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Gender, Protection and Inclusion in Anticipatory Action - Tanzania Analysis

Country Report

September 2025

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Acronyms

AA	Anticipatory action
AA-GPI	Anticipatory action – gender, protection and inclusion
AIDS	Acquired immunodeficiency syndrome
CBO	Community based organization
CCRO	Certificate of Customary Right of Occupancy
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
CLEAR-AA	Centre for Learning on Evaluation and Results – Anglophone Africa
CRPD	Convention on the Rioghts of Persons with Disabilities
CSP	Country strategic plan
CSO	Civil society organization
DC	District Commission
DED	District Executive Director
FAO	Food and Agriculture Organization
FBO	Faith based organization
FISP	Farmers Input Support Programme
GBV	Gender based violence
GDP	Gross domestic product
FGD	Focus group discussion
HIV	Human immunodeficiency virus
IDP	Internally displace persons
KII	Key informant interview
JICA	Japan International Cooperation Agency
NAPA	National Adaption Programme of Action
NBS	National Bureau of Statistics
NCCRS	National Climate Change Response Strategy
NGO	Non-governmental organization
PD-MIS	Person with Disability Management Information System
PMO	Prime Minister's office
SDG	Sustainable Development Goal
SPSS	Statistical Package for the Social Sciences
TDV	Tanzania Development Vision
TMA	Tanzania Meteorological Agency
UN	United Nations
UNDP	United Nations Development Programme
UNGA	United Nations General Assembly
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
UNPRPD	United Nations Partnershin on the Rights of Persons with Disabilities
UN Women	United Nations Entity for Gender Equaility and the Empowerement of Women
USD	United States dollar
URT	United Republic of Tanzania
WC	Ward Chairperson
WEO	Ward executive officer
WFP	World Food Programme

Foreword

Climate shocks are becoming more frequent, more intense, and inequitable in their impact, and Tanzania is no exception. Each year, droughts, floods, and other hazards disrupt lives, damage food systems, and threaten the livelihoods of rural communities. Our response must evolve, swiftly and strategically.

Anticipatory Action is more than an innovative concept. It is a forward-looking strategy that enables us to act before disaster strikes. By rolling out mitigation plans ahead of extreme weather events, we can reduce their impact, especially on food security and nutrition.

These shocks disproportionately affect vulnerable groups: women, girls, the elderly, persons with disabilities, refugees, and other marginalized populations. Anticipatory Action allows us to integrate early warning systems with proactive measures, such as livelihood support and targeted interventions, to protect those most at risk.

For this approach to succeed, it must tackle the structural inequalities that leave vulnerable groups more exposed to climate risks and less able to recover. It must also address human crises like gender-based violence. That's why WFP integrates gender, protection, and inclusion into every stage of anticipatory action - from design to implementation and monitoring.

This study, conducted with the support from NORAD, is much more than an analytical exercise. It is a roadmap for transformation. It captures the experiences and realities of communities across 10 high-risk districts in Northern and Central Tanzania and Zanzibar: Longido, Monduli, Kiteto, Simanjiro, Handeni, Same, Mkalama, Kondoa, Meatu, and Micheweni.

The findings reveal critical gaps in gender, protection, and inclusion. They challenge us to rethink how we make decisions and offer practical solutions toward a more people-centered approach—one grounded in equity, dignity, and inclusion.

I extend my sincere appreciation to everyone who contributed to this study, and to the communities who generously shared their stories. Your voices guide our work.

At WFP, we remain fully committed to supporting the United Republic of Tanzania in building a more inclusive, ambitious, and gender-transformative anticipatory action programme.

Ronald Tran Ban Huy
Country Director
World Food Programme
Tanzania

Executive Summary

Background

The World Food Programme (WFP) Regional Bureau for Southern Africa commissioned CLEAR-AA to conduct a gender, protection, and inclusion **analysis** for West and southern Africa, specifically **to inform WFP's Anticipatory Action (AA) programming** in Tanzania. The study examined the challenges faced by vulnerable populations during climate shocks, providing recommendations to strengthen WFP's response. Since 2015, WFP has implemented AA programmes across 38 countries including Tanzania, helping communities mitigate and adapt to natural hazards through early warning systems and proactive interventions. Recognizing that women, children, and marginalized groups are disproportionately affected, the Tanzania AA programme, launched in 2023, focuses on high-risk areas prone to droughts and floods. The Programme aims to enhance resilience, reduce food insecurity, and protect livelihoods, particularly for vulnerable groups such as women, children, and pastoralist comunities.

Country context

Agriculture is vital to Tanzania's economy, yet the sector remains highly vulnerable to climate change, particularly for small-scale farmers and women who face systemic barriers in accessing resources. Despite their significant role in agriculture, women are disproportionately affected due to **gender inequalities** in land ownership, water access, and financial services, limiting their ability to adapt to climate shocks. While Tanzania has made progress in promoting gender equality through policies like the National Gender Policy and the National Strategy for Gender Development, cultural and societal barriers continue to restrict women's access to resources, education, and decision-making. Persistent gender disparities, **especially in rural areas**, highlight the need for stronger enforcement of legal frameworks and community-driven interventions to foster genuine inclusion and empowerment.

Methodology

The survey employed a **gender-transformative and intersectional approach** to examine the impact of climate change on different social groups, focusing on power dynamics, social norms, and gender roles. Using a **convergent parallel mixed methods design**, it integrated quantitative and qualitative data to capture diverse community perspectives. The participatory, community-led study explored gender, protection, and inclusion issues through **structured surveys**, **focus group discussions**, **key informant interviews**, and **observations**, emphasizing how factors like gender, age, and ethnicity shape vulnerability and resilience to climate impacts.

Findings

The study sample primarily comprised rural residents with a balanced gender distribution. Most respondents were young, particularly aged 18–39, with the majority having completed primary or secondary education. Self-employment was the dominant occupation, though significant gender disparities existed, with more women lacking education or employment. The survey also highlighted ethnic diversity, religious affiliations, and **women's disproportionate childcare burden**, which limits their economic and educational participation.

SOURCES OF INFORMATION ON CLIMATE HAZARDS

The findings show that traditional media, particularly local radio (67.3%) and television (44.0%), are the primary sources of climate hazard information in rural areas, with limited internet access. Women rely more on informal networks like friends and family (55.7%), and a **higher proportion of women** (66.2%) reported **not receiving climate information** compared to men
(33.8%).

EXPOSURE TO CLIMATE-RELATED HAZARDS AND IMPACTS

The findings on climate hazard awareness indicate that **drought** is the **most reported hazard** (88.4%), followed by agricultural pests and diseases (49.1%) and floods (46.5%). Men demonstrated higher awareness of climate-related hazards than women. Regarding perceptions of climate events, 58% of respondents believe these hazards occur frequently or very frequently. Notably, **72.3%** of **women reported having no knowledge of climate change causes**, **compared to 27.7% of men**, highlighting a gender gap in climate awareness.

In terms of knowledge about climate hazards, 65.1% of men attributed them to natural processes, compared to 34.9% of women. Similarly, 63.7% of men and 36.3% of women linked climate hazards to human activities, while 60.6% of men and 39.4% of women cited inadequate infrastructure as a contributing factor.

Community preparedness measures also reflect gendered priorities, with more men advocating for improved early warning systems (52.4%) and more women emphasizing the need for better infrastructure (53%), underscoring the **distinct challenges women face during climate crises.** Additionally, confidence levels in community recovery show that 38.3% of respondents lack confidence in their ability to recover, pointing to gaps in training, education, infrastructure, and early warning systems. Men expressed slightly higher confidence in recovery (51.4%) compared to women (48.6%).

GENDER IMPACTS OF CLIMATE-RELATED HAZARDS

The findings on gender-specific climate hazards identify drought as the primary concern for both men (82.7%) and women (77.3%). Women reported higher exposure to heatwaves and storms, while men cited ecosystem degradation, desertification, and landslides as key hazards. **Women are disproportionately affected by food and water shortages (93.5%) and domestic violence (25.9%)** compared to men. However, **climate hazards have a greater impact on men's income (91.1%) than on women's (75%).**

Regarding the impact on roles and responsibilities, drought significantly affects adolescent boys and girls, leading to **school absenteeism**. It also **reduces crop yields**, causing food insecurity and water shortages. In response, **middle-aged women** often turn to small-scale businesses but face the **additional burden of traveling long distances** to fetch water as nearby sources dry up.

