NEXUS BETWEEN WOMEN'S LEADERSHIP AND CLIMATE CHANGE ADAPTATION IN THE GAMBIA

ActionAid International The Gambia, Kanifing

(in partnership with Alliance Bioversity & CIAT)

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

This study, commissioned by ActionAid International The Gambia (AAITG), examines the nexus of women's leadership and climate change (CC) adaptation strategies in Central River Region South and North Bank Region. It aims to highlight the contributions of women leaders, identify the challenges they face, and propose actionable recommendations to strengthen their role in building climate resilience.

The findings underscore the pivotal role women play in informal CC adaptation initiatives, particularly in sectors such as agriculture, forestry, and awareness creation. Accordingly, women leaders have led community-driven efforts such as tree planting, organic fertilizer production, flood prevention measures, and awareness campaigns. These activities have not only mitigated climate impacts but also contributed to community food security and environmental sustainability. However, women's contributions largely remain unrecognized in formal decision-making processes, limiting their broader influence.

The research also reveals systemic barriers that hinder women's participation in leadership roles. These include restrictive cultural norms, limited access to education and training, inadequate resources, male-dominated leadership structures, and political marginalization. A inadequate confidence and time constraints due to household responsibilities further exacerbate these challenges. Despite these obstacles, external organizations, including NGOs and government agencies, have played a critical role in empowering women leaders. Interventions such as technical training, funding support, advocacy for gender-sensitive policies, and recognition of women's efforts have enabled significant progress in CC adaptation in the study areas.

Addressing these barriers requires integrated efforts to align policies and programs with the realities of women's leadership. Women's roles in sustainable agriculture, resource conservation, and disaster management highlight their potential to drive transformative change. However, without institutionalized support, these contributions risk remaining localized and underutilized. Policymakers must prioritize women's access to resources, education, and leadership opportunities to ensure their inclusion in CC adaptation strategies.

To strengthen women's leadership in CC adaptation, the following recommendations are proposed:

- Strengthen policy frameworks: Advocate for inclusive policies that promote gender equity, secure land ownership for women, and institutionalize their roles in decision-making structures.

- Expand capacity enhancement: Develop training programs to equip women with technical knowledge, leadership skills, and entrepreneurial capabilities.

- Provide funding and resources: Allocate financial resources to women-led initiatives, ensuring equitable access to funding and tools for CC adaptation.

- Foster community awareness: Conduct community-level awareness campaigns to challenge restrictive cultural norms and highlight the benefits of women's leadership.

- Facilitate networking and partnerships: Create platforms for women leaders to collaborate, share experiences, and access national and international support.

- Engage male counterparts: Promote male allyship by involving men in gender equity initiatives and fostering their support for women's leadership roles.

In conclusion, women's leadership has proven to be a transformative force in CC adaptation and building community resilience. However, addressing systemic barriers remains critical to unlocking their full potential. By integrating gender equity into CC adaptation strategies, stakeholders can promote sustainable development, empower communities, and ensure a more resilient future for all. This research therefore emphasizes that women are not just beneficiaries of climate initiatives but active agents of change. Their inclusion in leadership roles is essential for designing and implementing effective CC adaptation strategies that benefit entire communities and set a foundation for long-term sustainability.

1. INTRODUCTION

1.1 Background

ActionAid International The Gambia (AAITG), a distinguished member of the global ActionAid Federation, has been at the forefront of championing human rights, eradicating poverty, and fostering sustainable development. Recognizing the indispensable role women play in CC adaptation as well as mitigation measures, AAITG is committed to addressing the critical intersection of gender equality and environmental sustainability.

Globally and locally, gender analysis has emerged as an essential approach to identifying disparities, barriers, and opportunities in achieving inclusive and effective CC adaptation strategies. In The Gambia, Central River Region South (Niamina East, Niamina West, Niamina Dankunku, and North Bank Region (Upper Niumi) are particularly vulnerable to the impacts of CC. These areas are known by the researcher to experience challenges such as erratic rainfall, flooding, and deforestation, which disproportionately affect women, given their central role in agriculture, natural resource management, and household resilience.

Women in these communities are uniquely positioned as key agents of change, often spearheading adaptation strategies that address both the immediate and long-term impacts of CC. From sustainable farming practices and disaster preparedness to community-based conservation efforts, their contributions are invaluable yet frequently unrecognized within formal decision-making structures.

This research aligns with AAITG's strategic goals and builds on its previous initiatives and collaborations with local and international partners. It underscores AAITG's unwavering commitment to promoting gender equity and advancing human rights at all levels. By generating evidence-based insights, this study aims to inform advocacy efforts that dismantle gender-based inequalities and integrate women's leadership into CC policies and programs.

The findings will provide actionable recommendations to enhance women's participation in leadership roles, strengthen adaptation strategies, and influence policy and planning frameworks to ensure equitable and sustainable outcomes for all. This research marks a critical step toward empowering women as central actors in building climate-resilient communities in The Gambia.

1.2 Research Questions

The research seeks to answer the following questions:

- How do communities define leadership within the context of climate change adaptation, and how is women's leadership perceived in these settings?

- What key factors support or hinder women's leadership and participation in climate change adaptation initiatives?

- In what ways does women's leadership influence climate change resilience in the target areas?

- What actionable strategies can enhance women's leadership and its impact on climate change adaptation?

1.3 Objectives of the Study

The study was guided by the following objectives which are to:

1. Develop an evidence-based report linking women's leadership to climate change adaptation, providing insights for AAITG's advocacy efforts.

2. Identify critical barriers and enabling factors that affect women's ability to adapt to climate change and assume leadership roles.

3. Examine the challenges and opportunities influencing women's leadership in climate change adaptation initiatives.

4. Formulate actionable recommendations to strengthen women's leadership and enhance the effectiveness of climate change adaptation strategies.

1.4 Scope of the Study

This research focuses on four districts/study areas (Niamina East, Niamina West, Niamina Dankunku, and Upper Niumi) in the Central River Region South and North Bank Region (Figure 1), where AAITG has been actively implementing targeted interventions. These districts, significantly impacted by CC, face challenges such as erratic rainfall, deforestation, and increased vulnerability to disasters. AAITG's initiatives in these areas aim to strengthen community resilience through empowerment of women leaders in driving adaptation strategies.

The study examines various sectors including but not limited to agriculture, forestry, disaster management, and waste management, which are critical to sustaining livelihoods and mitigating climate impacts.

Figure 1: Map of The Gambia showing the four study areas/districts in the North Bank and Central River Regions

Source: Adapted from www.familysearch.org

Targeting a diverse group of participants—including women leaders, community members, and stakeholders such as NGOs and government agencies—the research adopts a holistic approach to understanding women's roles in CC adaptation. By exploring their contributions, challenges, and the support they receive, the findings aim to identify effective practices and gaps that need to be addressed.

