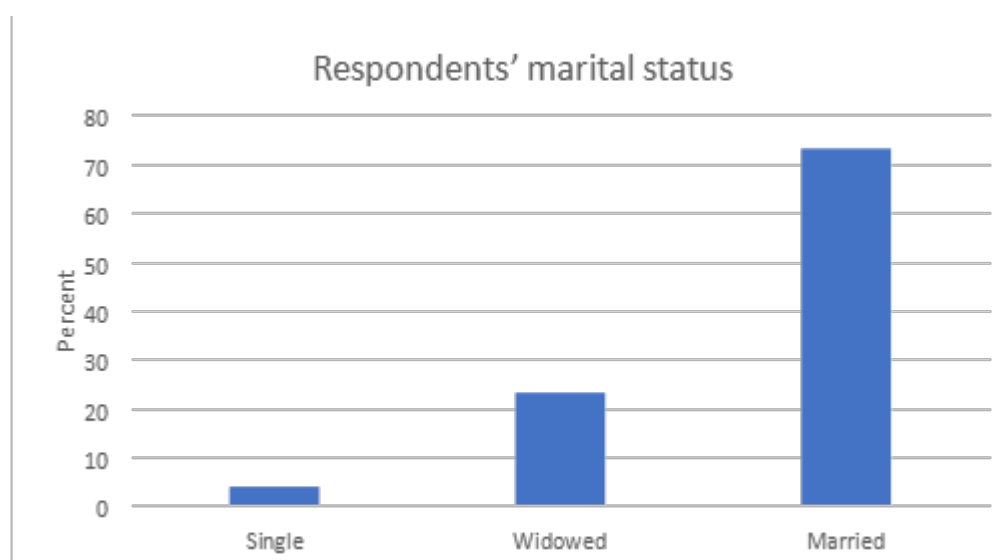


Figure 4. 6: Respondents Marital Status

Source: Field data, 2023

Brings about figure 4.6 show that 73.1% (190) of the respondents were hitched, 3.8% (10) of the respondents were single and 23.1% (60) bereft. The review discoveries show that most of the respondents were hitched. Conjugal status is a significant figure deciding how different financial and gendered privileges, for example, admittance to assets and getting material help from line services is probably going to work out.

Aelst and Holvoet (2016) features that ladies' admittance to versatile procedures relies upon their conjugal status, while this is less the situation for men and further that contrasted and different ladies, widows and female divorced people are impeded in the field of agrarian water the executives, and separated from ladies expect moderately more pay acquiring exercises outside the cultivating. This infers that conjugal status straightforwardly affects a singular's admittance to assets like monetary capital, land

possession, and instruction. Hitched people frequently benefit from shared assets and pooling of resources, which can upgrade their versatile limit. This was insisted by an essential respondent who expressed that;

Being in a self- help group has helped me do things I could not do on my own I was able to take a cow home and my husband who was at first not supportive of my participation in SHG was happy. He allowed me to use some portion of land to implement what I learned from the self -help group. (RES 24, 2023)

This sentiment resonates with the Ranucci, Romano, & Tiberti, (2023) study that emphasised that communities with a higher proportion of married couples might be better equipped to withstand and recover from climate-related shocks. Further, Marital status is a complex social factor that can significantly influence climate change adaptation outcomes. Therefore, acknowledging these implications is essential for designing inclusive and effective climate change adaptation strategies that consider the diverse social contexts within which individuals and communities operate.

Lastly, under the demographics section, the study sought to establish the engagement of people living with disability. Demographic data on disability status of the respondent is presented as shown in figure 4.7

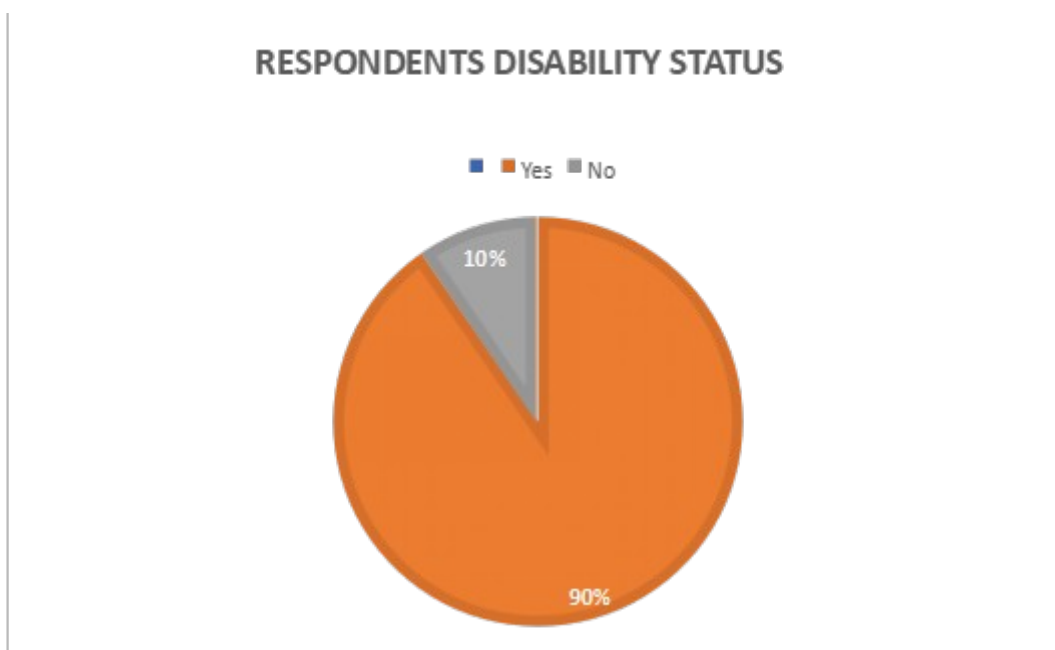


Figure 4. 7 Distribution of respondents on disability status
Source: Field data, 2023

Findings from figure 4.7 revealed that 10% (26) of the respondents were persons with disability while 90% (234) of the respondents had no disability. These findings show that the majority 90% of the respondents did not have a disability. Persons with disabilities often face unique challenges and vulnerabilities in the face of climate change impacts and related adaptation efforts. Despite clear eligibility criteria for persons who are earmarked for grant funding, a 10% representation of People Living with Disabilities in the KCSAP imply that the PLWD might have limited access to information in opportunities and services in climate change adaptation.

A study by Lukalo and Savala (2021) observed that PLWD are discriminated against and stigmatised equally denying them opportunities from access to meaningful participation in development issues that concern the community they are resident in. This means that this group is at risk of forms of social exclusion that would subject them to structural sources of vulnerability to climate change. Further, this calls for an urgent need to incorporate the perspectives, needs, and experiences of persons with disabilities into climate change adaptation plans and policies, to ensure more equitable and

sustainable outcomes for all individuals, including those with disabilities, as self- help groups work to adapt to the changing climate.

4.9 Ranking of nature of adaptive social protection among Self- Help Groups in climate change adaptation

The principal objective of the review was to lay out the idea of versatile social insurance utilized by individuals from self improvement gatherings. The review factors of interest on versatile social assurance drives were assembled in four classes to be specific; Temporary, Preventive, Promotive, and, Extraordinary social security mediation procedures. In portraying the idea of versatile social security methodologies Sabates-Wheeler and Devereux Social Assurance for Change was taken on. the scientists mentioned the respondents to demonstrate the recurrence of different social security mediations assembled into four classes: temporary, preventive, promotive and extraordinary. The review depended on a Likert Scale where 1-Extremely low, 2-Low, 3-moderate, 4 High and 5-Exceptionally high Table 1 beneath addresses an outline of the reactions from the members for every survey thing. Discoveries are introduced in table 4.3.

Table 4. 3 Nature of adaptive social protection interventions on climate change adaptation

		5	4	3	2	1	Mean	Std. Deviation
Provisional	50		60	35	50	65		
Public-health education		(19.2%)	(23.1%)	(13.5%)	(19.2%)	(25.0%)	3.0769	1.48150
Food banks	30		60	70	45	55		
		(11.5%)	(23.1%)	(26.9%)	(17.3%)	(21.2%)	3.1346	1.30382
Secure shelter	35		55	75	70	25		
		(13.5%)	(21.2%)	(28.8%)	(26.9%)	(9.6%)	2.9808	1.18697
Linkages and Referrals	30		55	35	75	65		
		(11.5%)	(21.2%)	(13.5%)	(28.8%)	(25.0%)	3.3462	1.35972
Public work Programs	30		50	55	75	50		
		(11.5%)	(19.2%)	(21.2%)	(28.8%)	(19.2%)	3.2500	1.28663

Source: Field data, 2023

In regard to the provisional Adaptive Social Protection category the variables of interest included public health education, food banks, secure shelter, linkages and referrals, universal health care, basic social transfers, and public work Programs.

4.9.1 Public health Education

Results presented on the table 4.3 above indicate that 19.2% (50) of the respondent rated access to public health education very high, while 23.1% (60) reported it high and 35 (13.5%) respondents ranked the public health education moderate. Further ,50 (19%) of the respondents viewed rated public health education low and lastly 25% (65) rated the practice very low. The result show that the majority 25% (65) viewed the public health education as very low in practice implying that public health education was not being used by most respondents as an adaptive intervention strategy.

Besides other characteristics public health education is an important aspect to climate change vulnerability. Vulnerable groups, such as the elderly, low-income families, and those in high-risk areas, rely on public health systems to guide them on how to adapt to changing climate conditions Jerrett et al., (2024). If public health interventions are perceived as low or inconsistent in practice, these populations may be left without the necessary information and support to protect themselves from the impacts of climate change.

Jackson (2023) highlights that climate extremes, such as increased flooding, prolonged droughts, and heightened wildfire risks, can lead to severe health consequences, including the spread of infectious diseases, higher rates of illness and death, and increased emotional or mental stress. In Kenya, the 2010 Constitution guarantees every person the right to a clean and healthy environment, placing a responsibility on individuals to protect and improve the environment. Access to affordable and quality healthcare services plays a crucial role in mitigating the health impacts of climate change by providing both preventive and curative care to vulnerable populations, particularly in addressing climate-exacerbated diseases such as heat-related illnesses and vector-borne diseases (WHO, 2018).

Universal Health Care (UHC) can also act as a safety net for populations affected by climate-related disasters, offering essential emergency care and medical supplies when they are most needed. By ensuring access to healthcare during crises, UHC can enhance the resilience of vulnerable populations to the health challenges posed by climate change. As the World Bank (2019) notes, UHC is a key social protection intervention that not only addresses immediate health needs but also supports long-term adaptation to climate change by bolstering communities' capacity to withstand and recover from climate-induced health shocks.

4.9.2 Food banks social protection for climate change adaptation

The study sought to establish the rate of practice for food banking as an adaptive social protection intervention. Food banks can be an essential component of a community's resilience against climate-related disasters such as hurricanes, floods, and droughts. They can stockpile food and emergency supplies for distribution during and after these events. Table 4.3 results show that 11.5% (30) of the respondent reported very high practise food banking, 23.1% (60) of the respondent reported practice as high, 26.9% (70) rated the practice of food banking as moderately practised, while 17.3% (45) reported low practise of food banking, and 21.2% (55) reported very low practise of food banking as an adaptive social protection initiative. The study found out that 26.9% (70) of the respondents were practising food banking as an adaptive social protection initiative. Food banks are important in reducing food waste and promotion of food security to households especially in dry seasons. This was alluded by respondent 75 who reported that;

In my group we have received special bags that ensure that our produce is not destroyed by '*Osama*' (weevils). The bags also allow us to store the produce without using chemicals. The bags store the produce for a long time and saves us from aflatoxin. (RES 75, 2023).

A primary respondent reported that;

In our self-help group each member is required to have a kitchen garden that ensures that the household has adequate food supply in all seasons.... we have trainers of trainers that demonstrate to members how to prepare and maintain the kitchen gardens (RES 61 ,2023).

Furthermore, the findings indicated that 17.3 % (45) and 21.2% (55) of the respondents reported low and very low frequency of practice respectively. This can be equated to lack of capacity and knowledge on how to store surplus food as one of the respondents echoed:

In my group we do not have the drier provided by KSAP. Borrowing from other groups is always a challenge because all their members have to use the same drier and it takes time depending on the amount of food

that needs to be dried so by the time, their perishable foods will have gone bad already (RES 99, 2023).

Food banks directly speak to the sustainable development goal number 2 on zero hunger and goal 3 on good health and nutrition. Food rescue by food banks plays a role in providing emergency food assistance to individuals and families that would otherwise face food insecurity by intensified climate change variability.

Penalver et al., (2022) study evidenced that food banks had the capacity to benefit people from food that would otherwise be wasted which contributed to improving the food security of people at risk or those in situations of social exclusion. This implies that food banks are contributing to climate change adaptation by supporting the development of local and regional food systems that are more resilient to the impacts of climate change.

4.9.3 Secure shelter for climate change adaptation

The result findings in table 4.3 show that 13.5% (35) of the respondents reported a very high practice of construction of secure shelter, while 21.2% (55) reported the practice as high, and 28.8% (75) of the respondents rated secure shelters as moderate. Further, 26.9% (70) reported the practise low and 9.6% (25) reported very low adoption and practice of secure shelter as an adaptive social protection initiative. The result findings indicate that the majority of the members in Self- Help Groups participated in ensuring their members had secure shelters. This could be attributed to the engagement of diverse stakeholders in this intervention for instance financial assistance from women merry go rounds, and Disaster risk reduction programs by the Kenya Red Cross and also the involvement of the local government.

This was confirmed by a respondent who reported that.

As a group we realised that most of the members' houses were roofed using grass and we took it upon ourselves to change the roofs to iron sheets. This has been made possible by the merry go round where we don't give members cash money but buy iron sheets (RES 21, 2023).

This was affirmed by a respondent who reported that;

The refurbishment of homes to semi-permanent shelters is one of the activities that really bonds the members ... she added laughing... our men help us a great deal with the roofing and their self-esteem is also boosted (RES 17, 2023).

Interviews from a key informant from the department of gender and social services revealed that construction of secure shelters was at the time of data collection on-going to ensure that marginalised individuals are protected from harsh climatic conditions.

Constructing decent homes for the vulnerable and the marginalised has been a top priority for the county government and the implementation of the same for the most in need is underway (KI 1,2023).

A key informant stated that;

The Red Cross Society has been very instrumental in providing secure shelters to community members. There was a time that this area experienced heavy rains and there were mudslides. The society helped in reconstructing houses for those who were affected (KI 6, 2023).