For older adults, the findings highlight unique vulnerabilities, particularly for those living alone, who struggle to access food and water. Those living with adult children may take on increased caregiving responsibilities while family members seek an income outside the home. Additionally, **persons with disabilities face challenges in receiving climate information**, as these are often communicated through mediums like radio,

television, or mobile messages that may not be accessible to them.

VULNERABILITY, GENDERED NEEDS AND PRIORITIES

The findings indicate that **women are more affected by food insecurity** (91.7%), **water scarcity** (40.5%), **health concerns, and household stress** (28.1%). In contrast, men are more vulnerable to economic impacts, with 90.2% reporting income loss, compared to 74.9% of women. These disparities highlight the need for **gender-specific support**, with women prioritizing food (95.8%) and water (79.4%) as critical needs, compared to men at 81.9% and 63.0%, respectively.

BARRIERS/CHALLENGES FACED IN ACCESSING SUPPORT

The findings show that **women face more barriers than men in accessing support** with 43% citing cultural norms, 25.5% reporting limited mobility and 12.4% mentioning social stigma as key challenges.

COPING STRATEGIES AND POTENTIAL INTERVENTIONS

The findings reveal that **women are more likely to adopt food-related and social coping strategies**, such as reducing food consumption and relying on community support, while men tend to use financial and mobility-based strategies, such as borrowing money and seeking income-generating opportunities. Additionally, women face immediate challenges related to household care, whereas men have greater access to financial resources and physical mobility. These gender differences highlight the need for targeted interventions that address the distinct coping mechanisms of both men and women during climate shocks.

INVOLVEMENT IN AA PLANNING

Anticipatory Action (AA) planning strategies are still relatively nascent in Tanzania. However, some notable gender-responsive initiatives recognize the critical role of gender dynamics in shaping vulnerability and the effectiveness of disaster responses. This underscores the **need for concerted efforts to implement effective gender-responsive interventions** that address the unique vulnerabilities of women, youth, and people with disabilities.

RECOMMENDATIONS

- **Enhance multisectoral collaboration for inclusive AA** by establishing formal partnerships between WFP and key government agencies, such as the Tanzania Meteorological Agency, the Ministry of Agriculture, and the Ministry of Livestock and Fisheries.
- **Develop gender-responsive water management programmes within AA:** To address the disproportionate impact of drought and water scarcity on vulnerable groups, particularly women and children who often bear the brunt of such challenges, WFP should support the design and implementation of gender-sensitive water conservation initiatives within an AA framework.
- **Establish and scale up community-based food reserves for AA:** WFP should work with local authorities and women-led organizations to set up and operationalize anticipatory food reserves and resource-sharing systems in vulnerable communities, with a particular focus on women, children, and persons with disabilities.
- **Enhance local anticipatory capacities through inclusive training programmes:** WFP should design district, local-level, and community-based early action programmes with a strong focus on women, youth, and persons with disabilities.

- **Enhance local anticipatory capacities through inclusive training programmes**: WFP should design district, local-level, and community-based early action programmes with a strong focus on women, youth, and persons with disabilities.
- **Enhance AA through disability-inclusive programmes:** WFP should integrate disability inclusion frameworks into AA by developing targeted interventions that address the specific needs of persons with disabilities.
- **Bridge the gender digital and information gap for AA:** WFP should roll out digital literacy initiatives targeting women and marginalized communities to enhance their access to climate information and gender-sensitive early warning systems.
- **Conduct a gender-focused anticipatory vulnerability and capacity assessment:** WFP should lead or support a nationwide assessment to identify gender-specific vulnerabilities and barriers in AA which will include gender-responsive early warning systems, risk reduction strategies and possible targeted interventions.

1. Introduction

1.1 Background and purpose of the study

The World Food Programme (WFP) Regional Bureau of Southern Africa engaged the Centre for Learning on Evaluation and Results - Anglophone Africa (CLEAR-AA) to conduct a Gender, Protection, and Inclusion Analysis for West and Southern Africa study that will inform WFP's Anticipatory Action programming in various countries including Tanzania. The main purpose of this study was to understand the needs, barriers, and risks faced by affected people in their diversity and provide recommendations on how WFP can design, implement, and monitor AA that respond to those realities. The study findings will support WFP's Anticipatory Action programming that is being rolled out in Tanzania. The study primarily focused on gender, protection, and inclusion while also examining how various markers of vulnerability intersect. It further explored how these intersectionalities influence an individual's or community's exposure, response, and resilience to climate change disasters, hazards, and shocks.

Since 2015 WFP has been implementing its Anticipatory Action Programme as part of its broad climate risk programme. The programme is being implemented in 38 countries across the regions of Asia, Africa, Latin America, and the Caribbean. The programme is aimed at implementing AA and early warning systems for climate shocks and natural hazards such as droughts, floods, and cyclones. Several studies have shown that women and children are more at risk of these natural hazards and climate shocks, hence the need for programmes to be specific on addressing the impact of these hazards on women, children and other vulnerable groups (Nelson, 2011; Tesso, Emana, and Ketema, 2012; Tendall et al., 2015; Kopf, Fink and Weber, 2020). Crucially, responsive and tailored support needs to be designed for the differing needs of women, men, boys, and girls in preparing promptly for climate shocks. However, before any interventions are implemented it is important to examine how these demographic groups respond to natural climate shocks.

1.2 Research questions

The study pursued the research questions in Table 1. Although this study has several research questions to answer, it is important to note that the questions intersect and interlink.

Table 1: Research questions

Key Questions	Sub Questions
1. What are the gendered dynamics of the hazards and risks anticipatory action aims to cover in target locations (exposure, impact, vulnerability)?	• How do these differ for boys, girls, men, and women – and across other intersecting identities (e.g., gender-based violence)? • How do existing protection mechanisms address the specific vulnerabilities and needs of women, children, and other marginalized groups during climate shocks? • What gaps exist in ensuring their safety and well-being?
2. What are the implications of different hazards for various socio-demographic groups (e.g., based on gender, age, disability) in target locations?	• How do these differ within the country? • What are the implications for people with disabilities, chronic illnesses, and others in situations of vulnerability?
3. What are the needs and priorities of women, men, boys, girls and persons with disabilities when disasters strike or in case of fast onset of disaster in target locations (based on past experiences, and current perspectives) that AA should address?	• How do other factors including social norms, power dynamics or identity factors (e.g. age, disability, ethnicity, religion) influence these? • What are the different needs of women, men, and persons with disabilities in case of fast onset of disaster or hazards? • What would women, men and persons with disabilities do or prioritize differently if they received the AA support?
4. What are the barriers faced by women, men, boys, girls, and others facing vulnerability in accessing support when exposed to a shock or hazard?	• How do these differ and intersect/overlap? (consider land tenure, resources, access to information, collective action/social capital, social norms, structural barriers, preferences, etc.) • How do social and cultural norms restrict certain groups, particularly women and girls, from accessing physical spaces or interacting with service providers during disasters? • How can these barriers be overcome to ensure the sustainability of gender equality in the long term?
5. What positive and negative coping strategies linked to climate shocks do women and men utilize?	• How do these differ and what are the implications for their resilience/recovery? • What are the risks associated with these differing coping strategies? • Who is affected by these coping strategies?