Building on AAITG's ongoing efforts, the study highlights how women's leadership can be further enhanced to foster sustainable development and community resilience. The outcomes of this research are expected to inform future programming, advocacy, and policy interventions, ensuring that the critical roles women play in climate change adaptation are fully recognized and supported.

2. METHODOLOGY

2.1 Sampling Strategy

To ensure diverse representation and inclusion of individuals with relevant experience and insights (Table 1), a total of 59 participants were purposefully selected, including 36 women leaders and 23 key informants. The study therefore focuses mainly on the women leaders (youth and adult) involved in CC adaptation. Also, community members directly affected by CC and engaged in adaptation activities as well as the stakeholders from organizations and institutions working on CC adaptation and women's empowerment were involved as the key informants.

Table 1: Distribution of study participants by study location and sex

Study participant	Study Area					Sex	
	Niamina Dankunku (CRR)	Jareng (CRR)	Juffureh (NBR)	Kudang (CRR)	Penyai (CRR)	Male	Female
Women leader	8	4	9	5	10	0	36
Key informant	5	2	5	5	5	15	8
Total	13	6	14	10	15	15	44

Note: CRR = Central River Region South; NBR = North Bank Region

2.2 Data Collection

The study adopts a mixed-methods approach, integrating qualitative and quantitative data collection methods to ensure a comprehensive understanding of the nexus between women's leadership and CC adaptation.

2.2.1 Semi-Structured Questionnaire

A semi-structured questionnaire was administered to selected respondents in each Local Rights Programme, focusing on four key regions: Niamina East, Niamina West, Niamina Dankunku, and Upper Niumi. The questionnaire explored critical themes such as the roles of women in leadership, the barriers they face in contributing to CC adaptation, and potential opportunities to enhance their impact within their communities. By capturing both quantitative and qualitative

data, this tool offered a foundational understanding of women's leadership dynamics in CC adaptation.

2.2.2 Key Informant Interviews (KIIs)

Key informant interviews were conducted with stakeholders mainly engaged in CC adaptation and women's leadership. Participants included local government officials, CC experts, and representatives from women's advocacy organizations. These interviews provided nuanced insights into women's roles in CC adaptation initiatives, their influence on enhancing community resilience, and the systemic challenges they encounter. The thematic discussions from KIIs highlighted practical examples of women-led initiatives and illuminated gaps in support structures critical for advancing gender-equitable adaptation strategies.

2.3 Data Management and Analysis

All data collection was conducted using KoboToolbox, a secure data management platform. The tool facilitated real-time data entry, allowing researchers to efficiently collect, organize, and monitor responses from semi-structured questionnaires and KIIs. Responses were captured on mobile devices and uploaded to a centralized server, ensuring data integrity and immediate availability for analysis. Data were anonymized to protect participant identities, following ethical research standards. Each response was assigned a unique identifier, and personal details were stored on a secure platform.

2.4 Data Analysis

2.4.1 Quantitative Data Analysis

Data collected through semi-structured questionnaires were exported from KoboToolbox into Excel for detailed descriptive analysis. This process generated key insights by summarizing metrics such as women's participation rates in CC adaptation activities, leadership roles undertaken, and the barriers they face in assuming such roles. Frequencies and percentages were used to provide a clear overview of trends.

2.4.2 Qualitative Data Analysis

For qualitative data collected through questionnaires and KIIs, a thematic analysis approach was employed to uncover recurring patterns and narratives. Key themes that emerged included:

Accordingly, the key themes included:

a) Leadership challenges (e.g., cultural norms, resource limitations)

b) Women's roles in CC adaptation (e.g., agriculture, resource mobilization)

c) Community perceptions of women's leadership and gender roles

d) Examples of successful and unsuccessful adaptation initiatives led by women

e) Barriers to effective participation and leadership

f) Successful support from external organizations (e.g., NGOs, government agencies).

g) Support from communities

To buttress the main points, quotes were used anonymously indicating only the sex, age, districts and regions of the respondents. Accordingly, UN, NW, NE, ND refers to Upper Niumi; Niamina West, Niamina East and Niamina Dankunku, respectively. Also, CRR and NBR refers to Central River Region South and North Bank Region, respectively.

2.5 Ethical Considerations
The study adhered to AAITG's ethical guidelines. Participants provided informed consent and were assured of confidentiality. Local cultural norms were respected throughout the research process to ensure inclusivity and participant comfort.

3. KEY FINDINGS

3.1 Definition of Leadership by Women Leaders

Participants in the study provided diverse definitions of leadership, emphasizing qualities and responsibilities critical to addressing community needs in the context of CC adaptation. Meanwhile, leadership was consistently defined as a role rooted in trust, responsibility, and service, with leaders being tasked to identify and address the needs of communities (Annex 1).

The interviewed women leaders mostly described leadership in terms of:

a) Trust and Representation: "*Leadership means people trust you to represent them, attend meetings, and report back with transparency.*"

b) Problem-solving: "*It is the ability to persevere and find solutions to the challenges your community faces, even when progress is slow.*"

c) Sacrifice and Patience: "*Leadership requires dedication, patience, and the willingness to put the needs of others above your own."*

d) Community Mobilization: "*Leadership is about uniting people and initiating actions that improve lives and livelihoods.*"

In the context of CC adaptation, leadership was also tied to practical actions, such as advocating for sustainable practices, mobilizing resources, and influencing decision-making to benefit the community.

A particular women leader (Female/UN/CRR) remarked:

"*Leadership means that people have trust in you to steer affairs in taking actions to lessen the problems they will encounter if climate extreme events hit them. The person taken to be the leaders must have qualities like patience, hardworking, innovative and above all consider the interest of those he/she is leading first before anything else.*"

3.2 Dimensions of Roles Played by Women Leaders

The participants in this study identified women leaders as critical agents in CC adaptation efforts, who mainly play roles that extend from organizing local initiatives to influencing broader community strategies (Table 2).

Table 2: Roles of women's leadership in CC adaptation (n = 36)

Roles	Frequency	Percent (%)
Community organizer	35	97
Knowledge (traditional) sharer	33	92
Resource mobilizer	28	78
Decision-maker	8	22
Project leader	5	14

These indicated key roles of women leaders included mobilizing communities for climate change adaptation initiatives, fostering collaboration, and raising awareness about sustainable practices. Key points relating to these roles and their impact are described below.

3.2.1 Community Organizing

Mobilizing people for activities such as tree planting, fire belt creation, and agricultural projects.