Secure shelter is particularly important in the context of climate change, as it helps to protect people from extreme weather events such as floods, storms, and heatwaves. The IFRC (2012) notes that Secure shelter is a basic human need and a fundamental right. It provides protection from the elements and the environment, and is essential for health, safety, and well-being. For vulnerable populations, lack of secure shelter exacerbates their susceptibility to climate change impacts

4.9.4 Referral and linkages for climate change adaptation

The study sought to establish the adoption of linkages and referrals as a form of adaptive social protection intervention in climate change adaptation. Data on linkage and referrals was collected, analysed and presented on table 4.3 The findings indicate 11.5% (30) of the respondents reported very high adoption, 21.2% (55) of the respondent reported the practice as high, 13.5%(35) of the respondents reported moderate adoption and practise linkage and referrals, while 28%(75) reported low adoption and practice adoption of referral and linkage, and 25.0% (65) of the respondents reported that they

very low practised linkage and referrals as an adaptive social protection initiative. The findings show that linkage and referrals were rarely adopted as an adaptive social protection initiative by the self- help groups. The rare utilisation of referral and linkages adaptive social protection initiative was attributable to hoarding of important information by seemingly important networks. This was affirmed by a respondent 200 who disclosed that;

Sometimes especially when there is *shirika* that want assistance to the community they use the gatekeepers in the community to identify the target population, because of corruption they pick the participants from those they have close affiliations.... we will have the information when such initiatives are over (RES 200, 2023)

From a key informant woman leader, a respondent disclosed that;

In groups there are members who are “know it all” they question and incite other member against the leaders and at the end we have very little accomplishment towards the group goals ...these groups have been often sidelined when it comes to referrals because of bad records (KI 2, 2023)

From the above sentiments it can be concluded that lack of cohesiveness in groups functions hinders their achievement in the initial goals. The lack of continuation in the same groups has also led to members joining other groups which is likely to start off problems in the new groups. Some of the key informants also shared how they had acquired information on groups after working with different social groups that would be relied on in terms of prudent utilisation of resources and so always referred the groups to the funder/donors. This study points this as one form of structural vulnerability that exposes some groups to unequal access to climate change opportunities.

4.9.5 Public work programs for climate change adaptation

Public work Programs (PWPs) are a means of social protection and climate change adaptation. The findings in table 4.3 reveal that 11.5% (30) of the respondents reported they were very high use PWP, 19.2% (50) reported access to PWP as high, 21.2%(55) reported a moderate access to PWP, 28.8% (75) reported access to PWP as low, and 19.2%(50) reported the access to PWP as very low. This finding implies that the

majority of the respondents had no access to public work programs as a social protection method. This finding is attributed to unequal distribution of public goods exacerbates the suffering of the vulnerable and marginalised in climate change adaptation.

This was reported by a respondent who said that;

Public Work Programs are only accessible to a few people who have connections with big people in the county..... since the *kazi kwa vijana* initiative rolled from the central government to the counties there are some of the members in the self- help groups who have never failed to access those opportunities (Res 117, 2023).

Public Work Programs can help to build the resilience of poor communities to climate change impacts by creating public goods or services that are essential for adaptation like evidenced by Khera, (2013) study conducted in India found that the National Rural Employment Guarantee Act (NREGA), which is a Public Work Programs, provided income support to poor households and helped to reduce poverty (Khera, 2013).

Similarly, FAO, (2015) notes that Public Work Programs can help to improve natural resource management, such as reforestation or soil conservation, which can contribute to climate change mitigation and adaptation. This study finding indicates that most members of the Self-Help Groups did not participate in Public Work Programs owing to access barriers. From the sentiments expressed above, it is apparent that access to PWP opportunities was dependent on the social capital ('connections') enjoyed by the members. Membership in the Self- Help Groups did not seem to enhance their ability to overcome this form of exclusion. This presents a gap in Public Work Programs as an Adaptive Social Programs intervention and thus presents a policy opportunity for calibrating these opportunities to meet the needs of vulnerable groups in the local context.

Table 4. 4 Nature of adaptive preventive social protection interventions on climate change adaptation

	5	4	3	2	1	Mean	Std. Deviation
Preventive ASP							
Access to Credit	49 (18.8%)	28 (10.8%)	62 (23.8%)	61 (23.5%)	60 (23.1%)	3.1923	1.41746
Asset Transfer	30 (11.5%)	45 (17.3%)	65 (25.0%)	65 (25.0%)	55 (21.2%)	3.2692	1.29023
Starter Packs	27 (10.4%)	59 (22.7%)	34 (13.0%)	33 (12.7%)	107 (41.2%)	3.5154	1.46903
Access to common property resources	69 (26.5%)	60 (23.1%)	71 (27.3%)	21 (8.1%)	39 (15.0%)	2.6192	

Source: Field data, 2023

4.9.6 Access to credit for climate change adaptation

Table 4.4 presents findings in relation to access to credit for climate change adaptation as follows; 18.8% (49) of the respondents reported a very high access to credit facilities, 10.8% (28) of the respondents reported access to credit as high, and 23.8% (62) reported the practice as moderate, while 23.5% (61) of the respondents reported low access to credit. Further, 23.1% (60) of the respondents reported very low access to credit facilities. while some respondents benefit from significant access to credit for climate change adaptation, the findings highlight a notable disparity. Nearly half of the respondents' experience challenges in accessing necessary financial resources, which could ultimately limit their capacity to adapt to climate impacts. Therefore, there is a critical need for targeted interventions to improve financial inclusion, particularly for vulnerable populations who are at greater risk from climate change but have fewer resources to adapt. Programs that promote affordable and accessible credit for

adaptation could play a vital role in closing this gap and enhancing overall climate resilience.

The practice of table banking and merry go rounds allowed members to borrow soft loans depending on their shares. This was alluded by a respondent who reported that;

When we save in our chama we have the assurance that when we need finances to leverage our small businesses, we have what we have invested in our chama coming in handy because you are sure to get a loan that will help me boost my business (RES 9, 2023).

While another respondent said that;

During long dry spells like now so many things go bad. Like we were given starter pack seed for fruit trees to plant right now they are drying up because there is no rain. Having credit facilities help one to think of an alternative source of livelihood that is less dependent on rain (RES 37, 2023).

This sentiment was also echoed by yet another respondent who said that:

My Group's access to the KCSAP has really helped them in adaptation to climate change. Lack of collateral limits most of the members from accessing loans so the climate funds leveraged our projects (RES 201, 2023).

A group leader disclosed that;

For groups that had effective table banking, the grants really boosted their financial capital for example by starting up non- farm livelihoods. (KI 1, 2023)

Börner et al., (2015) study revealed that access to rural credit facilities is associated with better asset-based coping strategies for shocks that concurrently affect a considerable proportion of the population. Another study by Downie et al., (2018) revealed that participation in a Village Savings and Loan Association (VSLA) is a significant factor in households in Somalia having greater food security and coping abilities.

A key informant reported that;

Despite there being many organisations offering loan support to self-help groups, most respondents were reluctant to take money as groups because in the many occasions they have done so some of their members failed to pay their financial obligations which left other members with the burden of servicing the loans for the defaulters (KI 14, 2023).

This sentiment implies whereas access to credit is useful for leveraging the ability of members to cope with climate change impacts, they are fraught with risks arising from lack of solid social capital within the group institutions for instance; inadequacies in trust as an ingredient to social capital for cohesive groups within the members.

4.9.7 Asset transfers for climate change adaptation

This study sought to establish whether Asset transfers were adopted in Climate Change Adaptation by the Self- help Groups. The results findings indicate that 11.5% (30) of the respondents has adopted and were practicing asset transfers in climate change adaptation, 17.3% (45) ranked the strategy high, and 25.0% (65) reported the practice as moderately adopted and practiced. Further, 25.0% (65) observed the strategy as low while 21.2% (55) rated the adoption and practice of asset transfers very low. This suggests that asset transfers, while recognized by a portion of the Self-Help Groups, have not been widely implemented on a large scale.

A study by Béné et al. (2015) study on social protection and asset transfer programs in developing countries, found that asset transfers, especially when integrated into broader social protection systems, can be highly effective and widely adopted in enhancing community resilience to climate shocks therefore contradicting the findings of low adoption rates for asset transfers in climate change adaptation.

A study by Phadera (2019) found that asset transfer programs increased household resilience and beneficiaries' likelihood of being non-poor in future periods increased by 44%. The program both increased mean assets and decreased variance, signalling an upward shift in households' conditional asset distributions. Asset transfer is an important adaptive social protection measure as it aids the beneficiaries in increasing their asset base this in turn helps them to diversify their livelihoods. This was alluded by a primary respondent who reported that;

Starting off projects have not always been easy the grants extended to us by KCSAP project has helped us increase our asset base (RES 243, 2023).

Studies have emphasized that asset transfer programs must be culturally and contextually tailored to ensure success. Aligning the type of assets with local needs and involving the community in program design are key factors for successful adoption.

This approach leads to improvements in both short-term recovery and long-term adaptation outcomes.

4.9.8 Access to Starter Packs in climate change adaptation

With regard to starter packs in climate change adaptation, findings on figure 4.4 reveal that, 10% (27) of the respondent reported very high assess to starter packs, 22.7% (59) rated the practice high, while 13.0% (34) rated the practice moderate. Further, 12.7 % (33) reported low, and the majority 41.2% (107) rated the practice very low. Starter packs (usually for agriculture or small-scale businesses) are intended to support livelihoods and reduce vulnerability to climate shocks. The high percentage (53.9%) of negative ratings suggests that many vulnerable populations do not receive sufficient starter packs or that these packs do not adequately meet their needs.

Despite the low rating of starter packs as an adaptive strategy, research shows that starter packs can increase crop yields and enable farmers to experiment with more resilient crop varieties, thus reducing their susceptibility to extreme weather events (Dorward & Chirwa, 2011). They also act as a safety net, reducing the risk of crop failure and fostering resilience among low-income farming communities by helping farmers adopt climate-smart agricultural techniques without incurring significant financial risk (Denning et al., 2009). Thus, the findings highlight an urgent need for integration of starter packs into a broader climate adaptation framework that includes access to ongoing support, training, and market access to be effective over the long term. This was conquered by a key informant who said that;

We firmly believe that projects and programs should be reformed to make them more flexible since rigid project boundary lines regarding project scope are quite disheartening when we start a project and realize halfway through that it won't reach the goal but have little opportunity to correct it. (KI 7,2023).

This sentiment underscores the need of tailoring starter packs to meet the unique needs of different climate-affected areas could improve their perceived value and effectiveness. For example, providing drought-resistant seeds in arid regions or flood-tolerant crops in flood-prone areas could make starter packs more relevant and appealing to the

4.9.9 Access to common property resource for climate change adaptation

In respects to access to common property resources, data findings in table 4.4 show that 26.5 % (69) rated access to common property resource very high, 23.1% (60) reported the practice as high, 27.3% (71) rated the strategy moderate, while 8.1% (21) of the respondents reported low access to common resource property and 15.0% (39) reported to very low access to common resource property in climate change adaptation. This finding suggests that over 49% of the respondents have strong access to CPRs, which plays a crucial role in their ability to implement climate change adaptation strategies.

Common property resources, such as community-owned forests, grazing lands, and water bodies, are vital for communities, particularly in rural areas, where they serve as key sources of livelihoods and buffer zones against climate shocks. For example, access to forests provides timber, firewood, and non-timber forest products that can support income generation during periods of environmental stress, while communal water resources are critical for agriculture during droughts. The high percentage of respondents with good access to CPRs indicates that these resources are likely well-managed and accessible, facilitating community resilience in the face of climate change.

This was alluded by a group leader who reported that:

As a group we have been given a portion in the forest where we collectively cultivate short season staple foods and in-turn we offer our services in reforestation (KI 2, 2023)

A key informant working in collaboration with the Kenya forestry department had this to say;

Due to the conflicts between the department and members of the community, we saw it necessary to partner in the management of Kakamega forest to curb illegal logging. Involvement of community members in forest management has helped a lot because the community takes ownership in protecting natural resources and at the same time it is beneficial to them (KI 7, 2023).

Further, a key informant working with local NGO disclosed that;

This was in line with government commitment to improved support to community groups to increase awareness of environmental rights and the benefits of sustainable environment (KI 3, 2023)

This echoes Professor Wangare Mathaai sentiments thus;

You cannot protect the environment unless you empower the people, you inform them and you help them understand that these resources are their own and that they must protect them.

Notably though this study finding also shows that 15.0% of the respondent reporting never having access to common property resources as one of the respondents explained how their Self- Help Groups had tried several times to gain access to Shikusa GK prison where community members are allowed to go cut fodder for their animals to no avail. This implies that there are structural vulnerabilities that do not permit all the Self-Help Group to play on a level ground and which require to be looked into.

Table 4. 5 Nature of adaptive social protection interventions in climate change adaptation (Promotive instruments)

	5	4	3	2	1	Mean	Std. Deviation
Promotive ASP							
Livelihood diversification	14 5.4%	13 5.0%	150 57.7%	50 19.2%	33 12.7%	3.6731	.94891
WII	132 (50.8)	57 (21.9%)	51 (1.96%)	11 (4.2%)	9 (3.5%)	1.8769	1.08350

Source: Field data, 2023

4.9.10 Livelihood diversification for climate change adaptation

Figure 4.5 finding on Livelihood diversification show that 5.4% (14) of the respondents reported a very high adoption and practice of livelihood diversification, 5.0% (13) reported the practice as high, 57.7% (150) rated the practice moderate, while 19.2% (50) rated the practice low. Further, 12.7% (33) rated the practice of livelihood diversification very low. The majority of respondents (57.7%) rate their adoption of livelihood diversification as moderate, indicating that while they engage in some form of diversification, it might not be fully developed. This could reflect households that have begun to recognize the importance of spreading risk but may still be heavily reliant on one dominant livelihood source, such as agriculture.

While a moderate level of livelihood diversification is prevalent among most respondents, a significant portion still practices it at a low or very low level, suggesting vulnerability to climate change impacts. This is noted in the eco feminism theory that recognizes that because of social and Cultural factors, some populations may be hesitant to abandon traditional livelihoods due to cultural values, community norms, or fear of change. This can prevent households from exploring new income opportunities, even when their traditional livelihood becomes unsustainable. This is supported by a respondent who said that:

Women's voices are not prioritized, our specific needs and strategies are frequently overlooked, resulting in a lack of agency that hampers their adaptive capacity. We miss the opportunity to influence decisions that affect our livelihoods, as women we struggle to implement solutions that address the unique challenges we face in the context of a changing climate (RES 26,2023).

Scherr, (2000) noted that gender dynamics, social inequalities, and institutional barriers can influence access to diversification opportunities. The study concluded that effective implementation of diversification initiatives therefore requires a comprehensive

approach that considers these factors. This dynamic not only affects individual women but also undermines the overall resilience of communities, as diverse perspectives and insights are essential for developing effective adaptation strategies.

According to Snyman (2014), diversifying income sources has the potential to reduce households' dependence on a single source of income, such as agriculture. Therefore, contradiction between the potential benefits of livelihood diversification and the gender disparities in access, resources, and decision-making underscores the need for targeted interventions that promote gender equity. Addressing these contradictions requires a multifaceted approach that empowers members of Self- Help Groups through access to resources, training, and decision-making roles.