Table 1: Research questions

Key Questions	Sub Questions
6. What roles and responsibilities do women, men, boys, and girls play and have in individual, household, and community before, during, and after hazards/shocks/ disasters in target locations (time use, household decision-making, community leadership/gatekeepers, economic activity, care work, etc.) and how are these driven by social and gender norms?	• How do the roles and responsibilities differ across the country? (time use, household decision-making, community leadership/gatekeepers, economic activity, care work, etc.)? • What other intersecting identity considerations influence roles in these locations (e.g. age, disability, ethnicity)? • How do prevailing social and gender norms shape the expectations and responsibilities assigned to women, men, boys, and girls in disaster contexts?
7. Who is consulted and makes decisions in households/communities/local/regional and national government in community planning, such as the design of AA plans?	• Who is missing and why? • To what extent are AA plans developed on community, regional and national level? • What mechanisms or practices are in place to ensure that the voices of typically underrepresented groups are included in community planning discussions?
8. To what extent do the structures used to co-design/implement AAPs account for diversity, particularly in terms of involving more local organizations, women-led, etc?	• What are the structures in place? Who is represented and who is not?
9. What approaches are acceptable and what structures can be built on to facilitate inclusive and gender-responsive participation in HH/community/local government processes for the target locations?	• What are the roles of structures such as specific women's organizations, organizations of persons with disabilities, and community-based organizations in facilitating inclusive and gender-responsive participation? • What approaches are acceptable to facilitate inclusive gender-responsive participation in national disaster risk agencies/relevant ministries?
10. What early warning trends do women, men, boys, and girls identify?	• How is the access to and control over current early warning messaging perceived (taking into consideration intersectionality) and what are the context-specific gendered and vulnerability dynamics that need tracking? • How are the usability, accessibility, and trust in the current early warning messaging perceived by women men, and other groups (consider accessibility, usability constraints)? • How can the dissemination of early warning messages be improved to support certain groups overcome these constraints?

1.3 Background to WFP's Anticipatory Action programming

Anticipatory Action (AA) is one of the World Food Programme (WFP)'s flagship programmes for climate risk management. It is an innovative approach that enables the implementation and financing of actions before an extreme weather event occurs. These AA aim to prevent and mitigate, as far as possible, the impact of extreme weather events on the food security and nutrition of the most vulnerable populations. Implemented since 2015, WFP's AA portfolio now includes 38 countries in the regions of Asia, Africa, Latin America, and the Caribbean, where together with national and local government partners, WFP is supporting the development of early warning systems and AA for critical natural hazards such as droughts, floods, and cyclones. WFP's AA programming seeks to achieve the following two objectives:

- Strengthening national and local capacities to anticipate future emergencies more effectively and to reach the increasing number of food-insecure people who are exposed to recurrent and predictable climate hazards. Integrating AA in government disaster management or social protection systems presents opportunities for scale, impact and sustainability.

- Directly delivering AA at scale on behalf of, or in coordination with national governments and partners. The availability of prearranged financing to implement AA where and whenever needs arise is instrumental in reaching scale and generating the necessary evidence to fur-ther institutionalize the approach (WFP, 2024).

A recent report by the WFP and partner organizations reveals that nearly 282 million people in Africa—about 20% of the population—are undernourished, marking an increase of 57 million since the onset of the COVID-19 pandemic. Additionally, 868 million people in the region are moderately or severely food insecure, with 58.7% of men and 59.9% of women affected in 2022, up from 49.8% and 52%, respectively, in 2019. More than one billion people cannot afford a healthy diet. Around 30 percent of children are stunted due to malnutrition. The report identifies the central drivers of this to be climate variability and extremes, as well as conflict, economic slowdowns and downturns, and the aftermath of the COVID-19 pandemic. Women and girls are reported to be the most affected by these shocks, with gender inequalities increasing. Therefore, responsive, and tailored support needs to be designed for the differing needs of women, men, boys, and girls in preparing promptly for climate shocks.

Other marginalized groups, such as persons with disabilities, Indigenous Peoples, internally displaced persons (IDPs), and refugees are also particularly vulnerable to the impacts of climate change because they have less access to and control of productive assets e.g. land, participation in decision-making, financial inclusion and access to information, as well as facing barriers to access safety nets or social support. In addition, crises can further increase affected people's exposure to various forms of gender-based violence (GBV), such as intimate partner violence, sexual abuse, and human trafficking, and families may resort to negative coping strategies, such as early and forced child marriage, sex for income/food, child labour, and taking children out of school. In humanitarian response and development interventions, women, youth, older persons, persons with disabilities, Indigenous Peoples, people living with HIV and AIDS, IDPs, and refugees are more at risk of being left behind.

Gender, protection, and inclusion considerations are crucial in AA because they ensure that the unique needs and vulnerabilities of all population segments are addressed. Women, men, boys, and girls and people with special needs experience and respond to climate shocks differently, influenced by their roles, responsibilities, and social norms. Inclusive AA aims to integrate the perspectives and needs of these groups into planning and response strategies, thereby enhancing the effectiveness and equity of disaster risk reduction efforts. Additionally, it involves safeguarding vulnerable populations and promoting their active participation in decision-making processes.

1.4 Anticipatory Action interventions in Tanzania

Tanzania is highly vulnerable to the impacts of climate change and natural hazards, such as droughts and floods, which disproportionately affect rural communities' dependence on rainfed agriculture and livestock for their livelihoods. These recurring events threaten food security, exacerbate poverty, and strain the capacity of local and national systems to respond effectively. In this context, AA has emerged as a transformative approach to enhance resilience, reduce risks, and mitigate the impacts of disasters before they occur.

WFP Tanzania's Anticipatory Action (AA) programme was initiated in late 2023 as part of the Country Office's broader efforts to address the increasing frequency and severity of climate-related disasters. Positioned within WFP's Country Strategic Plan (CSP) 2022-2027 Activity 2: 'Provide capacity strengthening for data analysis and people-centred disaster risk management to improve the efficiency and effectiveness of relevant government institutions to monitor and respond to stressors and crises at the national and subnational levels', the AA programme focuses on strengthening resilience and enhancing the adaptive capacity of vulnerable communities, with a particular emphasis on reducing food insecurity and protecting livelihoods in the face of climate shocks.

The programme primarily targets high-risk districts in northern and central Tanzania, as well as Zanzibar, including Longido, Monduli, Kiteto, Simanjiro, Handeni, Same, Mkalama, Kondoa, Meatu, and Micheweni. These areas are particularly vulnerable to recurrent droughts, floods, and other climate hazards, which severely impact food systems and rural livelihoods. By integrating early warning systems with proactive measures such as cash transfers, livelihood support, and targeted interventions, WFP aims to mitigate the effects of climate-related risks. The programme places a particular focus on protecting potentially vulnerable groups, including women, children, smallholder farmers, and pastoralist communities, helping them build resilience against the increasing frequency and severity of climate shocks.

1.5 Structure of the report

This report is structured as follows: Following the introduction, the second section presents a brief literature review to set the global context of climate change and gender. The third section presents the country context on climate change and gender inclusion to frame the study's findings. The fourth section outlines the methodology, followed by the presentation of the results in section five. Section six discusses the findings, and conclusion with recommendations in sections seven and eight.

1.6 Country context

1.6.1.CLIMATE CHANGE IN THE COUNTRY

Climate change and variability represents global challenges, impacting communities and their livelihoods differently based on variations in exposure, sensitivity and adaptive capacity (Kangarawe and Lyimo, 2013). Tanzania like many other countries is highly vulnerable to the effect of climate change and variability. Empirical evidence indicates that Tanzania frequently experiences severe and widespread climate events, including droughts, floods, delayed rainfall onsets, early rainfall cessation, declining average annual rainfall and rising temperature (Goulden,2006; Lyimo& Kangalawe, 2010). These changes have resulted in reduced crop yields, increased climate-induced pests and diseases affecting crops and livestock, income losses, infrastructure damage, recurrent food shortages, and heightened poverty levels (URT, 2012; Mwamfupe, 2014). Tanzania's high vulnerability to the effects of climate variability is largely attributed to its heavy reliance on rain-fed agriculture, with less than 5% of arable land under irrigation (URT,2025). Furthermore, evidence underscores that community vulnerabilities are exacerbated by factors such as gender inequalities and unequal access to resources (Reed et. al,2013).

1.6.2 GENDERED NORMS AND DECISION MAKING ROLES IN TANZANIA

In Tanzania, gendered norms and roles are deeply rooted in historical, cultural, and societal traditions. Patriarchal systems predominantly define the distribution of power and responsibilities, with men typically holding decision-making authority in households and communities. Women bear a disproportionate burden of unpaid labour, including agriculture, water collection, domestic responsibilities, and caregiving, which restricts their participation in economic and political spheres, exposing them to climate-induced disaster vulnerabilities (Nelson & Stathers, T, 2009). These entrenched inequalities are further reinforced by cultural practices and societal expectations, creating significant barriers to achieving gender equality and inclusivity.