A key informant (Male/53/NW/CRR) stated that:

> *"Women are mostly involved in gardening during the dry season, coordinating tree planting, community sensitization, local fundraising and women mobilization, only a few are elected or nominated as Village Development Committee members, members of the local tribunal, and councillors among others."*

3.2.2 Knowledge Sharing and Awareness Creation

Leading sensitization programs to educate the community about CC adaptation and sustainable practices. Meanwhile, such programs need to be more inclusive by targeting diversity and inclusion of women in all stages, especially those with physical challenges and the marginalized women in society.

According to a respondent (Female/45/NE/CRR):

> *"During the dry season, anytime there is a fire outbreak, we announce using the loudspeaker installed in the mosque for both men and women to go and put the fire off. This is something we do every other year because each dry season we encounter bushfires around our village."*

3.2.3 Resource Mobilization

Women leaders often engage in local fundraising activities and collaborate with community members to pool resources, demonstrating innovative approaches to address challenges in securing essential tools, materials, and training for effective climate adaptation strategies. Seeking support from external stakeholders, such as NGOs or government agencies, to secure funding and materials for adaptation initiatives is a key aspect of resource mobilization. This can include sourcing financial aid in the form of grants, loans, or donations, particularly for sectors like agriculture, forestry, and waste management, where resources are critically needed.

3.2.4 Project Implementation

Women leaders are actively implementing CC adaptation solutions such as composting to make organic fertilizers and cultivating crops adapted to erratic rainfall (Figure 2). These initiatives have not only improved agricultural productivity and environmental sustainability but also demonstrated their ability to innovate and lead in critical areas of community resilience.

Figure 2: Compost making by women groups

Source: AAITG (Kudang Office)

3.2.5 Advocacy

Women leaders also play a significant role in fostering inclusivity and resilience within their communities. Their ability to engage various stakeholders, including male counterparts, was noted as a vital aspect of their influence.

A leader (Female/42/NE/CRR) commented that *"We advocate reforestation and we are planting trees, and we report anyone seen cutting down trees without the authority."*

Overall, the definitions and roles provided by participants highlight women leaders as trustworthy, dedicated, confident, hopeful and resourceful, making significant contributions to CC adaptation at both practical and strategic levels. Their leadership are evidently instrumental in organizing and mobilizing community members, mostly the other women, and the resources needed to address pressing environmental challenges.

3.3 Areas of Women's Leadership Influence

Women's leadership influence in the study areas predominantly thrived within informal settings (Figure 3), reflecting their significant, yet often under-recognized, roles in driving community-based CC adaptation strategies.
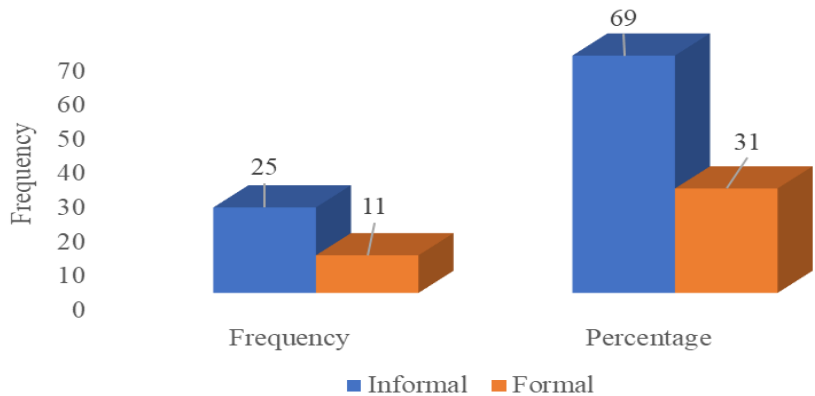
Figure 3: Types of leadership influence demonstrated by the respondents
Source: This study (2024)

These leaders were at the forefront of action-oriented initiatives aimed at addressing immediate challenges posed by CC, with their efforts rooted in practical solutions tailored to local contexts. Summarily, these areas of influence include:

3.3.1 Agriculture

The most visible impact of women's leadership was in agriculture (Table 3), where their activities revolved mainly around cultivating early-maturing crops like *Nerica* (New Rice for Africa) rice and raising poultry and small ruminants. These efforts are instrumental because it can help communities in adapting to the impacts of erratic rainfall and shortened wet seasons, safeguarding both food security and income generation (Figure 4).

Figure 4: Cultivation and harvesting of early maturing rice by women
Source: This study (2024)

Table 3: Influence of women's leadership in CC adaptation (n = 36)

Areas of influence	Frequency	Percent (%)
Agriculture (e.g. crop production, livestock, agribusiness)	34	94
Forestry (e.g. forest conservation, reforestation, agroforestry)	33	92
Education and awareness (e.g. CC literacy, community training)	30	83
Waste management (e.g. recycling, solid waste disposal, circular economy)	22	61
Disaster management (e.g. flood prevention, emergency response, community resilience)	19	53
Health and sanitation (e.g. public health, disease prevention related to climate impacts)	18	50
Renewable energy (e.g. solar power, wind energy, bioenergy)	16	44
Water management (e.g. irrigation, water conservation)	8	22
Transportation (e.g. community transport, infrastructure)	2	6
Fisheries and coastal management	1	3

3.3.2 Forestry

In forestry, women also played a pivotal role in tree planting initiatives (Figure 5), which served dual purposes: providing food and acting as natural windbreakers to protect against the devastating effects of windstorms, a growing threat in The Gambia. Women leadership extended into education and awareness, where they organized climate literacy programs and community training, empowering others with the knowledge and skills needed to adapt effectively to CC.

A women leader (Female/38/NE/CRR) remarked that:

"We organised ourselves and informed the Alkalo about it. He informed us that already someone is promising to donate some plants to us and he was thinking about how to mobilise people for the transplantation. Therefore, we were given the seedlings to do the transplantation and we showed many videos and pictures depicting the activities."

Figure 5: Tree planting exercise led by women in Niamina East District
Source: This study (2024)

Importantly, 61% of the respondents in this study commended their efforts in tree planting, soil conservation, and promoting the cultivation of fast-maturing crops to mitigate the impacts of erratic rainfall. A women group leader (Female/39/UN/NBR) stated, *"We planted many trees and grew fast-maturing rice varieties, which have helped prevent flooding and improved food security."* Meanwhile, tree planting needs to extend beyond this phase to 'tree growing' to ensure sustainability of such initiatives.

3.3.3 Education and awareness

It was evident in this study that women leaders are key facilitators of community empowerment. Through organized sensitization programs and literacy campaigns, they educated their communities on CC impacts and sustainable adaptation strategies. By fostering a shared understanding of climate risks and solutions, women leaders inspired collective action and motivated community members to adopt adaptive practices. These efforts were instrumental in equipping local populations with the knowledge to make informed decisions about agriculture, waste management, and disaster prevention.