4.9.11 Weather index insurance for climate change adaptation

The study findings in table 4.5 shows that 3.5% (9) of the respondents rated adoption and practice of WII very high while 4.2% (11) reported the practice as high and, 19.6% (51) rated WII as moderately practiced Further, 21% (57) of the respondent reported low utilisation of weather-based index insurance, and 50.8% (132) reported to very low utilization of WII as an adaptive social protection strategy. The data indicates a low overall adoption of weather index insurance, with nearly 72% of respondents (including those rating it as low and very low) indicating minimal engagement with this adaptive strategy. This finding is supported by a key informant who said that;

Very low practice of Weather index insurance as an adaptive social protection-intervention was attributed to lack of information on how it operated (KI 2, 2023).

Although the Weather index insurance has been found to be an important aspect for climate change adaptation as posited by Rai, (2019) whose study on Pradhan Mantri Fasal Bima Yojana, an Indian crop insurance program, found that the WII had lowered farmers' risk by providing coverage to 41% of them. Result is attributed to

misconceptions surrounding Weather index insurance as reported by key informant who said that;

Members of SHG often express their fears with service providers and uncertainties of weather companies will actually pay out when disaster strikes. There's always a fear of being cheated or left hanging, members of Self- Help Groups preferring to deal with immediate problems rather than long-term risks (KI 5, 2023).

This is alarming because crop insurance can significantly reduce vulnerability for farmers who rely on agriculture for their livelihoods, especially as climate change increases the frequency and severity of extreme weather. Similarly, Makaudze (2018), noted that lack of familiarity with formal insurance was also seen as a barrier to Weather Index Insurance uptake. However, this result finding contradicts with Rai, (2019) who found out that the Pradhan Mantri Fasal Bima Yojana, an Indian crop insurance program had lowered farmers risk aversion by providing coverage to 41% of them. Consequently, a greater awareness and community engagement to increase understanding and adoption of such programs, particularly in areas vulnerable to climate risks.

The low average score of (72%) in this category is a concern. It suggests that respondents do not find these programs effective or accessible. Empowerment theory emphasizes enhancing individuals' and communities' control over their lives and resources, making it a powerful framework for improving the effectiveness of Weather Index Insurance (WII) as a climate change adaptation strategy. By integrating empowerment principles into the design and implementation of WII, members of Self- Help groups can promote greater participation, ownership, and effectiveness among marginalized populations, especially women and smallholder farmers.

Table 4. 6 Nature of adaptive social protection interventions in climate change adaptation (Transformative instruments)

	5	4	3	2	1	Mean	Std. Deviation
Transformative ASP							
Social funds	10.4%	22.7%	13.1%	12.7%	41.2%	3.5154	1.46903
Promotion of minority rights	7.3%	30.0%	28.1%%	11.2%	23.5%	3.3692	1.63994

Source: Field data, 2023

4.9.12 Social Funds for Climate Change Adaptation

Figure 4.6 presents study findings on transformative adaptive social protection where the variable of interest was access to social funds and promotion of minority rights, The study findings revealed that 10.4% (27) of the respondent rated their access to social funds very high, and 22.7% (59) reported a high practice, while 13.1% (34) reported a moderate access to social funds. Further, 12.7% (33) rated access to social funds as low and 41.2% (107) rated the practice as very low.

The study reveals that only 10.4% of respondents rated their access to social funds as very high, while 22.7% rated it high. Combined, this means around 33.1% of the respondents reported having relatively favourable access to these critical resources. However, this is still a minority of the population, indicating that more than two-thirds of respondents face challenges in accessing social funds. This means more than half of the population finds their access to these funds insufficient to meet their needs for climate change adaptation.

This finding presents a worrying trend because social funds have been shown to play a critical role in supporting communities by providing financial and technical assistance to adapt to climate change. For instance, the Governments of Kenya in 2011, launched

the CCCF which is widely studied as a successful example of localized approaches to climate finance. This briefing paper, an output of the Climate Investment Funds' Transformational Change Learning Partnership (TCLP), distils lessons from the CCCF for climate finance practitioners wishing to achieve transformational outcomes in adaptation and resilience-building. Therefore, contradiction here lies in the fact that despite the availability of social funds, their impact can be compromised by institutional challenges, governance issues, and misalignment with the needs of the members of Self- Help Groups (Wise et al.,2018).

4.9.13 Promoting minority rights for climate change adaptation

Table 4.6 presents the promotion of minority rights frequency of practice by members in Self-Help Groups where 7.3% (19) rated promotion of minority rights very high, while 30.0% (78) rated it as high, and 28.1% (73) reported a moderate practice of minority rights. Further, 11.2% (29) of the respondents rated the practice as low, and 23.5% (61) of the reported very low levels of adoption of minority rights for climate change adaptation. The study findings show varying levels of commitment to promoting minority rights, which is essential for ensuring that climate change adaptation efforts are inclusive and equitable. The distribution of responses presents both encouraging trends and challenges that must be addressed to enhance climate adaptation strategies.

This was alluded by a primary respondent who said that;

In the group we share our experiences and there are times when members can raise social injustices experiences within the group or even in the community for the issues within the group we try to resolve as guided by the group's constitution and what beyond us we report to the relevant authorities (RES 32, 2023).

A key informant reported that;

My experience with groups is that it is not always easy to have people coming together.... promoting minority rights within the framework of climate change adaptation emerges as a crucial imperative to ensure

equitable and just outcomes. Promotion of minority rights is what led to community and forest committees (KI 7, 2023). As the effects of climate change grow, they disproportionately affect weaker groups, such as persons with disability, the poor and socially marginalised and women who frequently have less access to resources and experience systemic discrimination. Grillos et al., (2018) observes that promoting minority rights is an essential social protection intervention that can help address the negative impacts of climate change. For instance, indigenous communities in the Amazon basin face the negative impacts of climate change, including deforestation and land degradation, which threaten their traditional livelihoods and cultural practices. In addition, they face discrimination and violence from the government and the private sector, which often prioritise economic interests over environmental and social concerns.

The Paris Agreement of 2015 exemplifies a global commitment to climate action, and its success hinges on its ability to uphold the rights of vulnerable communities. International agreements should explicitly recognize the link between minority rights and climate adaptation, providing a foundation for shared responsibilities (Bäckstrand et al.,2017).

Similarly, Pelling (2011) observes that a community based- approach that involves empowering communities to identify their vulnerabilities and prioritise adaptation strategy registers successes in vulnerability reduction and building resilience among communities. Promoting minority rights necessitates empowering communities to actively engage in climate adaptation efforts. Participatory approaches, as highlighted by Pelling (2011), emphasise that communities should not be passive recipients of adaptation initiatives but active contributors to the design, implementation, and monitoring of strategies. Such engagement fosters a sense of ownership and agency, enhancing the efficacy and sustainability of adaptation measures.

Table 4. 7 Relationship between social protection intervention and climate change adaptation

		Provisional	Preventive	Promotive	Transformative	Climate Change Adaptation
Climate Change Adaptation	Pearson Correlation	.663**	.652**	.586**	.576**	1
	Sig. (1-tailed)	.000	.000	.000	.000	

** . Correlation is significant at the 0.05 level (1-tailed).

With a p-worth of .000, which is lesser than the basic worth, there is a critical connection between friendly insurance intercessions and environmental change transformation. Thusly, the invalid speculation was dismissed. To decide the strength of the relationship, the specialists embraced the Guildford's (1973) basic guideline for the understanding of the connection coefficients (r) where; < 0.2 demonstrates a neglige relationship, 0.2-0.4 shows low relationship, 0.4-0.7 shows moderate relationship, 0.7-0.9 shows high relationship and > 0.9 demonstrates exceptionally high relationship.

The results demonstrate a consistent moderate positive correlation between various forms of social protection provisional, preventive, promotive, and transformative and climate change adaptation, all of which are statistically significant with p-values of $0.000 < 0.05$. This suggests that each type of social protection plays a role in supporting communities' ability to adapt to climate change, with some measures showing a stronger association than others.

Provisional social protection has the strongest correlation with climate change adaptation ($r = 0.663$, $p = 0.000 < 0.05$). This indicates that immediate support mechanisms, such as cash transfers, emergency relief, or food aid, are highly effective in helping communities cope with the immediate impacts of climate change. When

these measures are in place, there is a notable improvement in self-help groups' capacity to adapt, because they address urgent needs and provide a safety net during climate-related crises.

Preventive social protection, which focuses on reducing risks before they occur, also shows a moderate positive correlation with climate adaptation ($r = 0.652$, $p = 0.000 < 0.05$). This includes strategies like climate insurance, early warning systems, and disaster risk reduction programs. The moderate strength of this relationship suggests that preventive strategies help self-help groups prepare for future climate risks, thereby enhancing their overall resilience and capacity to adapt to changing environmental conditions.

Promotive social protection ($r = 0.586$, $p = 0.000 < 0.05$) revealed a moderate correlation which highlights that initiatives that improve economic stability also contribute to better climate adaptation outcomes. These programs help individuals build the resources necessary to withstand climate shocks, though their impact appears somewhat less immediate compared to provisional and preventive strategies.

Transformative social protection, which targets systemic inequalities and seeks to empower marginalized groups ($r = 0.576$, $p = 0.000 < 0.05$), shows the weakest but still moderate correlation with climate change adaptation. This form of social protection focuses on long-term societal changes, such as improving access to education, promoting gender equality, or ensuring land rights. While these initiatives are crucial for sustainable development, their impact on climate adaptation may be slower or less direct, hence the slightly weaker correlation.

When compared to the initial moderate correlation ($r = 0.526$, $p = 0.000 < 0.05$), it is clear that all these forms of social protection, provisional and preventive which plays a crucial role in enhancing climate resilience. The significance of the correlations (p-

values of $0.000 < 0.05$) suggests that the relationships between these social protection measures and climate change adaptation are not due to chance. These findings emphasize that a combination of immediate support and long-term transformative measures is essential to ensure communities are well-equipped to face the challenges posed by climate change. Strengthening these social protection systems can significantly boost their capacity to adapt to and mitigate the effects of climate change, leading to more resilient societies.

4.10 The extent to which Adaptive social protection address structural vulnerabilities in climate change adaptation

The second objective of the study sought to examine the extent to which adaptive social protection programs addressed structural vulnerabilities in climate change adaptation among the Self-Help Groups. Data collected was subjected to descriptive and thematic analysis and results presented in tables and themes.

4.10.1 Respondents choice of the project in climate change adaptation

Respondents were requested to answer the question on what factors informed/motivated the choice of-projects under Kenya Climate Smart Agricultural Project. An elderly female respondent reported that;

We chose a poultry project because members saw this as a viable - project because the rate of returns on investment would probably take a short period of time and also that it did not require much space and we have been involved with similar projects before (RES 254, 2023).

This implies that the choice of Self- Help Groups project was informed by several factors such as previous experience, availability of resources and also rate of returns.

A key informant noted that;

The self- help group's decision to settle on a particular project depends on their access to resources such as fingerlings since some had already constructed a fish pond in one of our members' farms who live near a water source while other groups are advised by the service providers (KI 3, 2023).

A female respondent that;

The facilitators to the project saw we had a big piece of land and decided that we put up a green- house while my group members did not have an idea on what the project would entail now, we are just left with the green- house structure that is of no use to the group members (RES 99,2023).

The findings from responses to open ended questions revealed instances where members were not in consensus about project choice. This implies that inappropriate project choices might unintentionally exacerbate environmental degradation or fail to address climate vulnerabilities. For example, a male respondent disclosed his discontent with the project his group was undertaking thus;

My group would have chosen a different project, but the implementing agency's stringent guidelines prevented us from doing so at this time. We were forced to grow passion fruits, but the crop failed due to a protracted dry spell (RES 33,2023).

From this sentiment Self- help groups involvement and participation in various climate adaptation processes is compromised by a top-down approach to planned adaptation by various climate change adaptation implementing institutions. This translates to a narrow range of options for self- help groups to choose their projects in an independent manner. Since longevity of climate adaptation efforts hinges on the sustainability of chosen projects, short-sighted projects might fail to yield lasting benefits and impede the overall adaptive capacity of self- help groups. Ludi et al., (2012) observes that the top-down approach to planned adaptation provided by Governments and NGOs does not emphasise on developing local innovations and agency through the provision of knowledge and learning opportunity act as impediments to long term and has often led to such innovations failing or being rejected.

In the context of climate change adaptation, self- help groups play a pivotal role in mobilising local knowledge, promoting sustainable practices, and enhancing the resilience of vulnerable communities. There is therefore a need for participatory decision-making, which is essential for identifying context-specific adaptation strategies that consider the unique challenges of a SHG to allow transformation to

existing structural barriers to enable them to adapt in changing climates. SP measures implemented in a top-down manner do not empower communities to overcome structural vulnerabilities.

Concerning the question of how social, cultural, and political systemic vulnerabilities might exacerbate the adverse effects of climate change and obstruct successful adaptation initiatives, the respondents were questioned about how different adaptable social protection tools were assisting them in addressing these issues. The results of an analysis of the qualitative data obtained from open-ended questions are given in a thematic manner as they are explained below.

4.10.1.1 Adaptive social protection and gender issues climate change adaptation

With regard to gender as a source of structural vulnerabilities in climate change adaptation, respondents were requested to narrate their experiences on the role of adaptive social protection in addressing the vulnerabilities. The study findings reveal that 100 (38%) of the respondents reported a slight improvement with their level of engagement in the project processes. One respondent noted that;

We were summoned to a chief's baraza at the beginning of this project to provide our input on the climate change project that would be carried out in our neighbourhood (RES 31, 2023).

One key informant expressed similar sentiment when he noted;

We recognize the role played by Inclusive participation of the communities for sustainable development... it also helps as it gives the community members a sense of ownership therefore it becomes easy for them to take care of projects even when the donors have disengaged (RES 3, 2023).

However, majority 160 (68%) of the respondents felt they still did not have an opportunity to participate in the project processes for various reasons as evidenced by a respondent who reported that;

Some days I want to go to the chief baraza, but I have too much work to do at home. Even though my husband goes, he never shares with me what is discussed in the barazas (RES 91, 2023).

Here, it is apparent that women often have different roles that still act as barriers to their full inclusion in the climate change debate when compared to men. Ecofeminists argue that the subjugation of women is deeply intertwined with the marginalization of nature, and both must be addressed simultaneously for social and environmental justice to be achieved. Recognizing these differences is crucial in ensuring alternative avenues that allow meaningful engagement of women and vulnerable populations in climate change debate are sought. Respondents were also requested to indicate the extent to which ASP creates awareness on the importance of gender equality in climate change adaptation. Result findings are presented on table 4.8

Table 4. 8: Extent to which adaptive social protection creates awareness on importance of gender equality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	40	15.4	15.4	15.4
	Yes	220	84.6	84.6	84.6
	Total	260	100.0	100.0	100.0

Source: Field research, (2023)

Respondents were requested to indicate whether awareness is created by donors on the importance of gender equality. Findings presented on table 4.8 indicate that 15.4% (40) of the respondents indicated that awareness had not been created on gender equality while 84.6% (220) reported awareness had been created. This implies that the majority of the respondents reported an awareness of the gender equality concept in their Self-Help Groups. Integration of gender equality into climate change adaptation involves recognizing the different vulnerabilities, capacities, and needs of women and men in the face of climate change, it also involves empowering women to actively participate in climate change adaptation strategies and decision-making processes. Sustainable

Development Goal 13 on climate action recognizes the importance of addressing gender equality on climate change adaptation efforts to ensure equitable and sustainable outcomes.