Decision-making roles in Tanzania are deeply gendered, both at the household and community levels. Men predominantly control key decisions related to land use, resource allocation, and income distribution, while women's contributions are often undervalued or excluded. Research indicates that leadership roles, particularly in rural areas, are largely dominated by men, including those related to disaster preparedness and resource management. Women hold fewer than 25% of these positions, significantly limiting their influence on critical decisions regarding water management and disaster response (CARE, 2023). These dynamics not only perpetuate inequalities but also affect the resilience of households and communities, particularly in the context of climate change. Evidence suggests that when women are included in decision-making processes, outcomes are more equitable and sustainable, highlighting the importance of addressing gender disparities in governance and resource management.

1.6.3 THE IMPACT OF GENDER ROLES IN SHAPING LIVELIHOODS AND ECONOMIC RESILIENCE IN THE FACE OF CLIMATE CHANGE IN TANZANIA

Agriculture is a cornerstone of Tanzania's economy, contributing approximately 24% of the GDP and sustaining the livelihoods of about 75% of the population (World Bank, 2022). With over 85% of agricultural production relying on rainfed systems, the sector is highly vulnerable to climate variability, including shifting rainfall patterns, prolonged droughts, and extreme weather events like floods. These impacts have significantly reduced

agricultural yields, heightened food insecurity, and caused substantial economic losses. For instance, floods in the Kilimanjaro and Morogoro regions in 2019 destroyed crops valued at over USD 100 million, further deepening rural poverty (UNDP, 2020).

Small-scale farmers, who form the backbone of rural agriculture, often face limited access to climate-smart technologies such as irrigation systems and drought-resistant crops, exacerbating their vulnerability to climate change. For example, only 30% of rural households in the Lake Zone have access to irrigation, and the adoption of climate-resilient crops remains low (FAO, 2022). Addressing these challenges is crucial for enhancing agricultural productivity, ensuring food security, and building resilience in Tanzania's rural communities.

Women who are primarily responsible for subsistence farming, water collection and household management, are disproportionately affected by climate variability due to their reliance on natural resources. Despite contributing 54% to the agricultural labour force in Tanzania, women own less than 20% of the land, hence face systemic barriers in accessing land, financial resources, and agricultural inputs, limiting their capacity to build economic resilience (FAO, 2021). In addition to these challenges, women often lack access to essential resources such as financial services, technology, and information. This lack of access significantly restricts their capacity to secure assets like land and capital, further exacerbating their vulnerability to climate impacts. Moreover, the exclusion of women from key decision making processes in resource management undermines their ability to influence adaptation strategies and develop sustainable livelihoods, leaving their potential for driving resilience largely untapped.

Additionally, women are responsible for 70-90% of water collection, a task that intensifies during droughts when water sources become scarce. This systemic inequality limits their access to critical resources for climate adaptation, reducing their ability to secure alternative livelihoods or recover quickly from losses. For example, during droughts, women often travel up to 15 kilometres daily to collect water, significantly reducing their time for income-generating activities and increasing their physical strain (UNICEF, 2022; Water Aid, 2023). This burden not only affects women but also impacts children, particularly girls, who are frequently withdrawn from school to assist with water collection. In the Mara Region, the school dropout rate among girls increased by 15% during the 2020 drought, highlighting the cascading effects of climate shocks on education and long-term development (UNICEF, 2021). Addressing these inequities is critical to building inclusive and sustainable resilience to climate impacts.

Promoting gender equality is essential for enhancing economic resilience and sustainable livelihoods. The Government of Tanzania has introduced various strategies to address climate change, including the National Adaptation Programme of Action (NAPA) and the National Climate Change Strategy. These frameworks prioritize key adaptation measures, such as improving water management, advancing climate-resilient agriculture, and enhancing disaster preparedness. Despite these efforts, significant challenges hinder the effective implementation of these strategies. Limited funding, weak institutional capacity, and difficulties in reaching rural populations, where the need for adaptation is most urgent undermines the progress. This calls for an urgent need to address these barriers and integrate gender sensitive approaches within adaptation strategies to ensure equitable and effective responses to climate change.

1.6.4 CLIMATE CHANGE AND GENDERED INEQUALITIES IN RESOURCES ACCESS AND TECHNOLOGY

Climate change has intensified resource scarcity in Tanzania, particularly affecting access to water, arable land, and energy sources. As rainfall patterns become increasingly unpredictable and temperatures rise, communities in particular in the rural setting who are dependent on natural resources for their livelihoods face heightened challenges. These impacts are unevenly distributed, with women and marginalized groups bearing the brunt of the burden due to existing inequalities in resource access and control.

In addition, it is indicated that women in Tanzania often encounter systemic barriers that limit their access to critical resources, including land ownership, water rights and financial services. Despite their significant role in agricultural production and household resource management, traditional norms and legal constraints frequently exclude women from owning land or participating in decision-making related to resource allocation. According to the Tanzania National Bureau of Statistics (NBS), 33% of women own agricultural land compared to 47% of men. Of the 33% who own land, only 9% of women have sole ownership and 25% have joint ownership (Reported by UN Women –Africa, 2023).

In addition, the traditional land tenure systems tend to favour men over women. Under these systems, men are typically considered the primary landholders and decision makers, while women's rights to land are often secondary and dependent on their relationship with men. (Benjamine, Gaspar, M et al,2023)2. The Village Land Act of 1999 and the Land Act of 1999, which govern land ownership in Tanzania, do not discriminate against women in terms of access to land, but in practice, women face significant barriers to obtaining land rights. This is due to cultural, social and economic factors, such as lack of knowledge of the laws, lack of resources to pay for land registration and discrimination in decision-making processes.

Furthermore, the empirical evidence shows that women as farmers and pastoralists, with primary responsibility for household food production are the principal users of certain types of land and natural resources. However, they generally do not own the land or control land allocation of natural resources and they are often allotted the most marginal land with the least secure rights of tenure. (URT,2014). In addition, most women in the rural setting lack access resources and information which disproportionately affects their ability to adapt to climate change (WaterAids, 2023). Similarly, access to agricultural extension services is skewed where only 17% of women farmers in rural Tanzania receive such services compared to 32% of men. This disparity perpetuates inefficient farming practices and increases women's vulnerability to climate risks.

1.6.5 GENDER AND INCLUSION IN TANZANIA

Tanzania has made strides in promoting gender equality and social inclusion through various policies and legal frameworks. The Constitution of the United Republic of Tanzania explicitly guarantees equal rights for all citizens, including women, in access to resources, education and participation in governance. (URT, 1977). The National Gender Policy (2000) and the National Strategy for Gender Development (2005) aim to eliminate gender disparities by enhancing women's economic empowerment and decision-making roles across sectors. Despite these efforts, gender inequalities remain deeply entrenched. For example, education and employment opportunities demonstrate persistent gender disparities. Initiatives such as free primary education to improve enrollments have revealed only 30% of

girls transit to secondary schools with dropout rates linked to early marriages and householders labour demands (UNICEF, 2021).

Efforts to enhance women's representation in political and leadership roles in Tanzania have shown notable progress. The government established a quota mandating at least 30% representation of women in parliament, with recent elections reflecting an increase from 30.65% in 2009 to 36.7% in 2020 (Statista, 2023). However, at the local level, women's participation in decision-making remains constrained, particularly in rural areas where male-dominated leadership structures and cultural norms continue to hinder their inclusion (CARE, 2023).

In addressing climate change, Tanzania has increasingly recognized the need to incorporate gender perspective to ensure that both men and women benefit equally from climate adaptation and mitigation efforts. The National Climate Change Strategy and the National Adaptation Programme of Action (NAPA, 2007) highlight the importance of including women in decision making processes related to climate resilience, particularly in agriculture, water management and disaster preparedness.