One notable example of this influence came from community-led workshops on sustainable practices like composting and energy-efficient cooking, which were widely adopted following awareness campaigns. Women leaders also acted as knowledge intermediaries, translating technical climate information into relatable and actionable messages for their communities at the grassroot levels.

Women's leadership also extended to raising community awareness and encouraging participation in adaptation activities. According to one of the women leaders (Female/36/ND/CRR), *"Our actions of adapting to climate change influence all community members to follow suit. If we engage in any activity, it becomes the focus of society because of our powerful influence."*

3.3.4 Waste management

About two-third (61%) of women leaders in this study areas took initiative of transforming solid waste, such as cow dung and poultry droppings, into organic fertilizers. These practices can promote sustainable agriculture and also reduce reliance on costly and environmentally harmful inorganic fertilizers. However, the women and their leadership still need to be trained on waste segregation.

3.3.5 Disaster management

Women also contributed to disaster management by spearheading flood prevention measures and mobilizing community responses to emergencies, enhancing resilience at the grassroots level. Meanwhile, early response and coping mechanisms prior to the disaster management should be targeted by the women and their leadership. Also, the women leadership also need to be trained on Gabion construction (Figure 6).

Figure 6: Gabion construction by community members

Source: AAITG (Kudang Office)

3.3.6 Less common areas of influence

While their influence in sectors like renewable energy (e.g., solar-powered agricultural systems), water management, health and sanitation, transportation, fisheries and coastal management were less pronounced, these areas are still relevant highlighting their willingness to engage in diverse opportunities.

Notably, women leaders excelled in mobilizing their communities, leveraging traditional knowledge, and fostering collective action. Their contributions, though largely informal, underscore their critical role in addressing the multifaceted challenges of CC. By prioritizing local needs and utilizing their resourcefulness, these concerned women leaders seem to be indispensable agents of resilience and sustainability in their communities. Their influences highlight not only women's leadership direct contributions but also the potential for scaling up their influence in formal structures, which remains an untapped opportunity for achieving broader climate adaptation goals. They also need to be given equal opportunities as men in community development.

3.4 Potential Benefits of Women-Led CC Initiatives

Women leaders in the study areas have spearheaded certain CC adaptation initiatives, leveraging community mobilization, traditional knowledge, and resourcefulness to address environmental challenges (Table 4). These efforts, while largely informal, have made significant contributions to local resilience and sustainable practices. It also highlights the essential role of women leaders in addressing CC challenges through certain locally-driven initiatives.

The women leaders provided firsthand accounts of their impactful roles. For example, a respondent (Female/40/NE/CRR) with over 10 years of experience in leadership shared, *"In my leadership capacity, I mobilized women to embark on massive tree planting. Today, once empty areas are now full of fruit trees that provide us food and windbreaks."*

Another women leader (Female/39/NW/CRR) with up to 5 years of experience in leadership highlighted their proactive flood management measures, saying, *"We fill many bags with sand and use them as barriers to floods, which helps protect our rice fields from saltwater intrusion."*

Another respondent (Female/35/ND/CRR) emphasized waste management initiatives - *"We make compost manure from animal waste, which has reduced chemical use and improved soil fertility."*

Table 4: Key initiatives led by women and their potential benefits

Initiative	Description	Potential benefit
Tree planting and reforestation	Women mobilized communities to plant fruit and indigenous trees, creating embankments to prevent floods and erosion.	Increased tree cover provided food, windbreaks, and shade for livestock while protecting the environment.
Flood and erosion control	Constructed sandbag barriers and embankments to manage flooding and saltwater intrusion.	Protected farmlands, particularly rice fields, enhancing agricultural productivity and food security.
Waste management and composting	Promoted monthly clean-ups and composting animal and plant waste into organic fertilizer.	Improved sanitation, soil fertility, and reduced dependence on chemical fertilizers.
Renewable energy adoption	Secured solar panels for households, reducing reliance on kerosene lamps and charcoal.	Enabled children's night studies, reduced energy costs, and supported sustainable practices.
Small ruminant exchange	Women leaders initiated programs where livestock are raised and exchanged among members.	Improved household income, strengthened social cohesion, and enhanced community resilience.
Agricultural adaptation	Introduced fast-growing rice varieties and diversified crops to adapt to erratic rainfall patterns.	Increased food production and improved nutrition in communities.

3.5 Opinions Concerning Women's Leadership Influence

The assessment in this study revealed a range of views regarding the influence of women's leadership on CC adaptation strategies (Table 5). While 61% of the respondents in this study recognized women's leadership as having a significant positive impact, others perceived the influence as limited, highlighting varying experiences and outcomes across communities.

Table 5: Opinion on women's leadership influence on CC adaptation strategies (n = 36)

Opinion	Frequency	Percent (%)
Some positive influence	22	61
Strongly positive influence	8	22
Little influence	4	11
Unsure	1	3
No influence	1	3

In some communities, respondents noted that women's leadership initiatives lacked scale or resources to create a significant impact. A few respondents expressed concerns about the limited formal training available to women leaders and the challenges in securing necessary funding. As a women leader (Female/37/ND/CRR) remarked, *"Our efforts are minimal due to the minimal of resources and funding to embark on meaningful initiatives that will have a greater impact."*

Collaboration between women leaders and male counterparts was described as a mixed experience. While some men provided critical support for women-led initiatives, others were hesitant or indifferent. For instance, a women leader (Female/42/NW/CRR) stated, *"The men like the Alkalo and Village Development Committee chairperson mostly support our actions, but if they don't agree, it won't work."*

Conversely, there were instances where women leaders faced resistance or scepticism. Despite this, they remarked that they mostly continued to advocate for their initiatives. As a women leader (Female/38/NE/CRR) explained, *"We often face confrontations with men, but we still push our agenda, and in some cases, they accept our ideas and work with us."*

The findings emphasize the need to leverage the strengths of women's leadership in community mobilization and strategy implementation, while addressing the gaps that hinder broader influence. Strengthening women's capacity and providing consistent institutional support could

amplify their leadership influence in CC adaptation. A key informant (Male/58/NW/CRR) aptly remarked, *"Most of the successful projects in our communities are run by women, while the failed ones are run by men."* This insight reinforces the potential of women leaders to drive effective and sustainable adaptation strategies when adequately empowered.

3.6 Barriers Hindering Women's Leadership in CC Adaptation

The following barriers (Table 6), deeply rooted in cultural, educational, political, and resource-based inequalities, continue to undermine women's potential to lead and contribute effectively to adaptation strategies.