This was affirmed by a key respondent from KCSAP who reported that;

During the feasibility study and from secondary data we established that there are forms of gender disparities that are in existence in the area under study. We realised that the members of the self- help groups would experience barriers such as lack of consent on land use crucial in the implementation of the project...there were planned workshops for training on gender awareness (KI 8, 2023).

The above sentiment implies that despite ASP measures there still exists differences in social and economic roles between men and women. The 2010 Constitution of Kenya is committed to the need to achieve gender parity by stipulating that the government's climate change response will accomplish gender equality by analysing the effects of proposed climate change laws, policies, and initiatives on both men and women. A variety of programs in Kenya's climate-smart delivery and climate resilience strategy are geared on assisting at-risk people in adapting to and coping with climate change.

This further implies that the 15.4% (40) of the respondent who reported a lack of awareness of gender equality was attributed to structural vulnerabilities such as those occasioned by culture, illiteracy and ignorance. This is a matter of concern that requires investigation to ensure that they too benefit from development opportunities targeting the Self- Help Groups for climate change adaptation. This study finding is in line with a study conducted by KNBS, (2019) which examined the role of women in climate change adaptation efforts. The research highlighted that women in Kenya are heavily dependent on natural resources for their livelihoods, including agriculture and water resources. However, their participation and decision - making power in climate adaptation forums were limited. The study emphasised that empowering women and

involving them in the decision- making process is crucial for effective climate change adaptation strategies.

Regarding tailored interventions that identify and address specific gender-based vulnerabilities in climate change adaptation. Majority of the respondents noted that there was no provision for tailored intervention by reporting that;

I've never considered it that way before. The present initiatives are carried out collaboratively and are not gender specific (RES 102, 2023).

Another expressed the desire for tailored intervention thus;

It would be beneficial, in my opinion, to have a project that acknowledges how gender dynamics might either accelerate or accelerate a population segment's efforts to adapt to climate change. (RES 23, 2023).

This sentiment implies that adaptive interventions have not been successful in transforming gender relations. Andrijevicet et al., (2020) opines that addressing gender disparities through inclusive and targeted measures not only enhances the resilience of vulnerable communities but also contributes to more effective and sustainable adaptation strategies. One key informant reported that;

The Kenya National Adaptation Plan 2015–2030 commitment in achieving gender equity, Lack of coherent policies or institutional resistance to integrating gender considerations can impede the mainstreaming of gender in interventions (KI 9, 2023).

A youthful respondent also seemed to welcome the idea of having tailored climate change adaptation interventions by noting that;

It is not good to join self -help groups for lack of better options to access opportunities in CCA. We are forced to because some criteria for selection of beneficiaries do not need to be specific ... we need to have different initiatives (RES 124, 2023).

Thus, identifying synergies with existing systems (such as youth fund, cash transfers for the elderly and other systems) that provide the framework for identifying, monitoring and supporting ASP programming with vulnerable groups requires appraisal to ensure

they meet the needs and are more specific to different levels of vulnerabilities in climate change adaptation.

Respondents were also requested to indicate whether ASPs had addressed their concerns on resource allocation. Results from qualitative data revealed that collective climate change adaptation had opened up opportunities for the most vulnerable population to participate. This was affirmed by a key informant who noted;

Self-help groups' ability to diversify their sources of income has greatly improved with access to the grant fund, particularly for those groups that have wisely been able to use the money for climate adaptation. (KI 9, 2023).

This sentiment implies that the engagement and access to resources like the grant money has been able to eliminate some structural vulnerabilities. For instance, poverty was affirmed by a respondent from the vulnerable and marginalised groups thus.

The grant monies have improved our capacity to diversify our sources of income, and when we band together, we are able to cover our nakedness and access opportunities that were before unattainable for individuals. (RES 116, 2023).

However, results from open-ended questions revealed that the majority of the respondents still faced barriers in accessing and benefiting from land-related programs due to cultural norms, discriminatory practices, and inadequate representation in decision-making processes. Bosuben, (2018) study observed that land tenure insecurity remains a significant issue in Kenya. Weak land governance, overlapping land claims, and historical injustices contribute to disputes over land ownership and use.

This study concurs that of Bosuben, (2018) who asserts that weak enforcement mechanisms, corruption, and lack of coordination between government agencies hinder the effective execution of land-related laws and programs, leading to significant gaps in providing adequate protection to vulnerable populations concerning land issues

4.10.1.2 Adaptive social protection in mitigating discrimination/promotion minority rights in climate change adaptation

With respect to discrimination and minority rights, respondents were requested to indicate whether the adaptive social protection interventions they engaged were able to help address their experiences in being discriminated against in climate change adaptation opportunities. Response from qualitative data indicated that there still exist forms of social injustices in as far as different groups of the population were concerned.

This was confirmed by a respondent who tearfully reported thus;

In my self- help group we were buying members a dairy cow to ensure that members could have milk for their families and sell the supplies to enable the household to be food secure. One day I just saw people come to my homestead and they took the cow. My husband had sold my cow without informing me (RES112, 2023).

Similar sentiments were echoed by widow thus;

Since the demise of my husband, I have never found peace with my in-laws. They have assumed authority over me and my children. I cannot undertake any meaningful project without them demanding that I share the proceeds. I am forced to stay for my sonsto be given land (RES 70, 2023).

The aforementioned views suggest that certain demographic segments have obstacles in realising their full potential when it comes to adapting to climate change. Examples of these vulnerabilities include those that are based on gender relations within communities. Furthermore, the obstacles vulnerable populations face in their attempts to adapt to changing climates are exacerbated by social injustice, which is based on cultural, social, and economic factors that intersect with discriminatory practices to create disparities to accessibility and utilisation of adaptive social protection. This was affirmed by a key informant thus:

Sometimes the vulnerable for instance persons with disabilities have multiple disabilities which predispose them to triple marginalisation because of poverty, gender norms and stigma towards persons with disabilities, the case is different for vulnerable persons with multiple disabilities living in poverty and have better access to services and resources (KI 10, 2023).

The key informant went on to say;

Whereas the country had made strides in the development and adoption of laws and policies relevant for ensuring that there is equity in climate change adaptation opportunities, inadequate coordination between the national and county governments implementing climate efforts pose challenges (RES 7, 2023).

These sentiments imply that processes by which efforts are made to ensure equal opportunities for everyone, regardless of their background so that all can achieve their full potential in climate change adaptation have not been realised. Thus, the need for enabling environments that allow for different climate actors, for instance the civil society using both online/ offline platforms for advocacy, awareness raising and information sharing in matters transforming the barriers in gender inequality and social exclusion in climate change adaptation. The Kenya Climate Adaptation Plan makes clear the importance of a range of stakeholders coming together including the civil society organisations in defending the rights of marginalised and vulnerable groups. Thus, if this chance is lost, there's a chance that the voiceless would also miss out on the benefits of adaptive social protection.

A study conducted by Nyaundi and Obade (2023), shows that mobilisation, knowledge sharing, policy support has a significant effect on the contribution of CSOs in adapting to climate change and that institutional coordination intervening role on the association between the avenues for enhancing the contribution was also crucial in ensuring equity in the distribution of climate benefits.

The foregoing gaps in the overall attainment of wellbeing by the vulnerable populations in climate change adaptation exists despite the climate responsive social protection endeavoured to strengthen social protection systems through climate-informed planning and by fostering cross sectoral linkages. For example, PART III—Climate change response measures and actions states that; In formulating the National Climate Change Action Plan, the Cabinet Secretary shall be informed by— fiscal circumstances,

in particular, the likely impact of the action plans, strategies and policies on the marginalised and disadvantaged communities. Regarding the right to meaningful inclusion the Act provides that:

“Public entities at each level of government Public shall, at all times when developing strategies, laws and participation. policies relating to climate change, undertake public awareness and conduct public consultations and (2) that public consultations shall be undertaken in a manner that ensures the public contribution makes an impact on the threshold of decision making.

From the sentiment expressed by many respondents these legislative provisions were hardly implemented by agencies mandated to do so. This was underscored by the sentiment expressed by a respondent in VMG who stated that;

In my situation, the organization can only provide me with limited assistance and is usually advisory only. I told the local administrator, who recommended that I share my experience with my in-laws with the legal system, but I lack the funds to even begin the process (RES 61, 2023).

The findings from responses to open- ended questions revealed instances where Self-Help Groups were subjected to treatment that amounted to discrimination. A noteworthy source of discrimination for instance in cases of access to information on climate change adaptation opportunities. This was affirmed by many respondents thus;

..... have been called wajuaji (know it all) for reporting unjust treatment, despite the quality of services we receive from both the organizations and outside service providers (RES 7, 2023).

A male respondent similarly observed that;

Women seem to be at the center of everything since the Beijing conference. The male feels excluded as a result. We must also actively participate in issues that impact our day-to-day existence. (RES 20, 2023).

Thus, there are feelings that preference is made to assist some groups in the population more than others which does not foster transformation to men structural vulnerabilities. Alston (2020) observe that advocacy for capacity building and support for vulnerable communities to enhance their resilience to climate change impacts should include

providing access to resources, information, technology, and financial assistance to enable communities to adapt effectively.

Thus, a threat to the aforementioned factors becomes contingent on the capacities of some segments of the self- help groups to adapt in changing climates. While acknowledging that there isn't a single, all-encompassing solution, a key informant disclosed that;

What we are implementing with the groups is more economic and ecological protection but what is mostly absent is how the project is supposed to manage the social dimension in climate change (KI 5, 2023).

This sentiment implies that, while economic and ecological protection are essential components of climate change adaptation, neglecting the social dimension leaves a critical gap in efforts to build resilience among vulnerable populations. Kehler and & Birchall (2021) emphasizes that, given the urgency and complexity of climate change, the current adaptation paradigm must overcome sociopolitical obstacles while striking a balance between technical approaches and a collaborative strategy that emphasizes the social, economic, and ethical aspects of climate change vulnerability. In a similar vein, the (UNFCCC) recognizes climate change is a human rights issue, and therefore, adaptation strategies should uphold human rights principles. Discrimination against vulnerable groups violates their rights to life, health, food, water, and adequate living standards.

With respect to inclusions of persons living with disability in climate change adaptation. The respondents were requested to indicate they were meaningfully engaged in climate change adaptation efforts and whether the ASP interventions had assisted in removing the barriers that hindered their effective adaptation efforts. A respondent with disability disclosed thus;

I appreciate that we are considered to be part of climate change efforts in our capacities. However, some of our members often feel like they are involved to help meet certain requirements for funding because their opinions are not sought when making major decisions in the project's processes (RES131, 2023).

A male respondent living with disability similarly observed:

I am not able to attend all the group's meetings and therefore I have just agreed or accepted what the members decided. In some cases, for example the starter packs I sometimes feel like I am unfairly treated. I have heard the members say *sina hasara* in cases of transport reimbursements and other fringe benefits (RES 10, 2023).

Here, it is apparent that the aim of safeguarding the interests of vulnerable populations, including persons with disability, and marginalised groups in climate action has not been achieved. One explanation for this result was rendered by a key informant who noted:

The creation of methods to adapt to climate change has, in my opinion, lagged, and the integration of social, economic, and environmental linkages has not been fully investigated (KI 1, 2023).

With respect to indicators of transformation of structural vulnerabilities the key informant further observed;

Certainly, yes there are transformational changes especially in the context of increased capacities to adapt to climate change.... but I must also admit that strengthening the voices of the vulnerable in our context has not attracted due attention (KI 1, 2023).

This sentiment resonates with the study findings with respect to linkage and referrals where the study established that limited opportunities coupled with nepotism hindered some segments of the population from accessing needed information that would translate into increased capacities for climate change adaptation. A distribution of people living with disabilities by domain and residence report of 2019 ranked Kakamega county in the 11th position country wide (KNBS,2019). Climate change has been demonstrated to have both direct and indirect impact on the effective enjoyment of a wide range of human rights. This includes enjoyment of rights for people living with disabilities.

Despite the Kenyan constitution 2010 coupled by the Kenya Disability Act of 2016 continued positive intentions toward people living with disabilities, the dramatic under representation of people living with disabilities compromises their opportunities for inclusion in a meaningful developmental agenda. Lukalo & Savala (2021) study observed that the discriminatory and stigmatisation tendencies deny the people living with disabilities opportunities from access to meaningful participation in development issues that concern the community they are resident in and therefore reduced opportunity for sustainable development.

Significant investment, consideration and authority of people with incapacities and their delegate associations inside catastrophe risk the board and environment related decision-production at the nearby, public, territorial and worldwide levels, lies at the core of a way to deal with environment activity that is conscious of the freedoms of people with inabilities. This presents a hole for the social work specialists working with people, gatherings and networks, through both promotion and strategy change drives, in the pursuit and accomplishment of fair admittance to social, monetary, ecological and political assets.

Historically, power relations have influenced land ownership and distribution, often resulting in landlessness or limited access for certain groups, such as indigenous communities or smallholder farmers. In the face of climate change, these disparities become even more pronounced. This was affirmed by a key respondent who noted;

A self-help group needs land that makes implementation easier in order to be eligible for the award (RES 9, 2023).

Subsequently, admittance to land is an essential empowering agent for qualification for cooperation in most environmental change variation mediations. Land is a basic resource for occupations, food security, and social character, particularly for the vast majority minimized networks. Nonetheless, inconsistent admittance to and command

over land compound weaknesses and shape the viability of versatile systems. For example, among the Abaluhya people group in Western Kenya, land possession is by senior male tribe individuals. Subsequently, ladies have been restricted into collecting tree limbs for kindling purposes which is considered of low monetary returns while men reserve the options to tumbled down trees for business purposes (Kiptot and Franzel, 2011).

Essentially, as per the Kakamega Province Coordinated Advancement Plan 2023-2027 an expected 61.4 percent of the populace in the district don't have title deeds for the land they possess. This might be ascribed to the extensive settlement processes, obliviousness, neediness and the land residency framework. Social convictions likewise don't permit ladies to claim family land and in their own names or further progression to the all around adult relatives. The people group need sharpening on evenhanded possession and admittance to land as a variable of creation. These titles can likewise be utilized to open the financial capability of land. This feeling was insisted by a key respondent who said that;

Lack of land rights presents challenges in the implementation development projects.... I am grateful that now we are able to implement projects in groups because I am not allowed to do so by my husband. (KI 2, 2023)

An elderly widow disclosed that;

I was allowed to plant special trees in our homestead. The project turned to be the point of intimidation and unwarranted threats..... Each time I pick a quarrel with my in-laws they threaten to cut down the trees which are a source of firewood and fruits (RES 50, 2023).

Lack of title to land by women leaves them in a precarious position both in terms of livelihoods and power relations within the household. Their rights to land, especially if widowed, is commonly conditional on their relations with in-laws, a situation which leaves them unable to engage in adaptation activities which require long-term

commitment of land rights. It also narrows down their livelihood options, which constitutes a source of vulnerability to the adverse impacts of climate change.