Despite this significant effort made in addressing gender disparities, challenges remain, particularly for women and girls, who continue to face societal, cultural and economic barriers. In rural areas, women often experience more limited access to resources, education, and decision-making power. They are frequently excluded from key economic opportunities and remain disproportionately affected by poverty. Despite the existence of legal frameworks, policies, and strategies aimed at empowering women such as the National Disaster Management Policy, National Strategy for Gender Development etc. and various international commitments, gender-based violence and harmful cultural practices continue to persist in certain communities. These practices undermine efforts to achieve gender equality and highlight the need for stronger enforcement mechanisms and community-based interventions to address deeply rooted cultural norms.

There are ongoing initiatives and programmes, both at the national government and subnational levels, that focus on increasing women's participation in leadership, improving their economic opportunities, and addressing violence. International organizations, national and local NGOs, and civil society groups continue to play an important role in advocating for women's rights and advancing gender equality in the country. Nevertheless, for full gender inclusion to be realized, more work is needed to overcome deeply rooted social norms and barriers that limit the opportunities available to women and other marginalized groups in Tanzania.

1.6.6 GENDER-SENSITIVE APPROACHES TO CLIMATE CHANGE AND DISABILITY

Tanzania has made commendable strides to recognize the rights and potential of persons with disabilities. According the 2022 population and household survey, persons with disabilities comprise an estimated 11.3% of the population, a significant demographic whose full inclusion remains a goal to be achieved (UNFPA,2024). While the government has proactively championed the rights and inclusion of persons with disabilities through initiatives to promote accessibility, empowerment, and equal participation, achieving the development goals for an inclusive society set in the Vision 2025 and the Five Year Development Plan requires accelerated efforts and strengthened partnerships to ensure no one is left behind. Stigma and discrimination compounded by intersecting inequalities related to gender, age and ethnicity, remain pervasive challenges for persons with disabilities. Deep rooted cultural beliefs

often marginalize them, making it difficult for them to access social, legal, education, health and employment opportunities.

Article 20(b) of the CRPD guarantees the right to physical accessibility for persons with disabilities by requiring member states to enhance the use of "mobility aids, devices, assistive technologies and forms of live assistance and intermediaries," and to make these available "at no or an affordable cost" (UNGA, 2016b, p.15). In the URT, this right is domesticated by the Persons with Disabilities Acts of 2010 (Mainland Tanzania) (UNPRPD,2021).

1.6.7 POLICY RESPONSES FOR GENDER-SENSITIVE CLIMATE CHANGE ADAPTATION

Any policy framework that promotes gender-neutral control and access to resources will empower women to build resilience to the impacts of climate change and other types of socio-economic discrimination (Okali & Naess, 2013). For example, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) of 1979, and the Beijing Conferences on Women of 1995 aimed to ensure among other things, women's equal access to economic resources including land, credit facilities, science and technology, education and vocational training as a means to empower women and girls (UN, 1996; As reported by Tiemo,2021). The fifth Sustainable Development Goal (SDG 5) aims to achieve gender equality and empower all women and girls (UN, 2019).

Tanzania, like other countries, has made and continues to make efforts to address gender-sensitive climate adaptation by developing laws, policies, strategies and guidelines that outline the steps towards responding to the adverse effects of climate change. Several policies and strategies promote gender equality in resource ownership and address climate change impacts. These include among others: the Land Act of 1999 and the Village Land Act of 1999 explicitly advocate for gender equality in the ownership, access, and control of land (JICA, 2016). Additionally, the Tanzania Development Vision (TDV) 2025 emphasizes empowering women across all spheres of life, including resource ownership, as a key component of the nation's development agenda (URT, 2000). The National Five-Year Development Plan II (2016/17–2020/21) prioritizes gender equality and women's economic empowerment by enhancing economic opportunities, improving access to capital markets, and increasing women's participation in business ventures. Similarly, the National Disaster Management Policy calls for stakeholders to take into cognisance the special attention and requirements of special groups i.e. women, children, disabled, elderly and confined persons who are more vulnerable and disadvantaged due to their family roles and whose easy movement is constrained.

In addition, the National Strategy for Gender and Development (2000) focuses on achieving gender equality in resource access and ownership. Furthermore, the National Climate Change Response Strategy (NCCRS) 2021–2026 aims to build national resilience to climate impacts while pursuing low-emission development pathways. The NCCRS highlights the importance of gender mainstreaming in climate adaptation and mitigation strategies and promotes the adoption of climate-smart technologies to enhance these efforts.

The Agricultural Sector Development Strategy–II (2015/16–2024/25) also underscores the importance of engaging women and youth in decision-making processes and adopting modern agricultural technologies. It emphasizes addressing climate change through research and innovation to enhance agricultural productivity and sustainability. Collectively, these frameworks reflect Tanzania's commitment to integrating

gender-sensitive approaches into resource management, economic development, and climate resilience initiatives.

Tanzania has taken significant steps to integrate disability issues into its development frameworks, with a focus on expanding decision-making opportunities and safeguarding the rights of persons with disabilities. The recently launched National Plan of Action to End Violence Against Women (2023/24–2028/29) underscores the importance of addressing disability-related issues to ensure the rights and needs of persons with disabilities are met. Similarly, the National Assistive Technology Strategy (2024–2027) advocates for creating an enabling environment through multi-sectoral collaboration to enhance the accessibility, affordability, and availability of assistive technologies for persons with disabilities and others in need. Furthermore, in its commitment to ensuring inclusivity and leaving no one behind, Tanzania has launched the National Action Plan for Persons with Albinism. This initiative aligns closely with the National Assistive Technology Strategy, reflecting the country's unwavering dedication to building a society that prioritizes the rights and well-being of all, particularly persons with disabilities and persons with albinism (UNFPA,2024).

Additionally, recognizing the critical role of accurate data in effective policy and planning, the government, in partnership with development agencies such as UNFPA, has introduced the Persons with Disabilities Information Management System (PD-MIS). This institutional database serves as a vital resource for policymakers, researchers, and advocates, enabling evidence-based decision-making and amplifying the voices of persons with disabilities to promote inclusive development.

2. Methodology

2.1 The approach

The assessment utilized a gender transformative approach in both the process and analysis, emphasizing a participatory approach to examine power dynamics, social norms, and gender roles within communities and between communities and institutions involved in AA interventions. The study analysed gender dynamics in both processes and outputs, focusing on four key aspects that aligned with the research questions in the Terms of Reference: (1) roles and activities, investigating who performs productive and reproductive tasks; (2) resources and constraints, exploring ownership and control over resources; (3) benefits and incentives, looking at control over reproductive and productive activities, who benefits from the status quo, and the incentives for transforming gender inequitable norms; and (4) practical and strategic needs, identifying the varying needs of women, gender-diverse individuals, and men.

To achieve this, the assessment applied an intersectionality analysis to understand how factors like age, gender, social status, sexual orientation, ability, ethnicity, and nationality/ legal status interact and influence individuals' experiences with climate hazards. By combining gender transformation with intersectional analysis, the research challenged entrenched power structures and inequitable norms, providing a comprehensive understanding of marginalized groups' experiences. Intersectionality proved valuable in analysing power dynamics, institutionalized inequality, and the material implications of these disparities (Kaijser and Kronsell, 2013). The research was structured across

three levels: micro (individual and family level), meso (community level), and macro (national and regional policy level). This framework allowed for a comprehensive analysis of how gender dynamics and institutional practices intersect at all levels, informing the study's gender transformative approach.

2.2 The methodology and design

The study used a convergent parallel mixed methods design, integrating both quantitative and qualitative research approaches to collect and analyse data. Quantitative and qualitative data were gathered simultaneously, though from different households. On the other hand, the qualitative findings helped capture the local perceptions of the gendered nature of climate change, allowing for a deeper exploration of the specific contexts and experiences of the respondents.

In general, this was a participatory and community-led study. The research process and data collection was informed by the lived experiences of communities affected by climate hazards. The research was collaborative instead of extractive, aimed at understanding gender, protection, and inclusion issues as understood and experienced by community members. This was considered essential because genders, as well as vulnerabilities associated with gender and gender identity, are context-dependent, with different communities holding varying perspectives and resources to address these vulnerabilities.