Table 6: Barriers limiting women leadership roles in CC adaptation (n = 36)

Barriers	Frequency	Percent (%)
Limited education or training opportunities	34	94
Cultural norms and gender roles	33	92
Inadequate access to resources (e.g. funding, land, tools)	31	86
Limited self-confidence in leadership roles	29	81
Time constraints due to household duties	28	78
Male-dominated decision-making structures	23	64
Inadequate female role models in leadership	12	33
Political marginalization	12	33
Others*	16	44

* Note: Others included traveling constraint to attend numerous meeting; taking care of my family due to leadership engagement; too much suspicion of the people you lead about the benefits they think you are getting as a leader; limited cooperation among women; misconceptions on educated women that they are controlling; women being reserved and do not want to be ashamed; jealousy from fellow women and husbands; fear of competing with men in leadership; inadequate self-confidence; limited awareness in both females and males especially about CC issues.

3.6.1 Limited Education and Training Opportunities

Up to 94% of the respondents in this study asserted that limited access to formal education and training have hindered women's capacity to lead and contribute to climate adaptation. This gap in

education also prevents women from accessing opportunities to build their leadership skills or influence policy changes.

Furthermore, certain women still lack the skills and knowledge necessary for effective leadership, advocacy, and strategic decision-making.

"Education is the hardest challenge because when women are educated, they are empowered. But many men don't believe in empowering women and female children through education because they believe that this can make them uncontrollable in their matrimonial houses." A women leader (Female/38/ND/CRR) shared.

Another women leader (Female/36/UN/NBR) emphasized the need for training, stating, *"We as women need to be well-educated to reason better and think critically on what to do to improve our status in society."*

3.6.2 Cultural Norms and Gender Roles

Cultural norms and entrenched gender roles emerged as one of the most common barriers. Certain communities still perpetuate traditions that discourage women from assuming leadership roles or participating in decision-making processes. These norms reinforce the perception of women as primarily responsible for domestic duties, limiting their public and leadership involvement.

For example, a women leader (Female/44/NE/CRR) lamented, *"The cultural norms and gender roles are very difficult to overcome, especially in these rural areas. Many residents are not exposed, and the women are not educated. Even the women support these norms and stereotype gender roles."* Such barriers extend to inheritance practices that disproportionately disadvantage women. *"Women are denied access to inherited land once they marry and settle with their husbands. This belief weakens our ability to adapt to climate change because we lack control over land,"* she explained.

3.6.3 Inadequate Access to Resources

Women often face limited access to resources such as funding, land, and tools essential for implementing adaptation strategies. This inadequate resource not only constrains their leadership efforts but also undermines their ability to mobilize communities effectively.

A respondent (Female/43/NE/CRR) noted, *"Resource mobilization is the most difficult challenge to overcome. Writing a project proposal for funding is difficult, and we are unable to get the required funding."* She added, *"Most of the women are breadwinners, and we struggle to feed ourselves. Access to resources would greatly improve our situation."*

3.6.4 Time Constraints and Household Responsibilities

Balancing leadership roles with household responsibilities remains a significant challenge for 78% of the women leaders in this study. For instance, caregiving and domestic duties consume much of their time, leaving little room for public or leadership activities. A respondent (Female/46/NE/CRR) explained, *"The family's responsibility impacts my leadership duty. Some people even do things to prevent me from my activities, but I try to manage."*

3.6.5 Male-Dominated Decision-Making Structures

Male-dominated leadership structures can further marginalize women, as noted in this study. Certain respondents (64%) claimed that certain men are reluctant to share decision-making power with women, fearing a loss of authority or status. This resistance often translates into limited opportunities for women to participate in formal leadership roles.

A key women leader (Female/34/ND/CRR) observed, *"The men in our community think they have absolute rights over us as their wives. Changing this concept is difficult since men generally think changing the status quo will make them naive or they will be seen as laisser-faire leaders in society"*

However, there are instances of supportive male counterparts. For instance, a key informant (Male/58/NW/CRR) remarked that:

> *"The Chief in Niamina has supported women to take part in district courts and preside over cases especially when it comes to marriage and deforestation etc. This has boosted the morale of women and they served as role models to others. By supporting them in key decision-making at all tiers, they are vigilant and report anyone found acting contrary to set policies of protecting our forest or waste discriminate disposal. Women are also nominated or elected in the Village Development Committees and as councillors. Our Alkalo gave us a land that we use as a garden and it is improving our standard of living."*

3.6.6 Political Marginalization

Women in the study areas are underrepresented in formal political structures, which further limits their ability to influence policy and decision-making. Such a political marginalization seemed to stem from entrenched patriarchal systems and societal scepticism about women's leadership capabilities.

A particular women leader (Female/40/UN/NBR) expressed her dissatisfaction stating that, *"The main problem is that we do not support ourselves. Many women would rather rally behind men vying for political positions than support female candidates."* Another leader (Female/44/NW/CRR) noted, *"Many of us are not included in decision-making bodies like village development committees. Limited representation of women makes it harder to advocate for gender-sensitive policies."*

Still on the issue of political marginalization, another women leader (Female/42/NW/CRR) expressly remarked:

> *"Jealousy from men is the hardest barrier against women leadership roles in general. Some men always have the notion that women are emotionally fragile and influential men can overcome them in gathering. They fear losing command and respect in the community due to spouse interaction and rumours that are mostly not true. They are adamant to change and paranoid to loss command in their household."*

3.6.7 Limited Confidence and Role Models

The absence of female role models in leadership contributes to a inadequate confidence among women, further exacerbating their underrepresentation. Certain women feel unprepared to take on leadership roles due to societal attitudes and fear of public criticism. A respondent (Female/39/ND/CRR) remarked, *"Women lack confidence in taking up leadership roles because they fear public shaming and ridicule. They would rather avoid the risk of being disgraced."*

3.7 Men's Response to Women's Leadership in CC Adaptation

The relationship between male and female leadership in CC adaptation within the study areas is characterized by a mix of support, indifference, and resistance (Figure 7). While certain male leaders actively support women's initiatives, others undermine or fail to acknowledge their contributions, reflecting deeply rooted societal norms and power dynamics.
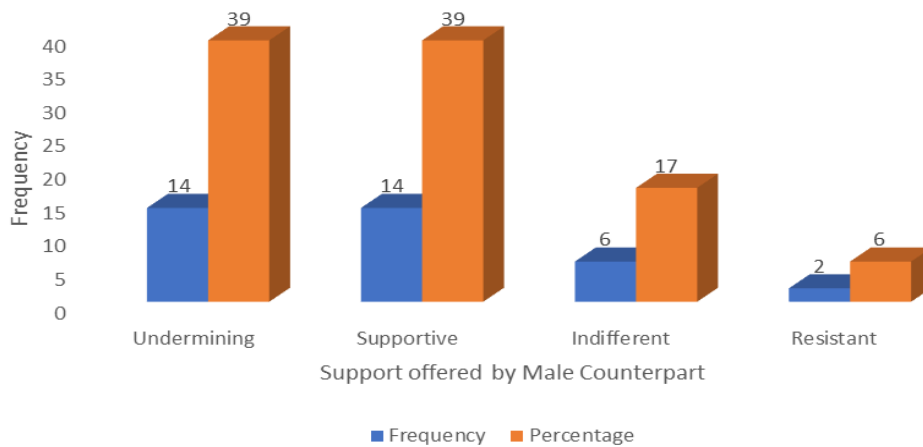
Figure 7: Males' response to women's leadership in climate change adaptation