During an interview a key informant also noted that insecure land tenure rights affects both men and women and reduces incentives to engage in climate smart – agriculture practices. This was alluded by a key informant who stated that;

Lack of secure land rights for example a title deed among the implementing groups members, denies the members opportunities that would leverage their group effort in accessing credit thus limiting their capacities in opportunities in adapting to changing climate on both gender (RES 1, 2023)

The Kenya Climate Smart Agricultural project and Self-Help Groups have evidently failed to offer a solution to this specific bottleneck, likely due to the fact that none of the study participants have been able to secure land titles. Access to land has posed significant challenges, especially in regions increasingly affected by frequent and intense extreme weather events. It is therefore important that enhancing secure title to land for both men and women be promoted as part of measures to expand the portfolio of adaptation measures to mitigate the impact of climate change on the livelihoods of the community because these enables them to improve infrastructure, diversify livelihoods, promote sustainable land use practices, and address underlying causes of inequality and poverty.

4.10.1.3 Adaptive social protection and power/governance relations in climate change adaptation

With regard to the question on governance, respondents were requested to indicate whether women held important positions in the Self- Help Groups.

Table 4. 9 Position of women/men in a self-help group in climate change adaptation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	65	25.0	25.0	25.0
	Yes	195	75.0	75.0	78.8
	Total	260	100.0	100.0	100.0

Source: Field data, 2023

Results in Table 4.9 show that 75% (195) of the respondents reported that women held important positions in Self - Help Groups in comparison to 25% (65) of the respondents who reported that women did not hold important positions in the Self - Help Groups. The fact that more women have taken leadership positions in the groups is a positive indication signifying that women are assuming decision making roles. One significant finding from this study is the idea that men primarily participated in Self-Help Groups behind the scenes because they are seen as women's initiatives. This was affirmed by a primary respondent who noted that;

The men were actively involved in the self- help group activities but when it came to the implementation of the project, they went their separate ways. They only come when there is a field visit from the funder (RES 150, 2023).

Thus, sporadic participation by men suggests a lack of ownership or genuine engagement in the project. For climate adaptation initiatives to be successful, active involvement, ownership, and engagement of all participants—regardless of gender—are essential. This lack of consistent involvement might hinder the project's success and sustainability.

A male respondent expressed his disappointment thus;

I joined the self-help group when my wife died, but I find it hard to work with the women because I think it's hard to come to an agreement (RES 92 ,2023).

The above sentiment indicates that although there are men in Self- Help Groups, they do not take up leadership roles in the groups. This is because of the Self-Help Groups tags

in the community that SHGs are more women oriented. Cultural norms and patriarchal structures impede men's active involvement in Self- Help Groups. Such barriers perpetuate gender disparities and hinder the effectiveness of climate change adaptation interventions.

Respondents were also requested to indicate how adaptive social protection had addressed lack of information and knowledge. The findings from the qualitative analysis of open-ended questions showed that not every participant had access to knowledge on the project's procedures. This was affirmed by a respondent who disclosed that;

Some of the project processes demand people that have education....
Like me, if asked to create a proposal I cannot and therefore I am at the mercy of those that are able to do so (RES 5, 2023).

Another respondent reiterated that;

Intentional withholding of crucial information by leaders significantly impedes the ability of Self-Help Groups to effectively adapt and respond to climate change challenges, hindering their capacity to make informed decisions and implement sustainable strategies for resilience.
“Hindering their capacity to make informed decisions and implement sustainable strategies for resilience (RES 76, 2023).

The sentiment regarding climate change adaptation implies that self-help groups have a significant role to play in fostering resilience within their communities. By leveraging their collective strength, they can effectively address the challenges posed by climate change through localized strategies, capacity building, and advocacy efforts.

Respondents were requested to indicate the extent to which ASP had influenced the Self-Help Groups political voices. Results are presented on table 4.10

Table 4. 10 Extent to which self- help groups influence members’ political voice

	Frequency	Percent	Valid Percent	Cumulative Percent
Large Extent	30	11.5	11.5	11.5
Very Large Extent	60	23.1	23.1	34.6
Little Extent	70	26.9	26.9	61.5
No extent	45	17.3	17.3	78.8
I don't know	55	21.2	21.2	100.0
Total	260	100.0	100.0	

Source field data, 2023

Table 4.10 results show that 11.5% (30) of the respondents reported a large extent of influence, 23.1% (60) reported a very large existence of Self-Help Groups influence on enhancing of political voices, 26.9% (70) reported little extent of Self-Help Groups, 17.3% (45) reported a no extent influence of Self-Help Groups on members political voices, and 21.2% (55) of the respondents reported not knowing if the existence of Self-Help Groups had any influence on the members political voices.

This study finding indicates that the existence of the Self- help Group had very little influence on members' political voices. These results are attributed to the gap between the political class and members of the public noted by a respondent who said that;

It is useless to ask our political leaders for help. The politician promised us air, but we went there to get money for our self-help groups (RES 29, 2023).

A group leader reported that;

Accessing politicians is difficult because there are many people around them who won't even let you speak with the leader. We are instructed to schedule appointments, yet this is all for nothing (KI 2, 2023).

A female respondent expressed her disappointment noting that;

As gatekeepers in the community, leaders who are expected to be impartial have their favourite self-help groups, which I believe are the ones who voted for them and with whom they interact (RES 135, 2023).

This study's findings contradict the findings of other studies conducted in Kenya and elsewhere. For example, A study by Nyongesa et al., (2023) assessed the role of self-help groups in advocating for community-based climate change adaptation in Kenya. The study found that self- help groups actively engaged in advocacy activities, such as participating in policy dialogue, lobbying policy makers, and joining advocacy networks. These actions facilitated the incorporation of community perspective into policy making processes. As a result, Self-Help Groups contributed to shaping policies that address the specific needs and challenges faced by their members in adapting to climate change.

Similarly, a study by Nguyen et al., (2020) examined the role of SHGs in marginalised communities, focusing on their impact on women's political participation in climate change decision-making. The research revealed that Self-Help Groups enabled marginalised women to challenge traditional power structure, promoting their active involvement in local politics and policy making the study underscored the transformative potential of Self-Help Groups by highlighting the increased political voice and agency of women, resulting in more inclusive and effective climate change adaptation

Strategies geared towards climate change adaptation are heavily dependent on political voices. Hjerpe, Storbjörk, and Alberth (2017) argued that local politicians, through their respective positions on climate change, have the ability to help or hinder the process of planning for climate change adaptation. This implies that political voices that shape policy and public opinion as a key factor towards climate change adaptation. That this has not borne fruit in the context of this study presents an opportunity for empowering the groups for social action.

4.10.1.4 Adaptive social protection in building social capital in climate change adaptation

To examine the extent to which social protection builds social capital among self- help members to enable them to overcome structural vulnerabilities and adverse livelihood risks. Respondents were requested to rank how social protection had boosted Self-Help Groups social capital to enable them overcome adverse livelihood risks and further to indicate their experiences with the ASP interventions. Results are shown in table 4.11.

Table 4. 11 Extent to which Adaptive social protection have boosted members social capital to enable them overcome adverse livelihood risks

Social Capital	Very large extent	Little extent	Large extent	Mean	Std. Deviation
Indicate the extent to which ASP networks has boosted members to community network enable them overcome adverse livelihood risks	15.4%	25.0%	59.6%	3.0962	.62938
Indicate the extent to which ASP has boosted SHG relation of trust overcome adverse livelihood risks	3.5%	21.2%	75.3%	3.1776	.46518
Indicate the extent to which ASP has boosted SHG reciprocity relations to enable them overcome adverse livelihood risks	3.8%	70.0%	21.20%	3.1731	.46999
indicate the extent to which ASP has boosted members social capital norms and values enable SHPs overcome adverse livelihood risks	15.4%	25.0%	59.6%	3.0962	.62938

Source field data, 2023

Results in Table 4.11 indicate that 15.4% of the respondents reported that ASP had boosted members' community networks to a very large extent, 59.0% reported a large extent boosting in members' social capital and 25.0% reported that ASP had boosted community networks to a small extent. This study findings indicate community networks were boosted to a large extent. Studies have shown that high levels of community networks lead to increased social capital and therefore high level of performance of group goals. Community networks play a crucial role in fostering social capital which is vital for the well- being and progress of society by empowering individuals in their groups as noted by a key informant thus;

We have been able to establish relationships of trust where community members and our team agree on how to carry out initiatives thanks to the SHGs' involvement and engagement (RES 6, 2023).

This was affirmed by a group member who noted that;

When we formed our group, we were limited in so many aspects of climate change adaptation today it is different now secure benefits and invent solutions to problems through membership in social networks (RES 42, 2023).

A key informant also revealed that;

The pooling of resources by different members is what makes the SHG very important to us. The table banking that assures us of instant money whenever we have a sitting is crucial in sustaining the projects and also ensuring our well-being (KI 2, 2023).

These findings coincide with those from studies conducted for example by Omondi et al., (2018) which revealed a positive correlation between the presence of community networks and the level of social capital within these communities. Community networks facilitate increased communication, collaboration and trust among members leading to stronger social ties and a sense of collective efficacy. Similarly, Wanjiru, (2021) observed that community networks played a pivotal role in facilitating civic participation and empowerment. Providing platforms for information sharing, community mobilisation and collective action, these networks empower community members to voice their concerns, engage in local decision-making processes and advocate for their rights.

In regard to relations of trust within groups in boosting social capital to enable SHG overcome livelihood risks, the study finding revealed that 75% of the respondents within groups had built relations of trust, 3.5% indicated to very large extent while 21% indicated to little extent in the relations of trust boosting SHG ability to overcome livelihood risk posed by climate change. This implies that through ASP Self-Help

Groups relations of trust therefore enhancing the social capital had been enhanced. Trust and social capital play a vital role in facilitating effective adaptation to climate change within Self- Help Groups.

Trust enables members to share personal experiences, vulnerabilities and knowledge. This exchange of information enhances the collective understanding of climate impacts and fosters collective problem solving. This was affirmed by a respondent who said that;

We hope that everyone in the group is aware of our shared goal, which is to be able to overcome the challenges we confront in adapting to climate change (Res 99, 2023).

Several studies conducted in Kenya demonstrate the significance of SHG in building trust, fostering social capital, and facilitating climate change adaptation. Mburu and Wiesmann (2014) found that trust was a critical factor in enabling open discussion among SHG members. Similarly, Nyamwange et al., (2018) demonstrated that trust within SHGs allowed for open discussion and collective problem- solving. For instance, access to credit which is crucial in boosting Self- Help Group financial capital, a key informant reported that;

Because we frequently deal with situations where members feel abused by the leaders, we place a lot of stress on the importance of building trustworthy relationships among group members (KI 3, 2023).

This idea suggests that the achievement of a group's objectives depends on the relationships of trust among its members. This is supported by a study by Ibrahim et al. (2015), which finds that relationship orientation accounts for the majority of the top indicators that lead to effective team integration and performance.

With regard to reciprocity the descriptive statistics show that 3.8% of the respondents reported a very large extent of reciprocity as avenue for enabling members overcome livelihood risks while 70 % reported little extent and 21% of the respondent reported a

large extent of reciprocity as an enabler of overcoming livelihood risk. Descriptive statistics indicate the reciprocity had little extent in influencing SHGs in overcoming livelihood risk. This could be attributed to discriminatory tendencies among the members of the Self- Help Group. This is affirmed by a respondent who said that;

The group is fragmented since there are subgroups even within the groups. Some of us feel like the odd one out. groups (RES 67, 2023).

A key informant also alluded that;

There are numerous misconceptions among SHG members. We make every effort to assist them in resolving conflicts, and we frequently believe that we have. However, things are different on the ground (RES 43, 2023).

An area leader disclosed that;

Members of self-help groups get divided due to a lack of accountability. Members often take alternate paths when they believe a leader is the evil guy. They will miss group activities if a poor person takes the lead (RES 4, 2023).

Reciprocity cultivates a culture of trust and cooperation, encouraging individuals and communities to share knowledge and information about climate change by promoting reciprocal relationships, people are more inclined to exchange experiences, expertise and best practices regarding climate change adaptation strategies. The little extent of reciprocity as indicated by the descriptive statistics deny the members an opportunity in collaborative problem solving to enhance knowledge and information and empower SHGs to take up ownership of their adaptation process.

Norms and values play a crucial role in climate change adaptation efforts. They shape the way societies perceive, prioritise, and respond to the challenges posed by climate change. Norms and values related to equity and justice are essential for effective climate change adaptation. These values recognize that climate change disproportionately affects vulnerable populations, such as marginalised communities, low-income groups, and indigenous peoples. Adaptation efforts should prioritise equitable access to

resources, information, and decision-making processes, ensuring that the burden and benefits are shared fairly. In this regard the study found that 15.4 % of the respondents reported a very large extent of norms and values boosting social capital toward overcoming adverse climate change, 59.6 % reported little extent and 25.0% reported a large extent of norms and values boosting social capital to enable SHG members overcome adverse livelihood risk occasioned by changing climate. This implies a little extent of influence by norm and values on social capital. This was attributed to a lack of “We” feeling in the SHGs relation that creates class differences among the members. This was affirmed by a respondent who said that;

Some people are self-centred; they prioritize themselves over the group as a whole. The group's operations lack openness and accountability. (RES 55, 2023).

Norms and values that prioritise resilience and adaptation enable communities to respond effectively to climate change impacts. Resilience building norms emphasise the need to anticipate and prepare for climate- related risks, fostering proactive adaptation measures for instance values such as cooperation, reciprocity and resourcefulness enhance SHGs adaptive capacity by encouraging the development of innovative solutions. Chung Tiam Fook (2017) emphasises the need to engage with local leaders and organisations to ensure that strategies align with cultural norms and values for the implementation of adaptive social protection projects that are tailored to the specific cultural context of a community.

4.11 Challenges and opportunities in social protection interventions for climate change adaptation among Self- Help Groups

The third objective of this study sought to evaluate the challenges and opportunities encountered by Self-Help Groups members in adoption of social protection interventions in climate change adaptation among Self- Help Groups.

4.11.1 Challenges in the coordination and collaboration of line ministries and institutions for Climate Change Adaptation

Institutional cooperation and coordination are a determinant factor to put cross-sectoral policy coherence into practice. However, this was not seen as the case in this study. Constraints for instance those of institutions need to maintain their status quo had a role to play in the climate change agenda each separate from the other as revealed by a key informant thus;

For adaptation to be successful, ministries and institutions must not effectively coordinate and communicate with one another. Collaboration can be hampered by cultural, procedural, and communication differences (KI 6, 2023)

When questioned about the working with other mainstream departments the key informant disclosed that;

Line ministries often have their own priorities and mandates, which may not align with climate adaptation goals. Balancing these competing priorities can be challenging, and climate adaptation may not always receive the attention it requires (KI 6, 2023).

Secondary data from the Kakamega CIDP, revealed a lack of institutional cooperation and coordination. The indication that “Others neglect to report their actions to government ministries, departments, and agencies. In reference to the Public Benefit Organizations working in the county, hinders cooperation and coordination between the climate actors.