2.3 Sampling and recruitment

The regions and districts were purposively selected based on areas where WFP is currently implementing AA programmes. These programmes span eight regions and cover 10 districts. For regional representation, Arusha was selected to represent the northern zone, Tanga the coastal region, and Simiyu the lake zone. Within each region, one district was chosen: Monduli from Arusha, Meatu from Simiyu, and Micheweni from North Pemba. In each district, two wards were purposively selected—one representing rural areas and the other peri-urban areas. Furthermore, two villages were randomly selected from each ward.

To ensure diverse representation, the population was stratified into six groups based on gender and age: adolescent boys, adolescent girls, young women, young men, older adult women, and older adult men. Random sampling was then employed to select respondents from each stratum. A total of 744 respondents was selected across the following districts: Meatu (184), Monduli (179), Handeni (194), and Micheweni (187).

FGD participants were purposively selected from each stratum, ensuring diversity. Twenty four FGDs were conducted in all the selected wards/villages. Key informants were also purposively selected from amongst stakeholders working with WFP and in the selected communities in AA interventions. KIIs targeted a range of stakeholders, including the Coordinator of the Department of Disaster Risk Management at the PMO , representatives from private sector entities, civil society organizations (CSOs) involved in AA-PGI, council disaster management coordinators, and ward/Mtaa/village disaster management coordinators. Thirty five KIIs were included in the study providing a rich blend of perspectives and insights.

2.4 Data collection

Data collection employed a combination of methods to gather both quantitative and qualitative data. To collect quantitative data, a structured questionnaire was administered to the selected participants by enumerators. Before the survey, enumerators underwent comprehensive training to ensure effective data collection. The training covered the survey's objectives, key research questions, and the intended use of the data. Each survey question was reviewed in detail, explaining its purpose and the appropriate way to administer it. Emphasis was placed on the importance of maintaining respondent confidentiality and privacy throughout the process. For qualitative data, focus group discussions (FGDs), key informant interviews (KIIs), and observations were conducted.

2.5 Data analysis

The Statistical Package for Social Sciences (SPSS) software was utilized for the analysis of quantitative data, with descriptive statistics employed to present the findings clearly and effectively. For qualitative data, a thematic analysis approach was applied. In developing themes, particular attention was given to the intersection of gender, family-level power dynamics, community-level power structures, and policies, and how these factors collectively contribute to vulnerabilities among different social groups. Specifically, the analysis explored the influence of gender roles, responsibilities, and societal expectations on individuals' experiences of climate hazards, shedding light on the differentiated impacts and adaptive capacities shaped by these dynamics.

2.6 Limitations

A key limitation of this study was the language barrier, particularly in Meatu District, where some respondents spoke Sukuma, a local dialect unfamiliar to the research team. This necessitated the use of interpreters. Although culturally competent interpreters were recruited and instructed to emphasize responses with significant cultural references or idiomatic expressions, there remains a possibility that certain nuances and contextual meanings were not fully captured. As a result, some important cultural insights and local terminologies may have been lost in translation.

3. Findings

3.1 Profile of study participants

Table 2 presents key demographic characteristics of the surveyed population. A majority of the respondents (56.6%) resides in rural areas, underscoring the predominance of rural livelihoods in the sample. Consequently, the results are likely to reflect the realities of rural communities. The gender distribution is nearly balanced, with males comprising 49.9% and females 50.1%, ensuring an equitable representation of perspectives across genders. The sample skews toward a youthful population, with 26.3% of respondents aged 18–24 years. This, coupled with a substantial representation of individuals aged 25–39 years, highlights the predominance of younger age groups in the study. This reflects the population in the surveyed areas, particularly those within the predominance of younger age groups in the study. consenting age group. This reflects the population in the surveyed areas, particularly those within the consenting age group.

Most respondents had either completed primary education (41%) or secondary/vocational training (33.2%). However, higher education attainment was low, at just 6.7%, and a significant portion of respondents lacked formal education. These trends point to limited access to advanced and formal education opportunities in the surveyed regions. Gender-wise, the findings reveal that a higher proportion of females (67.3%) than males (32.7%) have no education. This suggests that females are more likely to fall into the "no education" category. Additionally, a significantly higher proportion of females (65.8%) reported having non-formal education, compared to 34.2% of males. A notable gender disparity was also observed in the higher education category, where 78.0% of those who have attended higher education are males, while only 22.0% are females. This indicates that males are considerably more likely to have completed higher education than females in this dataset.

Regarding employment, self-employment was the predominant occupation, accounting for 57% of respondents (30% male and 27% female). This reflects a reliance on informal economic activities such as small-scale farming, trading, and crafts, which are typical of rural and peri-urban economies. Formal employment, whether in the government or private sectors, was minimal, collectively representing less than 5%. These findings underscore the importance of fostering entrepreneurial initiatives and supporting the informal sector to sustain livelihoods. The findings further show a significant difference in terms of unemployment figures between the two genders. While one third (33.1%) of men reported unemployment status, more than two thirds (66.9%) of women reported the status of unemployment indicating a higher proportion of unemployed females.

The survey further revealed notable ethnic diversity, with the main ethnic groups varying by district: Maasai (Monduli), Zigua (Handeni), Sukuma (Meatu), and Shirazi/Zanzibarians (Pemba). This diversity reflects the cultural richness of the population, influencing variations in practices, beliefs, and social structures. Religiously, Islam was the most commonly practised faith, accounting for 54.7% of respondents, followed by Christianity at 37.9%. A small proportion identified with African traditional religions (0.4%) or other faiths (0.3%). The findings also reveal that out of 744 respondents, 37 (approximately 5%) identified as

having a disability, although the specific type of disability was not disclosed. Overall, the findings show that the gender difference in disability rates is minimal, with males representing 51.4% and females 48.6% of those with a disability.

A majority of respondents (72.7%) reported having childcare responsibilities, while only 27.3% did not. This finding highlights the dual burden of economic and domestic responsibilities, particularly for caregivers. However, findings show that females (52.7%) have more care giving responsibilities than men (47.3%). **Findings from FGDs indicate that the prevalence of childcare duties impacts participation in economic and educational opportunities,** with women disproportionately affected due to traditional gender roles as highlighted by the women participating in the FGD who explained that:

"As women, we are expected to shoulder most of the childcare responsibilities, leaving us with little time to pursue work, education, or other socio-economic opportunities. Our prospects are further constrained by societal expectations that prioritize domestic duties above all else" Women FGD in Monduli 28th October 2024.

Table 2: Profile of study participants

	Details	
Geography	**No.**	**(%)**
Rural	421	56.6
Pre-urban	165	22.2
Urban	158	21.2
Age (years)		
18-24	196	26.3
25-29	74	9.9
30-34	89	12.0
35-39	77	10.3
40-44	53	7.1
45-49	54	7.3
50-54	49	6.6
55-59	34	4.6
60-64	50	6.7
65+	68	9.1

Table 2: Profile of study participants

Socio-demographic variable	Details	
Gender	**No.**	**(%)**
Male	371	49.9
Female	373	50.1
Others	000	00.0
Marital status		
Single (not married)	206	27.7
Single (divorce)/separated	47	6.3
Married	446	59.9
Widow/widower	45	6.0
Religion		
No religion	50	6.7
African traditional religion	3	0.4
Islam	407	54.7
Christianity	282	37.9
Occupation		
Student	124	16.7
Unemployed	127	17.1
Employed (government)	17	2.3
Employed (private for-profit sector)	13	1.7
Employed [private non-for-profit sector e.g. NGOs]	4	.5
Self-employed	424	57.0
Other (please specify):	35	4.7
Education		
No education	104	14.0
non-formal education (e.g. literacy and Qur'anic)	38	5.1
Primary education	305	41.0
Secondary/vocational education	247	33.2
Higher education	50	6.7
Other form of education	744	100.0
Caring responsibility		
Has childcare responsibility	541	72.7
No childcare responsibility	203	27.3

3.2. Source of information on climate hazards

Findings presented in Figure 1 indicate that traditional media, particularly local radio stations (67.3%) and television (44.0%), are the primary sources of climate hazard information for most respondents. These channels are especially significant in rural areas where internet access is often limited, underscoring the continued relevance of traditional media in disseminating critical information. Thus, the findings highlight the need for sustained investment in these local media platforms that focus on disseminating local content of a particular region to effectively reach broad audiences with climate-related messaging.