Source: Field Survey (2024)

3.7.1 Supportive Roles

Certain men, particularly at the community level, provide essential support for women's leadership, contributing to the success of CC adaptation activities. This support is often noticeable in joint labour-intensive activities, advocacy for women's rights, and logistical aid. For instance, men frequently assist with physically demanding tasks such as building flood barriers and digging holes for tree planting. A Female/36/NW/CRR remarked, *"Under my leadership as a woman, we initiated building barriers to prevent floods. Our male counterparts joined us, contributing both finance and labor to make our work successful."*

Male village heads (Alkalos) have been instrumental in granting women access to land for agricultural purposes and supporting their initiatives. Female/38/NW/CRR highlighted, *"The Alkalo gave us land to use as a garden and stamped authentic papers showing we are the legitimate owners. He also supports any other activity we take up."*

Male leaders have also supported women's inclusion in decision-making structures. For example, a local Chief in the North Bank Region appointed a woman to his district tribunal, which empowered women to address sensitive issues such as marital conflicts and abuses, and also improved women's confidence in leadership and broader community engagement.

3.7.2 Indifference and Resistance

Despite these positive examples, a significant portion of male leaders exhibit indifference or resistance to women's leadership. Male leaders sometimes limit their support to initiatives that directly benefit them or the community, avoiding involvement in activities that could elevate women's independence or status. A Female/38/NW/CRR shared, *"Men support initiatives in the community because they know all proceeds come back to the house, but they are uncomfortable with their women mingling with influential men outside the community."*

Resistance is also reflected in incidents where male leaders actively obstruct women's efforts. For instance, one respondent recounted how a potential donor's support for a women's group was blocked by the Alkalo's brother, who denied the women the opportunity to engage directly with the donors. Female/42/NW/CRR stated, *"Some men discourage women from saving money in associations by spreading misinformation that the leaders would misuse the funds."*

Jealousy, entrenched patriarchal norms, and fears of diminished authority among men were mentioned as recurring barriers to male support. Female/28/UN/NBR noted, *"Jealousy is the hardest barrier. Men fear losing command and respect in the community if women take leadership roles."* Additionally, certain male leaders are reluctant to allow women to participate in activities that involve traveling or collaborating with male counterparts outside the community.

3.8 Successful Community Support for Women Leadership in CC Adaptation

Several support initiatives provided to women leaders in CC adaptation have been notably successful. These include access to resources, training programs, etc.

3.8.1 Training and Education Programs

Training programs have empowered women to adopt innovative strategies and lead impactful initiatives. For example, women learned how to produce organic fertilizers, reducing dependency on expensive inorganic alternatives and improving soil health. Additionally, training in sustainable agricultural practices, such as cultivating fast-maturing rice varieties, has enhanced food security. As a respondent (Female/46/UN/CRR) highlighted: *"We now cultivate fast-growing rice seeds, and this has made us produce enough to feed our families. This year, we won't need to buy imported rice."*

Meanwhile, certain stakeholders suggested including financial literacy, group dynamism and management as well as training of trainers for stepdown training of group members in the training package for women leaders. Such trainings need to be on a continuous basis.

3.8.2 Facilitating Access to Resources

Providing resources such as land and tools has enabled women to establish productive gardens and support small ruminant production. These activities have boosted income and improved resilience. A particular women leader (Female/45/ND/CRR) explained, *"The resources provided are still being used in the garden for vegetable production. This has reduced our expenditure and improved our livelihoods."* Policy-driven support, like allocating land to women, has also been successful despite challenges. Another women leader (Female/43/ND/CRR) noted: *"The land allocated to us has been helpful, but without fencing, our crops are vulnerable to livestock destruction."*

3.8.3 Recognition and Policy Implementation

Recognizing women's contributions through policies promoting gender equality has fostered empowerment and boosted participation in decision-making. A women leader (Female/43/UN/CRR remarked: *"Inclusion of a woman in the district tribunal is working well because many women are now freely sharing their stories and actively involved in decision-making."*

3.8.4 Networking Opportunities

Partnerships with organizations like the Forestry Department have enhanced women's understanding of sustainable environmental practices. A women leader Female/46/NW/CRR recalled: *"Once, 'AA' initiated networking between our women group and the Forestry Department. It helped us protect our forest resources, and today many are serving as watchdogs for the remaining forest."*

Meanwhile, There should also be opportunities to attract the young one to CC adaptation initiatives as well.

3.9 Unsuccessful Support Mechanisms for Women's Leadership in CC Adaptation

While some support mechanisms have been impactful, several factors have however limited their success. These include:

3.9.1 Relocation of Trained Individuals

The movement of trained individuals to other areas often disrupts the continuity of community initiatives. As a women leader (Female/41/ND/CRR) explained, *"The women who were trained on how to make compost are no longer around. One went to marry, and the other is a teacher who has been posted elsewhere."*

3.9.2 Limited Male Support

Resistance from male counterparts has hindered the effectiveness of women's initiatives. A women leader (Female/42/NE/CRR) recounted, *"My village was supposed to benefit from a project, but the VDC chairman denied us the opportunity. Instead, he chose someone who knew nothing about the issue, and the village lost that funding."*

3.9.3 Limited Follow-Up and Resources

About two-third of the respondents (64%) of the women interviewed in this study expressed frustration with the inadequate consistent support or follow-up. For instance, a women leader (Female/42/NW/CRR) said: *"We had training once, but we are yet to receive additional support. Without tools and resources, our efforts remain minimal."*

3.9.4 Cultural Resistance

Deeply entrenched cultural norms and gender roles have prevented certain women from fully utilizing support. A women leader (Female/45/NW/CRR) explicitly explained: *"Many residents are resistant to change, and even some women support the norms that limit their leadership opportunities."*

3.10 Roles of external organizations in supporting women's leadership in CC adaptation

External organizations, including NGOs and government agencies, play a critical role in empowering women leaders to address CC adaptation challenges. By offering targeted support such as technical training, funding, and capacity-building, these entities equip women with the tools and resources needed to implement effective adaptation strategies (Table 7). Additionally, through advocacy for gender-sensitive policies and fostering partnerships, these organizations create enabling environments where women can lead with confidence and influence decision-making processes, thereby amplifying their impact in building climate-resilient communities.