A key informant noted that;

A number of competing actors and several overlapping SP are maintained by ministry rivalry over financial allocation, different duties and responsibilities, and ignorance among climate stakeholders. (KI 10, 2023).

Another key informant alluded that;

The cost implications that allow for collaborative efforts towards helping the vulnerable and the marginalised groups in climate adaptation remain under-utilised for lack of institutional capacity, guidelines and resources that are necessary in ensuring integration and delivery of Programs (KI 7, 2023).

With regard to the question on which other organisation provided climate related services, a primary respondent asserted that:

In chiefs Baraza we have different people from different organisations coming for different reasons like for instance KCSAP they are giving us grants to help in diversifying livelihood. The gender department is constructing homes for the most vulnerable, there are financial institutions that give us loans, the county engages us in public work Programs like tree planting, Bora afya educate the respondents on health-related issues (RES 41, 2023).

With regard to the question on collaboration of line ministries coming together for climate change sensitization, responses from open items on the questionnaires established that such occasion are very rare. This was affirmed by a primary respondent who said that;

Such occasions are very rare. It happened when KCSAP officials brought Karlo, agricultural experts who trained us in early warning systems and CIC insurance group who trained us in weather index insurance (RES 95,2023).

The above sentiments depict limited collaboration between the climate service providers. This also implies that Self-Help Groups are likely to miss out on climate benefits from diverse climate actors. For instance, the Kenya National Adaptation Plan and also the Climate act of 2016 highlights very explicitly the responsible department for ensuring that the vulnerable and marginalised populations including civil society, ministry of gender and social services, media, are assisted in adapting in changing climates. and communities at large because they are likely to miss out on the opportunities in climate action. Additionally, the lack of stakeholder involvement can expose the Self- Help Groups to being consumers of sub- standard services and also products. This was affirmed by a woman leader who reported that;

We experience a lot of communication breakdown right form the service providers, the suppliers and the implementers.... we often do not get we have requested but instead what is delivered is of poor quality (KI 1, 2023)

Lastly, lack of coordination and collaboration of line ministries and institutions for climate change adaptation was seen to lead to duplication of efforts by different implementing agencies. A key informant affirmed thus;

Lack of coordination among the implementing agencies poses significant obstacles to achieving the priority areas outlined in the Climate Change Act (NO. 11 OF 2016) (KI 4, 2023).

Thus, it is not possible to attain the climate resilient development pathway, which places a higher priority on adaptation and highlights the significance of raising the climate resilience of vulnerable populations, such as women, youth, people with disabilities, marginalised and minority communities. The aforementioned populations also miss out on opportunities of getting expert information on the intersectionality of climate change and the climate change priority areas for instance public health and climate change as evidenced by descriptive data on objective one.

Unfavourable environment as observed by Ulrichs et al., (2019) undermines the capacity of social protection to achieve resilience objectives and rather institutionalised maladaptation by spending scarce resources for building infrastructure that may (for example) be washed away in the next monsoon. Osgood et al., (2019) observes that, a multi-sectoral approach should be observed in the design of adaptive social protection programs stating that this approach can help to ensure that programs are well coordinated and that different sectors are able to contribute their expertise and resources to the effort.

4.11.2 Relative powerlessness of self- help groups in climate change adaptation

The Self-Help Group members' ignorance of their rights as citizens to get assistance in coping with climate change has led them to mistakenly believe that whatever services they receive from various service providers are privileges. The majority of respondents said they were unaware of the policy documents that supported climate change

adaptation when asked if they were aware of them. This was affirmed by a primary respondent who said that;

During the last planting season, we procured seedlings from several suppliers with a certain service provider but what was delivered was of very poor quality. We launched a complaint over the matter but it fell on deaf ears. (RES 67, 2023).

A similar sentiment was echoed by a primary respondent who disclosed that;

Members of my self- help group do not have big shambas and therefore we hire a shamba that is big enough for our collective project most time we have budgeted to lease for one year but the service providers delays in the delivery of the farm inputs so we end up paying the land owner more money (RES 78, 2023).

Another Primary respondent sadly reported that;

We do not see any value for our investment. We feel cheated when we raise complaints over poor service for lack of engagement in decision making ... We are told to stop the complaint since we are getting it free of charge (RES 58, 2023).

This sentiment resonates with empowerment theory's concept of "critical consciousness," which denotes an understanding of oppression and its ramifications in contemporary society, both socially and politically. The fact that most social protection Programs are externally funded almost silences the voice of SHG members that would otherwise translate to increased capacities in climate change adaptation and sustainable development.

4.11.3 The group dynamics as a challenge among SHGs in climate change adaptation

This study also sought to establish whether the respondents were able to cope with the challenges experienced in climate change adaptation. When asked how they were able to cope one respondent said that;

It's crucial to join a self-help organization since it helps us save money each month, which enables members to take out soft loans when necessary (RES 63, 2023).

A key informant said that

Majority of the members and especially those in SHG that had been in existence for a longer period of time were confident of overcoming the challenges occasioned by climate change because they have always coped (KI 5, 2023).

One of the Service providers was of a contrary opinion and reported that;

Many of the Self- Help Groups will not be willing to own the truth that most of them are donor dependent and when the organisation rendering the service disengage that marks the end to the projects. I have been here and I see what happens (RES 3, 2023).

A key informant alluded to this by saying;

Too many internal conflicts prevent the SHG from achieving its objectives, which has a detrimental effect on its plans for sustainable development and climate change adaptation (KI 7, 2023).

Another key informant reported that;

During mapping of the beneficiaries for various climate change adaptation programmes identify and earmark SHG community members that fit in the Programs some with multiple problems which cannot be addressed using one channel of assistance (RES 8, 2023).

Another key informant stated that they tried to help the beneficiaries through their Self- Help Groups while some of the groups maybe because long years of working together has most of their members having success stories. In Self- Help Groups there is so much mistrust that groups are terminated before accomplishing their objectives.

This was backed by a respondent who said that;

In my group the members raised concerns with the official not being transparent in their dealing with the members finances. We tried to solve the matter and even involved the community development committees' officials when they were unable, we shared the inputs among the members. (RES 80, 2023).

This sentiment implies that lack of cohesiveness attributed to factors such as trust, reciprocity" which accounts for effectiveness in group performance plays a key role in how respondents adapt to climate change adaptation.

Table 4. 12 Capacity to overcome challenges

Frequency	Percent	Valid Percent	Cumulative Percent
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Yes	25	9.6	9.6	9.6
No	235	90.4	90.4	90.4
Total	260	100.0	100.0	

Source: Field data, 2023

The study sought to find whether the Self- Help Group was able to sustain the projects they were implementing under the KCSAP. Findings in table 4.12 show that 9.6% (25) of the respondents reported having capacity to sustain the projects while 90.4(235) reported that they would not be able to sustain the projects. This implies that the majority of the respondents would not be able to sustain the project's life. This finding could be attributed to the knowledge that grant money is non- refundable. This was alluded by a respondent who reported that;

The idea that the fund is "free money" causes most group members to adopt a detached mindset, seeking primarily short-term gains from the projects (RES7, 2023).

A key Informant reported that;

The majority of members claim that group leaders handle project implementation cycle training, so they don't go to it and don't learn the essentials of project sustainability (KI 2, 2023).

Matimba (2013) saw that, local area support was a critical supporter of manageability of undertakings in Ganze. Moreover, that there exists a meager edge between local area support and the public authority techniques in executing projects since the two of them had comparative qualities and involved a built exertion in supporting tasks inside a local area and presumed that local area cooperation giver job, the executives practices and government methodologies are factors that impact the maintainability of benefactor financed projects. There is likewise a requirement for an extensive methodology to integrate all entertainers to guarantee the manageability of benefactor supported projects.

Table 4. 13 Members involvement in decision making for climate action

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	40	15.4	15.4	15.4
	Not Very Often	60	23.1	23.1	38.5
	Often	110	42.3	42.3	80.8
	Very Often	50	19.2	19.2	100.0
	Total	260	100.0	100.0	

Source: Field data, 2023

From table 4.13 15.4% (40) reported that they were never involved in climate change adaptation project processes, 23.1% (60) reported that their involvement in decision making on climate change was not very often, 42.3% (110) reported they were often involved in the decision on climate change adaptation, 19.2% (50) reported that their involvement was very often. This implies that the majority of the respondents were involved in decision making processes in climate change adaptation. Climate change poses risks to the environment, the economy, and society as a whole. To address these risks, it is important to involve communities and stakeholders in decision-making processes related to climate change adaptation. The Action Plan recommends that community members should be involved in the development and implementation of climate change adaptation policies and strategies. The Action Plan also emphasises the importance of involving women and youth in decision-making processes related to climate change adaptation.

A study conducted by the United Nations Development Programme (UNDP) in 2021, found that when women are involved in climate change adaptation planning, they are more likely to prioritise the needs of vulnerable groups, such as women and children, and to develop innovative solutions that take into account the different needs and

experiences of men and women. Kimemia et al., (2019) investigation on community participation in climate change adaptation in the Kajiado County of Kenya found out that, community members were not adequately involved in decision-making processes related to climate change adaptation.

Table 4. 14 Level of inclusion for Persons Living with disability in climate change adaptation forums

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	80	30.8	30.8	30.8
	No	180	69.2	69.2	100.0
	Total	260	100.0	100.0	

Source Field data, 2023

The study found that 30.8% (80) of the respondents reported knowing persons living with disability in climate change forums while 69.2% (180) of the respondents reported not having knowledge of PLWD in climate committees/forums. The study findings imply that having the 69.2% of the respondents had no knowledge of PLWD in climate change adaptation forums is an issue of concern because this could result in under-representation of PLWD in Programs that would otherwise be of assistance to them.

One person with disability reported that;

PLWD are not taken into consideration by organizations that provide various sorts of community support; instead, individuals without disabilities typically represent them (RES 19, 2023).

A primary respondent from the vulnerable and marginalised observed that;

We sometimes require specialised attention to help them adapt to climate change but in most cases end up being offered the same services and assistance as other members. For instance, some have more urgent needs than those of adapting to climate change whenever they are given inputs for CCA they sell for money to solve immediate needs (RES 220, 2023).

This sentiment implies that persons living with disability are left behind in climate change adaptation. A key informant reported that most of the members belonging to VMGs, have very low capacities for resilience. Empowerment theory adopted in this study requires that people's lives, workplaces, and neighbourhoods can all benefit through giving members a voice in policy making processes that affect them.

This study findings reveal that an under-representation of persons living with disabilities may negatively impact on their capacity for climate change adaptation. The rights of PLWDs as enshrined under the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the Convention on the Rights of the Child, the Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of Persons with Disabilities stipulates that state actors;

Take more ambitious climate change mitigation and adaptation action to limit the impacts of climate change on all persons, including on persons with disabilities Secure the meaningful, informed and effective participation of persons with disabilities and their representative organisations in climate change mitigation and adaptation at all levels; Strengthen the capacities of persons with disabilities to respond to climate change by ensuring their access to information about climate change.

Thus, eliminating structural inequality and systems that uphold patriarchal power relations wherever possible become paramount for the realisation of the Universal goal of leaving no one behind in the achievement of world vision 2030 and the sustainable agenda.

Table 4. 15: Effects of Climate change on asset base

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	235	90.4	90.4	90.4
	No	25	9.6	9.6	100.0

Total	260	100.0	100.0
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Source: Field data, 2023

Table 4.15 presents the data findings for impacts of climate on the asset base of Self - Help Groups. The research findings indicate that 90.4% (235) of the respondents reported climate change had an effect on their asset base while 9.6% (25) reported that climate change did not have effects on their asset base. These results highlight the vulnerability of members of Self- Help Groups to the economic and material consequences of a changing climate. This finding was affirmed by a primary respondent who said that;

During bad weather patterns we get poor yields from our farms...during prolonged heavy rain or dry spells we end up buying food at very high costs (RES 240, 2023).

A women leader revealed that;

Due to the changing climate people get sick and even livestock. We have many members borrowing money from the Self- Help Group. Those that do not have enough savings end up selling off productive assets... which make them fall back into poverty (KI 2, 2023).

This was affirmed also in an interview with a key informant who said that;

Climate variability and change pose dangers to the county, including as the advent of new parasitic plants, greater land degradation, and diminishing yields over time (KI 4, 2023).

The data underscores the need for governments and institutions to provide robust climate adaptation support, especially in vulnerable regions. This can include creating policies that promote sustainable land use, offering financial assistance for rebuilding damaged assets, or facilitating access to technology and education to cope with the changing climate.

Key monetary areas in Kenya are especially helpless to environmental change effects and this takes steps to sabotage Kenya's new and great advancement gains. It is subsequently critical that the nation fabricates and upgrades its environment strength

and versatile limit. Building environment strength expects that Kenyan frameworks of administration, biological systems and society have ability to keep up with able capability despite environmental change. This would help a re-visitation of some ordinary scope of capability in any event, when confronted with unfavorable effects of environmental change. Versatile limit is vital to improving financial qualities of networks, families and industry as it remembers changes for ways of behaving, assets and innovations, and is a fundamental condition for plan and execution of successful transformation techniques. There is common dependence in that the public versatile limit relies upon the flexibility of its frameworks.

4.12 Opportunities for enhancement of ASP for climate change adaptation

The study sought to establish opportunities that exist to enhance the adoption of adaptive social protection for climate change adaptation. The study identified opportunities in regard to all stakeholders, the organisations, non-governmental organisations, civil societies and members of Self- Help Groups themselves.

4.12.1 Opportunities in the adoption of adaptive social protection intervention in climate change adaptation

To assess the opportunities in enhancing the capacities for the adoption of adaptive social protection intervention in climate change adaptation among the self- help groups, this study evaluated whether Self- help groups had benefited from the provisions in the Kenya climate act, 2016 which were meant to increase their capacities in climate change adaptation. The under listed were the emerging theme from the qualitative data;

4.12.1.1 Mainstreaming adaptive social protection in climate change adaptation

Primary data collected from the members of Self- Help Group revealed an awareness of the need of different service providers to come on board to enhance Self -Help Groups adaptive capacities. This was affirmed by a key informant as captured below;

Our methods have changed as a result of climate change, and one issue leads to another. The interventions ought to be diverse.
(KI 4, 2023).

The finding from this response to open ended questions revealed an awareness that effects of climate change are multifaceted, thus requiring a multi -sectoral approach in resolving them. An interview with a key informant revealed that;

Integrating a particular approach and policies into existing systems which ensure a widespread transformation of structural vulnerabilities would go a long way in increasing the capacities of Self -Help groups in adopting the ASPs (RES 4, 2023).

Hence, by effectively advocating for mainstreaming of adaptive social protection interventions in existing climate adaptation strategies will contribute to more inclusive, resilient, and sustainable social protection that benefits the most vulnerable population.

This was affirmed by a key informant who stated that;

It is noted with concern that the effects of climate change have more adverse effects on the vulnerable and marginalised population of Kakamega county and although a lot is being done to help cushion them from climate extreme event the implementation of the Kenya Climate Act ,2016 will go a long way in ensuring that climate change intervention need specific so as to maximise their benefits (RES 6,2023).