Friends and family also play an important role as sources of climate hazard information, reflecting the value of informal communication networks. Furthermore, 24.1% of respondents identified community structures, including community groups, community meetings, community-based organizations (CBOs) and farmer cooperatives, as sources of climate change information. This presents an opportunity to strengthen the integration of climate-related messaging within community-based platforms (community radio stations, telecentres and community bulletin boards and posters) to further enhance information dissemination and engagement at the grassroots level.

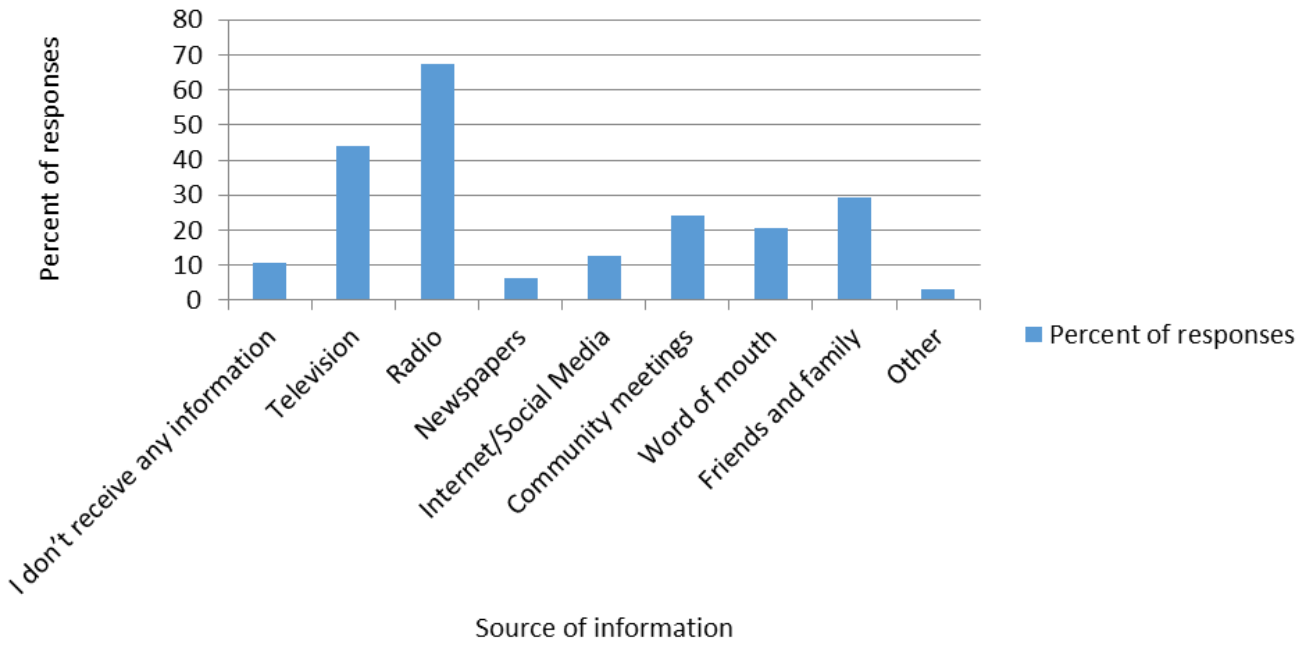

Figure 1: Source of information on climate risks

A notable gender disparity emerged when the data was disaggregated by sex. Among respondents who reported not receiving any information, 66.2% of females reported not receiving any information, compared to 33.8% of males. Regarding information sources, 59.3% of males obtained information through television, compared to 40.7% of females. Similarly, 61.7% of males accessed information via the internet, whereas only 38.3% of females did. Conversely, 55.7% of females relied on friends and family for information, compared to 44.3% of males.

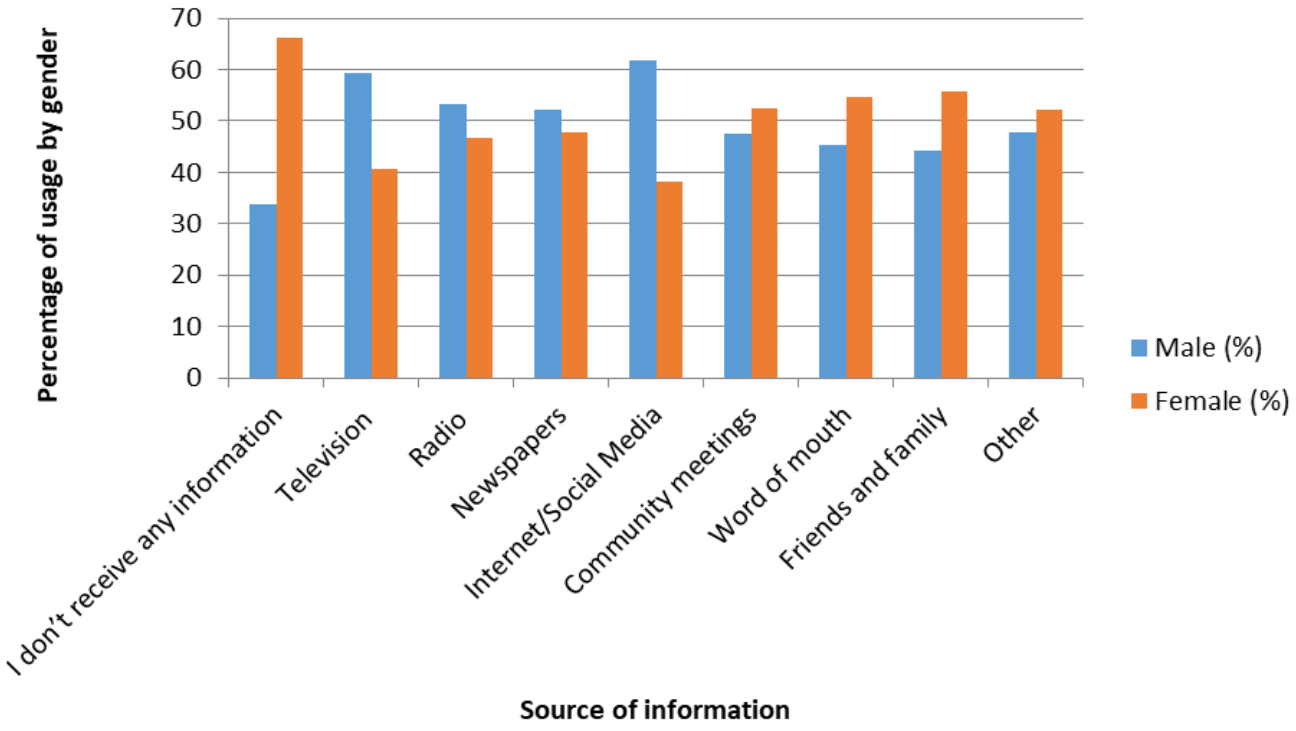

Figure 2: Source of information on climate hazards by sex

3.3 Exposure to climate-related hazards and impacts

3.3.1 AWARENESS OF CLIMATE HAZARDS

The findings revealed that respondents are most aware of drought (88.4%), followed by agricultural pests and diseases (49.1%) and flooding (46.5%). These results align with insights from the qualitative data collected through FGDs and key informant interviews across the four districts. Respondents in Pemba identified drought as the most prominent climate risk, emphasizing that pests and diseases tend to intensify during drought.

When further disaggregated by sex, the data revealed that male respondents generally demonstrate higher awareness of all climate-related hazards than females. However, for specific hazards, particularly drought (50.9%) and flooding (49.1%), the difference is minimal, suggesting that both genders have relatively similar awareness of the potential danger posed by these specific hazards.