Table 7: External organizations' support for women leaders in CC adaptation

Role of external organizations	Frequency	Percent (%)
Offering technical training and capacity-building	34	94
Providing funding and resources	32	89
Facilitating networking and partnerships	31	86
Advocating for gender-sensitive policies	29	81
Recognising and supporting local women leaders	29	81
* Others	13	36

* Others - Providing a garden; Empowering women leadership at all levels; Exposing women to effective leadership strategies; Mentorship; Provision of drought tolerant crops and poultry for effective adaptation to CC; Raising awareness for the people to understand fully the adaptation strategies to CC available; Sensitization of male leaders in the community to support women leadership roles.

3.10.1 Technical Training and Capacity Building

Training and capacity-building programs are among the most effective ways to equip women with the knowledge and skills needed to lead CC adaptation initiatives. Almost all the participants (94%) emphasized the importance of targeted education to enhance their understanding of climate adaptation strategies and leadership roles.

A women leader (Female/45/NE/CRR) shared, *"Offering technical training and capacity building will make us well-informed citizens and help us lead effectively in our communities."* She further added, *"Capacity building is key; it can positively impact the race for women leadership in CC adaptation."*

3.10.2 Provision of Funding and Resources

Access to funding and resources was highlighted as the most immediate and impactful support that external organizations can provide. Funding enables women leaders to implement adaptation strategies, support entrepreneurship, and improve their economic independence.

Participants explained that funding has been essential for community projects, such as establishing vegetable gardens, tree planting initiatives, and small-scale livestock farming. *"Provision of funding is the most important because we can use it to venture into any activity we*

choose," Female/42/ND/CRR noted. She added, *"Funds can make all other strategies succeed. It is the money that will be used to get any service or resource you want."*

3.10.3 Facilitating Networking and Partnerships

Up to 86% of women leaders in this study highlighted that networking opportunities have allowed women leaders to build connections with other organizations and communities, enabling resource-sharing and collective action. This approach enhances their capacity to lead and implement large-scale adaptation projects.

Female/38/ND/CRR emphasized, *"When we know about networking, we tend to build partnerships with other institutions and go out for ourselves."*

3.10.4 Advocating for Gender-Sensitive Policies

Strong advocacy for gender-sensitive policies by external organizations was identified as critical for creating an enabling environment for women leaders. Such policies that address systemic issues like male-dominated decision-making structures and cultural barriers were particularly emphasized in this regard. Others called for policies that ensure fair resource distribution and formalize women's roles in leadership.

A women leader (Female/28/UN/NBR) highlighted, *"Advocating for gender-sensitive policies can empower women, especially in communities where men take advantage of women's vulnerabilities."*

3.10.5 Recognition of Women's Leadership

Recognizing and celebrating local women leaders can inspire others to take on leadership roles and contribute to CC adaptation. Beyond individual inspiration, public recognition can foster community-wide appreciation of women's contributions, paving the way for greater acceptance of gender-balanced leadership. External organizations like AAITG can further amplify this impact by organizing award ceremonies, sharing success stories in local and national media, and facilitating peer mentorship programs to enhance skills and visibility. A women leader (Female/39/NE/CRR) noted, "*Recognition and support of local women leaders will encourage others to emulate them, seeing their achievements being acknowledged.*"

3.10.6 Additional Areas of Support

Other suggestions gathered from the participants in this study included providing mentorship programs, promoting drought-resistant crops, raising awareness about CC impacts, and sensitizing male leaders to support women's leadership roles. A women leader (Female/38/NE/CRR) remarked, *"Donors should engage grassroots communities directly, exposing women to effective adaptation strategies and empowering them at all levels."*

Additionally, respondents emphasized the need for sustained capacity-building initiatives to equip women with leadership and technical skills critical for effective decision-making in CC adaptation resilience building. For example, having community's seed and cereal banks was suggested by stakeholder. They also called for collaborative policy development processes, ensuring that local women leaders are active participants in shaping gender-sensitive and inclusive CC strategies.

3.11 Roles of communities in supporting women's leadership in CC adaptation

Efforts to increase women's leadership in CC adaptation across the study areas have focused on education, resource access, community engagement, and policy reforms (Table 8). Such steps aim to address systemic barriers while empowering women to play active and impactful roles in climate resilience efforts.

Below is an analysis of the most prominent steps taken or that can be taken by communities, being supported by key insights and examples from the participants.

3.11.1 Leadership Training and Education

Training was recognized as a foundation for empowering women, equipping them with the knowledge and skills to lead effectively in climate adaptation initiatives. In this regard, one of the most impactful roles that communities can play include local support for women's leadership training programs.

A key informant (Male/30/NE/CRR) remarked, *"Training and mentoring women is key in helping them improve their leadership skills. After this, they would need funding to implement their activities earmarked for climate change adaptation."* Women who have undergone training reported increased confidence and the ability to implement practical strategies, such as compost-making and tree planting, to combat climate impacts.

Table 8: Steps communities can take to increase women's leadership in CC adaptation

Steps	Frequency	Percent (%)
Establish women's leadership training programs	36	100
Raise awareness campaigns focused on the value of women in leadership roles	36	100
Organize community meetings or forums for women to share ideas and experiences	32	89
Provide women with access to community resources (e.g., land, equipment, materials)	31	86
Encourage male leaders to mentor or support women in leadership	31	86
Implement community policies that promote gender equality in leadership roles	30	83
Recognize and reward women who have led successful adaptation initiatives	29	81
Others*	6	17

*Others: Take many girls to school and help them complete their education; Facilitate transportation of women leaders, either by giving transport refunds or give access to mobility of women leaders; Encourage men to commit themselves by allowing the women to actively participate in our activities; Make men understand that women leadership does not undermine the husband's position in the house.

3.11.2 Raising Awareness Campaigns

Awareness campaigns focused on the value of women's leadership in climate adaptation were very appreciated. Such campaigns not only educate communities about the importance of women's participation but also challenge societal norms that hinder women's leadership.

A women leader (Female/38/NW/CRR) noted, *"Raising awareness campaigns focused on women's leadership is significant because it enables others to come on board and support our efforts."* These campaigns should highlight successful women leaders as role models, fostering inspiration and encouraging broader participation.

3.11.3 Access to Community Resources

Providing women with access to community resources, such as land, tools, and materials, has been a crucial step. This access enables women to implement climate adaptation strategies independently and sustainably.

"Providing women with community resources allows us to raise funds and implement other activities on our own", a respondent (Female/36/NW/CRR) explained. Examples include producing organic fertilizers, engaging in small ruminant projects, and cultivating fast-maturing crop varieties. These efforts have strengthened women's economic independence and increased their influence in community decision-making.