Similar, sentiments were also raised by key informant from an NGO who stated that;

Advocacy is key if we have to forge partnerships and collaboration with like-minded organisations and get key stakeholders to in-corporate adaptive social protection into national strategies and Programs (RES 7, 2023).

From the above sentiments it is evident that advocacy serves as a powerful tool for mainstreaming social protection interventions by raising awareness, building capacity and fostering collaboration. By engaging diverse stakeholder's advocacy can facilitate the integration of this intervention into broader development agendas leading to sustainable and inclusive transformative social protection intervention.

The studies conducted in Kenya highlights the undeniable role of advocacy in mainstreaming ASP interventions. Appleby, Bell and Boetto, (2017). for example, emphasise the significance of advocacy in influencing legislative reforms and policy decisions that improve the adaptive ability of vulnerable populations. Further engaging with development partners and philanthropic organisations in advocacy have helped secure funding and institutional support to strengthen interventions at both the national and local levels.

Corruption and other malpractices such as patronage and poor governance pose a serious threat to the realisation of Kenya's development blueprint. Corruption leads to the irregular transfer of colossal sums of money from the government's development purse to private individuals' accounts. The funds and resources diverted through corruption have dire consequences for crucial reforms, development agendas, and access to essential social service sectors such as health and education, especially for the poorest. The achievement of Kenya's noble socioeconomic and political development ideals espoused in Vision 2030 can be robustly accomplished by confronting governance vices through adherence to the rule of law and constitutionalism.

A study by Adger et al., (2016) found that programs that involve communities in the design and implementation process are more likely to be effective in promoting climate change adaptation. This is because community engagement can help to build trust and ensure that programs are responsive to the needs and preferences of local communities.

4.12.2 Public participation and implementation of ASP programs

Recognition that the impacts of climate change are experienced differently among different populations calls for the need for tailor made adaptive intervention for different localities. A primary respondent reported that;

These projects are supposed to be in a way that is accommodating to all participants. Sometimes we have activities we are already undertaking and I feel if we are given the grants it would go a long way in

boosting the activities instead of having to start off new ones (RES 39, 2023).

On the same vein a key informant reported that;

For the intervention to be embraced and accepted, the target population must be sufficiently educated or involved in its design and implementation (KI 4, 2023).

A key informant from the leader of common interest group revealed that;

We always feel like we are part of the project's cycles only up to a particular point. Sometimes when things go wrong, we are left on our own..... we also do not give it our best because we know the projects are also short lived (KI 2, 2023).

The above sentiment implies that when local communities are actively involved in the design of adaptive social protection interventions, they are more likely to perceive the intervention as their own. This leads to increased acceptance and ownership, fostering a sense of empowerment and collective responsibility. Such engagement can also enhance community participation, making the intervention more effective and sustainable in the long run.

A concentrate by Luers et al., (2015) viewed that programs that are planned as setting explicit, considering the remarkable social, financial, and ecological states of the networks they serve, are bound to be powerful in advancing environmental change variation. Essentially, a concentrate by Konaté et al., (2020) found that, socially proper projects that consider the necessities and inclinations of neighborhood networks are bound to be acknowledged and supported after some time.

The Kenya Environment Demonstration of 2016 gives an additional group focused way to deal with improvement which centers around weak gatherings by tending to environmental change simultaneously with neediness, food instability and joblessness measures. Environment finance streams and carbon resource systems present a chance to get to new and extra degrees of subsidizing. For the public authority, this implies getting to worldwide supporting for aggressive environment strong and low outflow improvement programs. For the confidential area this can involve creating monetary and protection administrations, participating in activities to produce carbon credits

available to be purchased in global business sectors, taking advantage of new green economy open doors and making green positions.

Moreover, the Kenya Environment Demonstration of 2016 recognizes that the presentation of a regressed arrangement of government gives another potential chance to revamp environmental change administration by guaranteeing that environmental change reactions are mainstreamed into the elements of the public and province levels of government, and by working with the successful support of residents in environmental change administration.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study explored the role of social protection interventions in climate adaptation among Self-Help Groups in South Kabras, Kakamega County, guided by three specific objectives. The previous chapter presented and discussed the findings, highlighting the impact and challenges of these interventions. This chapter consolidates the key findings, concludes that social protection mechanisms are critical for enhancing the adaptive capacity of these groups, and provides actionable recommendations to strengthen their implementation for better climate resilience.

5.2 Summary of Findings

In response to the research objectives, the main findings are as follows:

5.2.1 Building Resilience: The Role of Adaptive Social Protection in Climate Change Adaptation

The first objective of the study established the nature and extent of adaptive social protection measures adopted by Self-Help Groups in response to climate change adaptation. To achieve this, respondent opinion on the adaptive social protection category and extent of adoption was sought. The respondents ranked them in regard to their preference and practice. On this, the study found that Self-Help Groups were aware of the various categories of adaptive social protection in climate change adaptation. However, the results showed that availability and access to climate change adaptation opportunities was a challenge.

Regarding Provisional social protection category, findings indicate mixed views on public health education interventions suggesting that this form of social protection is either inconsistently implemented or not perceived as effective by many participants.

Finding with regard to food banking indicate that while food banks are present, they may not be fully reliable or equitably distributed. As for secure shelter ASP descriptive data shows that while some measures are in place, they may not be sufficient to meet the needs of vulnerable populations. As for linkage and referrals there is a mixed view on the effectiveness of linkages and referrals, while basic social transfers is rated low or very low, and majority of the respondent rated very low for public work programs expressing dissatisfaction with the implementation of public work programs.

Findings in the preventive adaptive social protection highlights a nuanced landscape for adoption and use of asset transfer SP where Asset Transfer/Protection interventions are ranked as either very high or high, Additionally, majority of the respondents also rated asset transfers as either low or very low. Regarding starter packs data shows low or very low adoption and practice. Data pertaining to access to common resource property indicate that a combined majority of the respondents rated it as very high. Access to Common Property Resources (CPR) as either very High or High, showing that almost half of respondents feel they have adequate access to these resources. Finally, for access to credit as a social protection results show that a combined respondent rated access as either low or very low, with the largest proportion of the respondents rating it as low.

Regarding promotive social protection category, majority of the respondents perceived livelihood diversification interventions as moderately practiced but with substantial variation in how participants experience them. With regard to Weather index insurance majority of the respondents rated it very low. Finally, transformative social protection, largest proportion of respondents rated the promotion of minority rights intervention as very low while access to social funds was moderately rated.

Overall, the data highlights a nuanced landscape of social protection interventions, with some strategies perceived as more effectively implemented than others. The high

standard deviations in many cases suggest diverse experiences and perceptions among respondents, indicating the complexity and variability of these interventions' implementation. This data could be instrumental in guiding policy decisions, identifying areas where interventions are working well, and highlighting those that may require more attention or better implementation strategies to enhance their effectiveness.

A Pearson Product Moment Correlation Coefficient was used to assess the strength and direction of the relationship between social protection interventions and climate change adaptation among Self-Help Groups. The analysis revealed a **statistically significant positive correlation**, indicating that as social protection interventions increase or improve, so does the capacity of these groups to adapt to climate change. This suggests that a significant rise in climate change adaptation will come from improving the availability and accessibility of social protection interventions. Major themes identified by thematic analysis of qualitative data included insufficient information and a lack of cooperation and coordination amongst climate players while implementing interventions for climate adaptation. Additionally, the results show that Self-Help Groups have a fragmented preference when it comes to selecting and implementing adaptive social protection mechanisms for climate change adaptation.

5.2.2 Extent to which ASP intervention address structural vulnerabilities in climate change adaptation among Self-Help Groups

The second objective examined the extent to which adaptive social protection intervention addresses structural vulnerabilities in climate change adaptation among Self-Help Groups. To achieve this, respondents' opinions with regard to how a set of structural vulnerabilities had been resolved with the adaptive social protection measures they had adopted in climate change adaptation. The study findings reveal that a vast

majority (38%) of the respondents reported a slight improvement with their level of engagement in the project processes.

However, the majority of the respondents expressed limitations in access to opportunities that accounted for climate change adaptation for instance; limitation to active participation in the project processes as evidenced by qualitative data by verbatim responses from respondents 23, 102 and 110.

The study also established that current adaptive interventions have not provided a means by which to overcome challenges such as access to land title deeds which enables them to improve infrastructure, diversify livelihoods, promote sustainable land use practices, and address underlying causes of structural vulnerabilities. The study also found out that gendered power relations within the household impact on women's ability to make choices about adaptation to climate change.

5.2.3 Navigating Challenges and Harnessing Opportunities in Adaptive Social Protection for Climate Change Adaptation

The third goal evaluated the opportunities and problems associated with adopting adaptive social protection for climate change adaptation. In order to do this, the study asked respondents' opinions about the challenges Self-Help Groups encounter while adopting adaptive social protection strategies for climate change adaptation. According to the study, a number of challenges hindered SHGs from fully adapting to changing climates. These challenges included competing demands for scarce resources, social injustice and inequity, social exclusion, a lack of advocacy by relevant stakeholders, a lack of government support, and a sustainability dilemma.

With reference to opportunities thematic analysis from qualitative data revealed the following themes would increase the capacities of the Self- Help Groups to adapt in changing climate; The analysis of adaptive social protection programs and climate

change advocacy highlights a significant gap between policy and practice, particularly in implementing the Climate Change Act 2016 and fulfilling international commitments. Despite these frameworks, tangible actions remain insufficient, especially in addressing equity and social inclusion. Vulnerable and marginalized groups often face barriers such as high costs, limited tailored programs, and exclusion from decision-making, which undermine efforts to allocate resources and benefits fairly. Bridging this divide requires stronger enforcement and accountability mechanisms, a focused commitment to equity, and culturally sensitive community education and advocacy to empower participation and awareness. Aligning policy with inclusive, actionable strategies is essential for sustainable and equitable climate adaptation.

5.3 Conclusions

This section outlines the detailed and overarching conclusions derived from the study's objectives.

5.3.1 Interpretation of Conclusions Based on Study Objectives

The following conclusions are made based on the study findings;

- i. The findings highlight that the four categories of Adaptive Social Protection (ASP) are integral to strengthening resilience and improving the well-being of Self-Help Group members, underscoring their importance in achieving the first objective of the study. Availability and accessibility of these opportunities (gender equality, livelihood diversification, inclusivity, and access to adequate social capital) will increase groups capacity to adapt to changing climate.
- ii. With regard to the study second objective a conclusion is made that although adaptive social protection has the potential to address structural vulnerabilities in climate change adaptation by members in Self-Help Groups, there still exist

structural vulnerabilities for example gender inequality, exclusivity, asset entitlement and lack of adequate social capital that still hinder some segment of the population from adapting to changing climate.

- iii. In light of the third objective, regarding the difficulties in adopting adaptive social protection, the study comes to the conclusion that, if the numerous difficulties Self-Help Groups confront are not resolved for instance competing demands for scarce resources, social injustice and inequity, social exclusion, and a lack of advocacy by relevant stakeholders, they may prevent or even lessen their ability to adapt to climate change to the fullest extent possible. However, the study notes the significant role played by Self-Help Groups as presenting an opportunity for promoting the enhanced adaptive capacities for members of Self-Help Groups.

5.3.2 Overall conclusion

In accordance with the study findings, without reliable and sustained social protection interventions, members of Self -Help Groups, may be pushed further into poverty and health risks, especially as climate events become more frequent and severe. Hence, recognizing structural barriers that hinder equal adaptation opportunities, and fully mainstreaming of Kenya climate Act of 2016, the Kenya national climate action would improve the adaptive capacities of the members of Self- Help Groups in adapting to changing climate.

5.4 Actionable Recommendations for Inclusive Climate Change Adaptation

The recommendations, based on the study's results and conclusions, emphasize practical actions that address the core findings while considering their feasibility and potential broader impact:

- i. The study recommends to policy makers in climate change action plan and climate change program developers on an urgency to focus on making adaptive

social protection interventions scalable, and climate-resilient as vulnerable populations often depend on long-term social protection programs for sustained resilience to climate change impacts.

- ii. **Enhance Support for Vulnerable Groups:** The responsible ministry should focus on strengthening the resilience of vulnerable groups, such as women, orphans, vulnerable children, the elderly, and persons with disabilities. This can be achieved by improving the effectiveness, consistency, and visibility of Adaptive Social Protection (ASP) programs to ensure their needs are adequately addressed.
- iii. **Promote Collaborative Partnerships:** There is a need for stronger partnerships with key stakeholders, including civil society organizations and the private sector. These collaborations should aim to provide tailored support for the diverse needs of various categories within Self-Help Groups, fostering inclusivity and comprehensive assistance.

5.5 Recommendations and Future Directions: Strengthening Support and Advancing Research for Inclusive Development

The study investigated the effectiveness of social protection interventions in enhancing the climate change adaptation capacity of Self-Help Groups in South Kabras, Kakamega County, Kenya:

1. Further research can be conducted to expand the sample and do similar studies in other counties to get a generalised reflection of adaptive social protection interventions in climate change adaptation in Kenya.
2. Further research can be conducted to map the different categories of need that different populations have so that adaptive efforts are tailored for specific adaptive needs

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APPENDICES

APPENDIX I: CONSENT FORM

Dear Respondent,

RE: CONSENT FORM

My name is Alice Mbuthia; a student of Masinde Muliro University of Science and Technology pursuing a programme leading to the award of Master of Arts in Social Work. I am currently conducting a study on **“Effectiveness of social protection intervention on climate change adaptation among Self-Help Groups in South Kabras Kakamega County, Kenya”** as a prerequisite for the award of the degree. The information gathered will be used by climate change adaptation practitioners and other stakeholders in ensuring that vulnerable members of self- help groups and adequately supported in adapting to changing climate.

Procedures to be followed

Participation in this study will require you to fill in a questionnaire containing statements or questions regarding your demographic information, nature of adaptive social protection interventions adopted in your groups, extent to which social protection intervention add structural vulnerabilities, and the challenges and opportunities in adoption of social protection interventions. This will take about 25 minutes. In this study participation is voluntary and you may withdraw from participation at any point without penalty or choose not to respond to any item(s). This information you provide will be used for the purpose of this study.

Confidentiality: Your personal information will be protected to ensure privacy. Your name will not be recorded on the questionnaire. This will be addressed by anonymizing data and securely storing it to prevent unauthorized access.

Harm Prevention: Despite the fact that there is no physical risk involved in this study, potential risks, both physical and psychological, to participants will be addressed by

designing studies that prioritize participants' well-being and having support mechanisms in place for managing distress.

Benefits: although the research is for education purposed, your participation will greatly contribute in the understanding of adaptive social protection interventions in climate change adaptation. The results of the study may guide in developing policies and practices aimed at improving climate change adaptation among Self- Help Groups.

Participants statement

All the above information regarding my participation in the study is clear to me. I have read and understood that the exercise is entirely voluntary and I can withdraw my participation at any time without any penalties. I also understand that the information i will provide remain confidential.

Signature..... Date.....

Investigator statement:

To the best of my knowledge, I, the undersigned, have fully informed the study participants on the procedures to be followed, potential risks, and expected benefits during their participation.

Sign-----

Date-----

APPENDIX II: Questionnaire for Self-Help Group Members (VMGs and CIGs)

PART A: Social demographic factors

SHG No. Type.....

Indicate by a tick what applies to you.

1. How many people are in this self-help group?
 - i. a) 1-10 [] b.10-15[] c.15-20[] d.20-25[] e.25 and above []
2. How long has the Self-Help Group been in existence?
 - a. Below 1-year [] b.1-2 years [] c.3-4 years [] d.4-5 years [] e.5 and above years []
 - b. What is the criteria of group membership selection?
3. Gender
 - a. Male [] female []
4. What is your age bracket?
 - a. 20-24 [] b. 25-29 [] c. 30-34[] d.35-39[] e.40-44[] f.45- 50 [] g.51 - 100 []
5. What is your highest level of education?
 - a. ECDE b. Certificate [] c. Diploma [] d. Bachelors [] Never attended []
6. What is your Marital status
 - a. Single [] b. Divorced [] c. Widowed [] d. Married
7. 7. Do you suffer from any form of disability Yes [] No []
 - b. If yes, specify the form of disability.....

SECTION B: The nature of adaptive social protection adopted by self-help groups and frequency of practice

8. Please indicate the social protection intervention practised in your group and rank the frequency of practice in each of the four categories: provisional, preventive, promotive and transformative. Scale where **1**-Very low, **2**-Low, **3**- moderate, **4** High and **5**- Very high

Social Protection Category	Ranking Scale				
	5	4	3	2	1
Provision (coping strategies)					
Public health education					
Food banks					
Secure Shelter					
Linkages and referrals (social capital)					
Public work programs (conservation)					
Preventive (coping strategy)					
Access to credit					
Asset transfers/protection					
Starter packs (drought/flood resistance seeds?)					
Access to common property resources (Forest/grazing land?)					
Promotive					
Livelihood diversification					
Weather based-crop insurance					
Transformative (building adaptive capacity)					
Promotion of minority rights					
Social funds/climate change adaptation funds					
Other (specify).....					

9. How have the social protection measures you have employed assisted you in adapting to climate change?.....
10. Which organisations offers you climate change adaptation services to your self- help group?.....

.....
**PART B: The extent to which social protection addresses structural
 vulnerabilities in climate change adaptation**

11. What informed your group's choice of the project?
 Please elaborate.....
12. In your opinion, what would you say your experience was in climate change
 adaptation before joining KCSAP?.....

What is your experience after joining KCSAP?.....

.....
 13. How has the adaptive social protection interventions addressed the structural
 vulnerabilities in climate change adaptation;

a) Gender relations

- i. What is the level of participation of men and women in ASP in
 climate change adaptation?

- ii. Are there tailored ASP interventions for men and women in
 Climate change adaptation?
 Yes () No ()
- iii. Are there tailored ASP interventions for other vulnerable populations for
 example the youth, elderly and Those recovering from drug abuse and
 people living with HIV and AIDS? YES NO.....
- iv. If no, what challenges are your self- help groups still experiencing
 in climate change adaptation.....

- v. Have you received any training on the importance of gender
 equality from KCSAP or any other source?

		Yes	No
A	Awareness is created on the importance of gender equality by donors/KCSAP		
B	Women hold an important position in a self-help group		

14. Adaptive social protection in mitigating discriminatory practices and rights promotion in climate change adaptation;

- i. What was your state of climate change adaptation before KCSAP?
- ii. Have there been instances where your self- help group felt like you were not treated

in unfair manner YES ()

NO ()

If YES, please mention those instances.....
.....

iii. What was the remedy for the unfair treatment..... iii. Who provided the remedy.....

iv. In your opinion, is inclusion for vulnerable populations fair?.....

.....
15. Adaptive social protection and power/ and governance in climate change

adaptation i. Do women hold important positions in Self- help groups?.....

ii. Who make decisions in your self- help groups?.....

iii Do you have equal access to adaptive social protection opportunities?.....

iv To what extent does the existence of the group influence members' political voices? 1. Large extent 2. Very large extent 3. Little extent 4. No extent

5. ☐

I don't know ☐

16. In a scale of 1-5 please indicate the extent to which the project has boosted members' social capital to enable them overcome adverse livelihood risks?

Social capital category 1. Large extent 2. Very large extent 3. No extent 4. Little extent

i. Community networks (formal and informal)

ii. Relation of Trust

ii. Reciprocity (equal give-and-take)

iv. Norms and values

Part C: Challenges in the adoption of social protection intervention for climate change adaptation

17. How would you rate the effectiveness of coordination and collaboration among stakeholders involved in climate change adaptation efforts? (Donor, beneficiaries (SHG), community leaders, ministries, others)

18.Can you identify any specific challenges or obstacles to effective coordination and collaboration in climate change adaptation initiatives?

19.What specific ways have adaptive social protection interventions supported you in addressing social, economic, political, and ecological vulnerabilities as part of your climate change adaptation efforts?

20.Do you have capacity to overcome the challenges experienced? YES [] NO []

i. If yes, what measures have been put in place to overcome these challenges...

.....

ii. If not, what are some significant impacts of climate change you have experienced?.....

21.How often are your members involved in decision-making on climate change within your community?

1. Never [] 2. Not Very often [] 3. Often [] 4. Very Often []

22.Do you have Persons Living with Disability members in climate change Committee forums? Yes [] No []

If yes, what are their roles in the committee...

.....

23.What factors affect the ownership of assets between men and women in South Kabras?.....

24.Does climate change affect the asset base of members in your Self -Help Group? Yes [] No []

b. If so, how?.....

.....

C. How do your members cope with this?.....

25. On a scale of 1 to 5, where 1 means 'strongly disagree' and 5 means 'strongly agree,' how strongly do you agree with the statement: 'Being involved in the entire project implementation cycle of the KCSAP has been instrumental in enhancing our capacities in Climate Change Adaptation (CCA)?'

26. How effectively do you perceive social protection measures have been mainstreamed into climate change adaptation initiatives within the KCSAP?

i. Not at all

ii. Very little extent

27. For VMG respondents

i. Have you been involved in the start to end process of self- help groups projects? Yes No.....

ii. If yes please explain how.....

iii. If No, please explain why.....
.....

28. In your opinion what would you suggest be done to empower Self- help group to actively participate in and benefit from adaptive social protection programs?

.....

29. What role do you see education and awareness-raising playing in enhancing the resilience of communities to climate change impacts through social protection measures?.....

Thank you for your cooperation

APPENDIX III: Interview schedule for CIG group leader

1. What services have been made available to you to help you adapt to climate change?
2. What is the composition of your Self -Help Groups
3. Are the services delivered in a timely manner?
4. How well do you agree with this statement “My needs for climate change adaptation have been met”?
5. Apart from KCSAP, does your group get assistance from other Government ministries/ NGOs?
6. Do you have a grievance mechanism put in place to assist you air out your concerns with relevant stakeholders?

Section of VMG Group leader

In your opinion, what are the sources of your climate change vulnerability?

1. Has the support you are getting from the climate change initiative helped your group curb some of the vulnerabilities you face in climate change adaptation?
2. Do you have control over the decision making with your own household?
3. Has the climate change initiatives empowered the members to increase their asset base?
4. Apart from the traditional sources of livelihood, how has joining climate change adaptation programs enabled you to diversify your sources of income?
5. Do you think you are now able to access financial support from other sources?
6. In the event the donor terminates its support, is your group able to sustain the projects sponsored by it?
7. What are your suggestions on how the program could be improved for the unmet needs in climate change adaptation?

APPENDIX IV: Interview schedule for Key informants

This tool is meant to facilitate discussion with and collect views from community leaders and government officials (Directors' climate change, director environment, Directors Kakamega Forest and department of gender and social protection nature of adaptive social protection Programme)

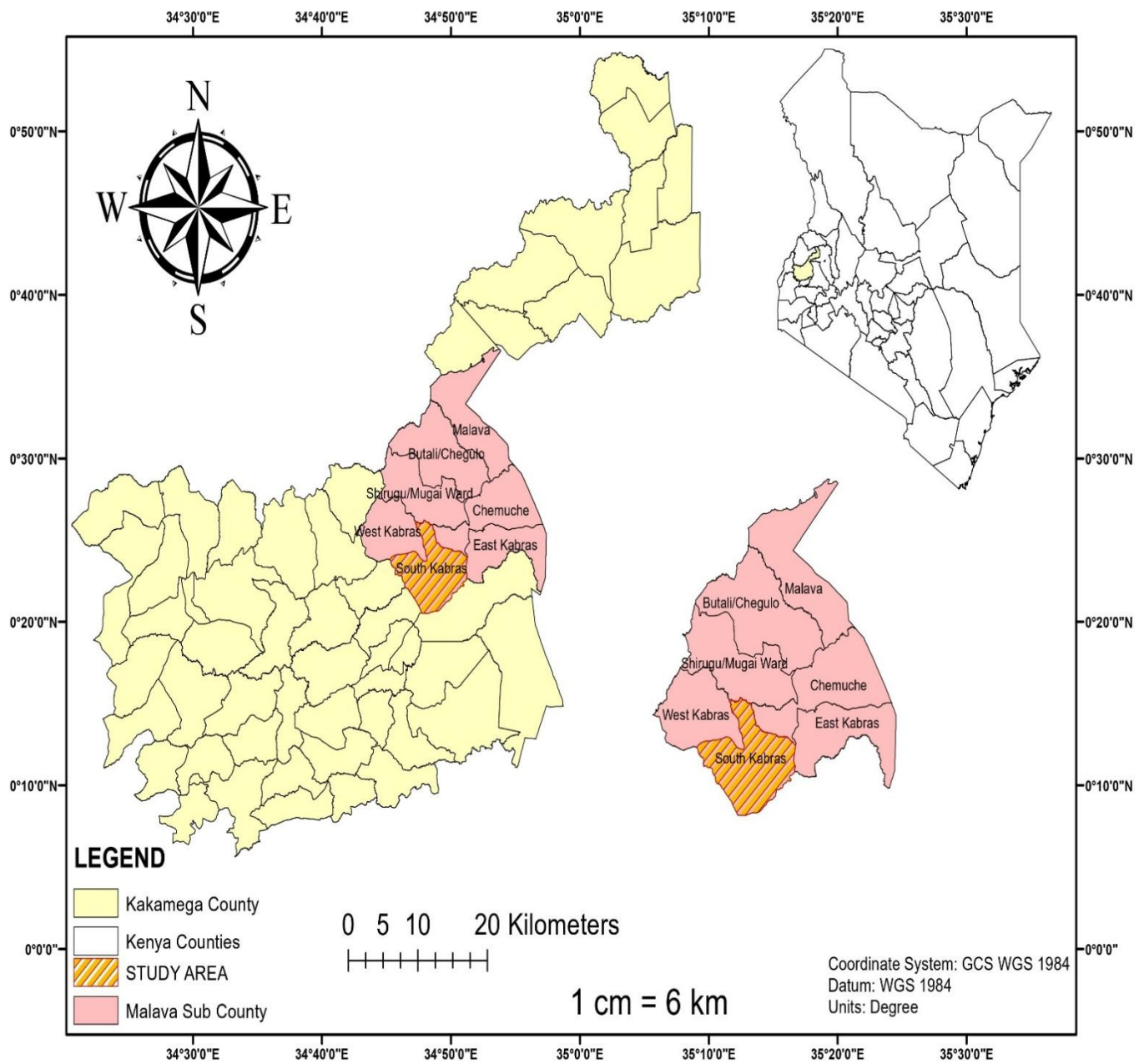
1. Your PortfolioArea of jurisdiction.....
2. What are the social protection measures put in place in climate change adaptation?
3. What measures has your office put in place to support the vulnerable and marginalised in climate change adaptation?
4. Please give your assessment of social protection in climate change adaptation with Self-Help Groups if you are of your jurisdiction?
5. What is the government policy on climate change adaptation and community participation in your area of jurisdiction?
6. Please give your assessment of how the adaptive social protection initiative address the following vulnerabilities;

Social.....
Cultural.....
Political.....
7. What challenges do you face in the implementation of climate change initiatives and how do you intend to overcome them?
8. In your opinion how can governance be strengthened to ensure effective coordination and implementation of adaptive social protection measure?

Interview schedule for civil society organisation (Women in Water and Natural Conservation).

1. What is the role of civil society in climate change issues?
2. How sensitised would you say the women/person with disability are on their rights to participate in climate change: i. planning ii. Implementation iii. Monitoring
3. Does your department carry out advocacy to ensure equality and inclusion in climate change adaptation?
4. Have you established affordable and accessible credit lines for the Self-Help Groups?
5. Are there any legal structures that address the concerns of Self -help groups in climate change adaptation?

Appendix V:Map of Malava Sub County _South Kabras



APPENDIX VI: APPROVAL LETTER



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

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P.O Box 190
Kakamega – 50100
Kenya

Directorate of Postgraduate Studies

Ref: MMU/COR: 509099

Date: 1st November 2022

Alice Wanjiru Mbuthia
MSW/G/01-53980/2019
P.O. Box 190-50100
KAKAMEGA

Dear Ms. Mbuthia,

RE: APPROVAL OF PROPOSAL

I am pleased to inform you that the Directorate of Postgraduate Studies has considered and approved your master's. Proposal entitled: *'An Assessment of Social Protection Interventions on Climate Change Adaptation: A Study of Self Help Groups in Kabras South Kakamega, Kenya'* and appointed the following as supervisors:

1. Dr. Ater Erick - MMUST
2. Patricia Kariaga PhD - MMUST

You are required to submit through your supervisor(s) progress reports every three months to the Director of Postgraduate Studies. Such reports should be copied to the following: Chairman, School of Arts and Social Sciences Graduate Studies Committee and Chairman, Department of Criminology and Social Work. Kindly adhere to research ethics consideration in conducting research.

It is the policy and regulations of the University that you observe a deadline of two years from the date of registration to complete your master's thesis. Do not hesitate to consult this office in case of any problem encountered in the course of your work.

We wish you the best in your research and hope the study will make original contribution to knowledge.

Yours sincerely,


Prof. Stephen O. Odebero, PhD, FIEEP

DIRECTOR, DIRECTORATE OF POSTGRADUATE STUDIES

APPENDIX VII: NACOSTI PERMIT

 REPUBLIC OF KENYA Ref No: 490002	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION Date of Issue: 08/November/2022
RESEARCH LICENSE	
	
This is to Certify that Ms., ALICE WANJIRU MBUTHIA of Masinde Muliro University of Science and Technology, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kakamega on the topic: AN ASSESSMENT OF SOCIAL PROTECTION INTERVENTIONS ON CLIMATE CHANGE ADAPTATION, STUDY OF SELF-HELP GROUPS IN KABRAS SOUTH, KAKAMEGA, KENYA for the period ending : 08/November/2023.	
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