3.11.4 Community Engagement and Forums

Organizing community meetings and forums for women to share ideas and experiences has proven effective in fostering collaboration and collective action. These forums serve as platforms for women to voice their challenges, share successes, and discuss actionable solutions.

A women leader (Female/36/NE/CRR) highlighted the benefits, stating, *"Community meetings allow us to discuss challenges and implement ideas. This approach is working, especially in engaging men to support our actions."* Forums have also been instrumental in addressing sensitive issues like early marriage and female genital mutilation, further demonstrating the broad scope of these engagements.

3.11.5 Encouraging Male Support and Mentorship

Encouraging male leaders to mentor and support women in leadership was indicated by 86% of the respondents as a critical strategy in breaking down resistance to women's leadership. By involving men as allies, communities can have gradual shift in attitudes toward gender equality in leadership roles.

As remarked by a women leader (Female/38/NE/CRR), *"Sensitization of male partners to better understand the importance of women's leadership is helping us gain their support in our initiatives."* However, resistance from male leaders remains a challenge, emphasizing the need for sustained efforts in this area.

3.11.6 Policy Implementation and Advocacy

Community policies that promote gender equality in leadership roles can lay groundwork for more inclusive decision-making structures. Advocacy for gender-sensitive policies remains essential in ensuring these changes are institutionalized and sustained.

A women leader (Female/28/UN/NBR) emphasized, *"Policies geared toward making women lead in climate change adaptation are crucial because some male leaders will only change with enforced policies."* Successful policy implementation can also to greater recognition of women's contributions, including their nominations to village development committees and other decision-making bodies.

3.11.7 Recognition and Reward for Women Leaders

Community recognition and rewarding of women who have led successful climate adaptation initiatives will motivate and validate their efforts. Such recognition can also raise the profile of such women leaders, encouraging more women to step into leadership roles.

A women leader (Female/43/NE/CRR) stated that, *"The women leaders who are recognized for their efforts inspire others to participate actively, as they see the tangible benefits of their work."*

4. RECOMMENDATIONS

To address the challenges identified and build on the successes of women's leadership in CC adaptation, this study outlines the following priority areas for action. These recommendations are designed to be practical and actionable, emphasizing capacity building, resource accessibility, policy advocacy, and community engagement. By prioritizing these areas, stakeholders, including policymakers, development partners, and local communities, will be able to support women leaders in overcoming barriers and enhancing their roles in CC adaptation efforts.

a. Capacity building and education

Organize regular, community-based training programs to equip women leaders with technical skills in CC adaptation, resource mobilization, and leadership. In addition, introduce literacy and awareness campaigns focused on addressing cultural barriers and promoting gender equity in leadership roles. These programs should emphasize practical applications, such as sustainable agriculture techniques and climate-smart practices, while fostering confidence and decision-making skills. Partnerships with educational institutions and NGOs can further enhance access to specialized knowledge and resources, ensuring long-term capacity enhancement for the concerned women leaders.

b. Access to resources and funding

Establish women-focused funding mechanisms for CC projects with simplified application processes to ensure accessibility and inclusivity. Additionally, supply critical materials such as drought-resistant seeds, energy-efficient stoves, and composting tools to bolster community-led adaptation efforts. These resources should be accompanied by capacity enhancement and skill upgrade initiatives to maximize their effective use and promote sustainable CC solutions.

c. Policy and institutional reforms

Advocate for gender-sensitive policies that increase women's representation in decision-making at local and national levels. Policy reforms promoting equitable access to land, tools, and other critical resources to empower women is very important in this regard. Establishing accountability mechanisms to monitor the implementation of these policies can further ensure sustainable **progress toward gender equality in CC adaptation leadership.**

d. Mentorship and networking

Develop structured mentorship programs linking seasoned women leaders with emerging ones to foster confidence, leadership skills, and strategic decision-making capabilities. Furthermore, creating regional and national networking platforms can enable women to share best practices, exchange innovative ideas, and build partnerships that strengthen collective efforts in CC adaptation. These initiatives should also include opportunities for cross-sector collaboration, enhancing access to diverse resources and expertise.

e. Engagement of male counterparts

Conduct community dialogue sessions to encourage male leaders to actively support women's leadership initiatives, fostering a shared vision for climate change adaptation. Joint leadership models should be implemented to promote collaboration between men and women, ensuring that both genders work together toward effective and inclusive adaptation strategies. By involving men as allies and advocates for women's leadership, traditional gender roles can be gradually redefined to reflect equity and mutual respect. This approach not only amplifies the reach and impact of CC adaptation initiatives but also creates a supportive environment where collective decision-making and shared responsibility become the norm, strengthening community resilience to climate challenges.

f. Monitoring and evaluation

Develop comprehensive monitoring frameworks with clear indicators to measure the impact and outcomes of women-led CC initiatives, including their contribution to resilience, sustainability, and gender equality. Utilize participatory evaluation methods to engage communities and stakeholders in assessing progress, ensuring transparency and inclusivity. Findings from such evaluation could guide adjustments in program design, promote evidence-based decision-making, and support scaling of successful initiatives.

5. CONCLUSION

The study underscores the integral role of women's leadership in driving climate change adaptation strategies within the Central River Region South and North Bank Region of The Gambia. Through an in-depth exploration of leadership roles, challenges, and external support mechanisms, the research demonstrates that women leaders, despite operating largely within informal structures, contribute significantly to community resilience and adaptation efforts. This includes activities such as agriculture, tree planting, resource mobilization, and raising awareness about climate change impacts. These efforts not only enhance environmental sustainability but also address the socio-economic vulnerabilities exacerbated by climate change.

The research highlights persistent barriers hindering women's full participation in leadership roles. Limited education, cultural norms, inadequate access to resources, and male-dominated decision-making structures continue to undermine women's leadership potential. Time constraints and societal expectations further compound these challenges, limiting women's ability to engage meaningfully in decision-making processes. Despite these obstacles, the study finds that women leaders exhibit remarkable resilience and ingenuity, often mobilizing resources and creating informal networks to advance their initiatives.

External organizations, such as NGOs and government agencies, play a pivotal role in supporting women leaders. Providing funding, technical training, mentorship, and facilitating networking opportunities have proven effective in enhancing women's capacity to lead. Additionally, advocating for gender-sensitive policies and recognizing women's contributions can help dismantle systemic barriers and promote inclusivity.

This research also provides actionable insights for policy and program development. The findings emphasize the need for targeted interventions that address the barriers faced by women while strengthening their leadership capabilities. By integrating women's leadership into climate change adaptation strategies, communities can achieve more sustainable and equitable outcomes, promote gender equity in leadership, and ultimately contribute to broader societal resilience against climate change impacts.