Significant gender disparities are evident in awareness of climate-related hazards such as wildfires (62.9% male vs. 37.1% female), landslides (65.1% male vs. 34.9% female), ecosystem degradation (67.5% male vs. 32.5% female), and desertification (61.8% male vs. 38.2% female), with males demonstrating much higher levels of awareness. Overall, the findings highlight gender gaps in climate hazard awareness, with males generally being more informed about these issues. These results underscore the importance of engaging both men and women equally in AA, as their distinct roles and experiences may provide valuable insights and solutions for mitigating climate-related hazards.

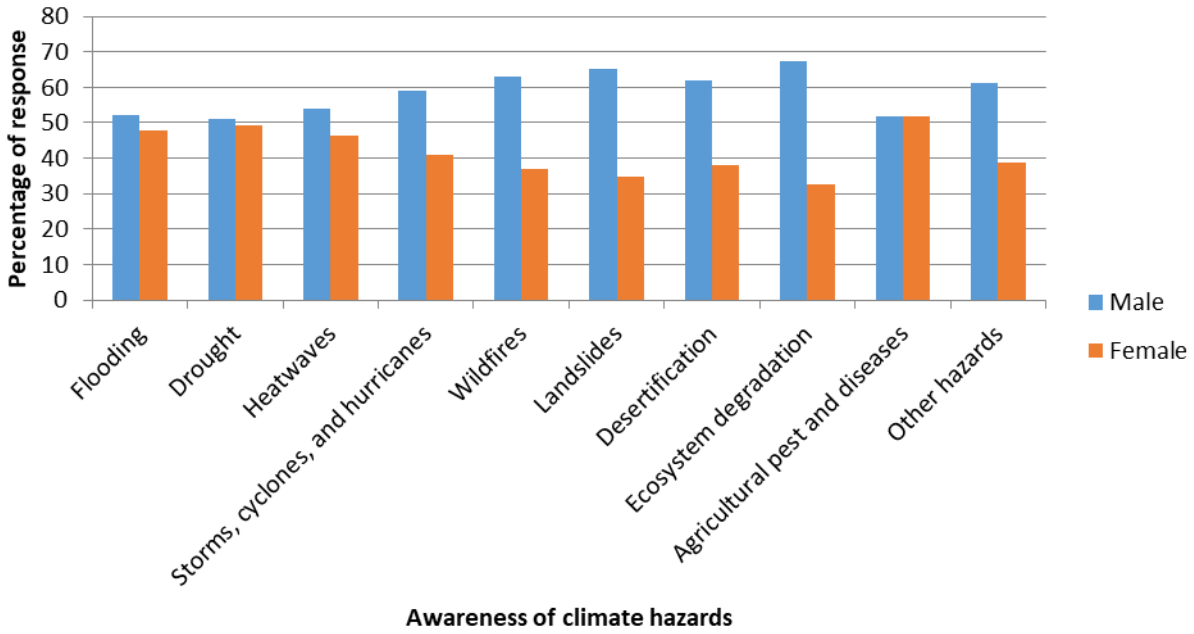

Figure 3: Awareness of climate hazards

3.3.2 PERCEPTIONS OF CLIMATE EVENTS

Findings in Figure 4 show that 36.2% and 21.9% of respondents perceived that climate related hazards occur frequently and very frequently respectively. This implies that about 58% of respondents perceived that climate-related hazards occur either frequently or very frequently, highlighting the need for preparedness and resilience-building measures at both the community and national levels.

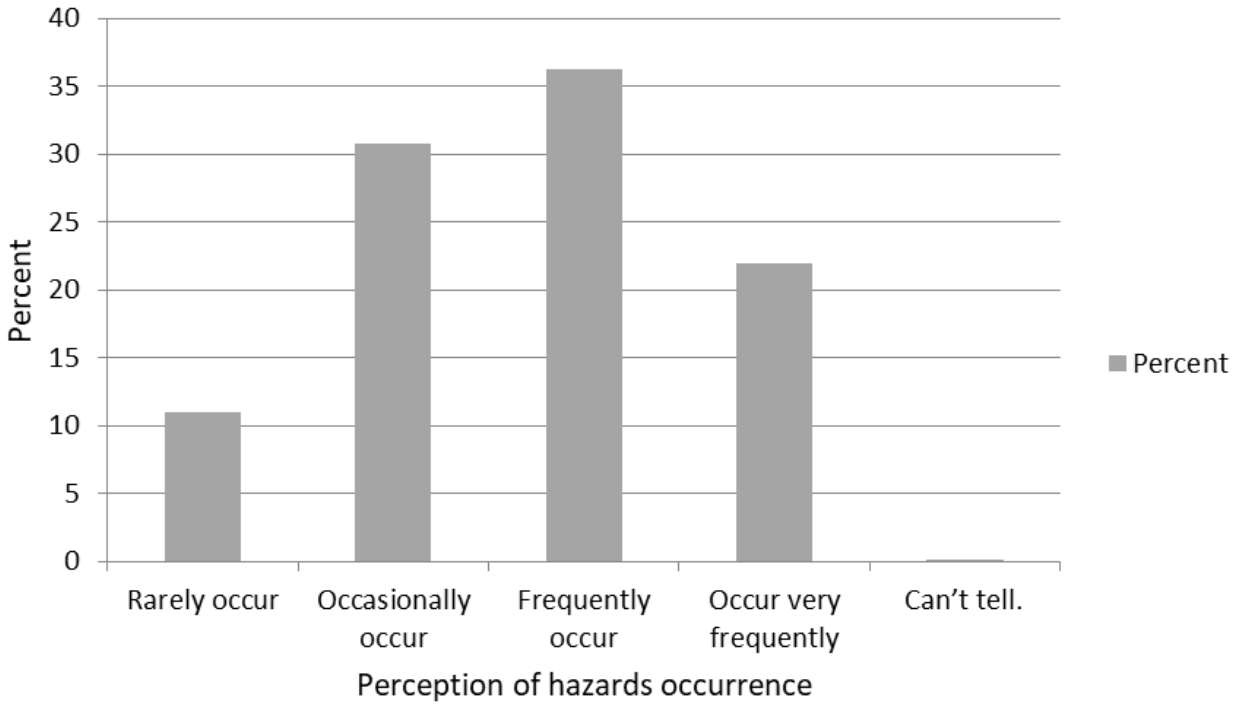

Figure 4: Perceptions of climate events

3.3.3 LEVEL OF KNOWLEDGE ABOUT CAUSES OF CLIMATE EVENTS

The results presented in Table 3 show a difference in knowledge about the causes of climate change. Females make up 72.3% of the 83 respondents who reported having no knowledge of the causes of climate change, compared to 27.7% of males. Additionally, among the 66 respondents who reported knowing the causes extremely well, males accounted for 57.6%, while females made up 42.4%. Overall, these findings suggest that gender differences still exist in climate change awareness and knowledge, with females tending to be less informed than males. This could point to the need for targeted efforts to educate females more effectively on the causes of climate change.

Table 3: level of knowledge about causes of climate events

Level of knowledge about causes of climate events	Sex		Total
	Male (%)	Female (%)	
Not at all	23 (27.7)	60 (72.3)	83 (11.2)
Slightly	110 (48.5)	117 (51.5)	227 (30.5)
Moderately	108 (46.4)	125 (53.6)	233 (31.3)
Very well	92 (68.1)	43 (31.9)	135 (18.1)
Extremely well	38 (57.6)	28 (42.4)	66 (8.9)
Total	371 (49.9)	373 (50.1)	744 (100.0)

3.3.4 KNOWLEDGE OF KEY CONTRIBUTORS TO CLIMATE HAZARDS

Respondents with moderate to excellent knowledge were asked to identify what contributes most to climate-related hazards. As shown in Figure 5, 46.5% of respondents attributed climate hazards primarily to human activities, while 27.1% believed they are caused by natural processes. These findings suggest that a significant portion of the population recognizes the role of human actions in driving climate change. They also recognize that something can be done to reduce the impact of climate change in their communities and are more likely to engage in AA. When the data was disaggregated by sex, the findings indicated that 65.1% of males, compared to 34.9% of females, believe that natural processes contribute to climate-related hazards. Additionally, 63.7% of males and 36.3% of females believe that human activities contribute to these hazards. Furthermore, 60.6% of males, compared to 39.4% of females, attribute climate-related hazards to the lack of infrastructure.

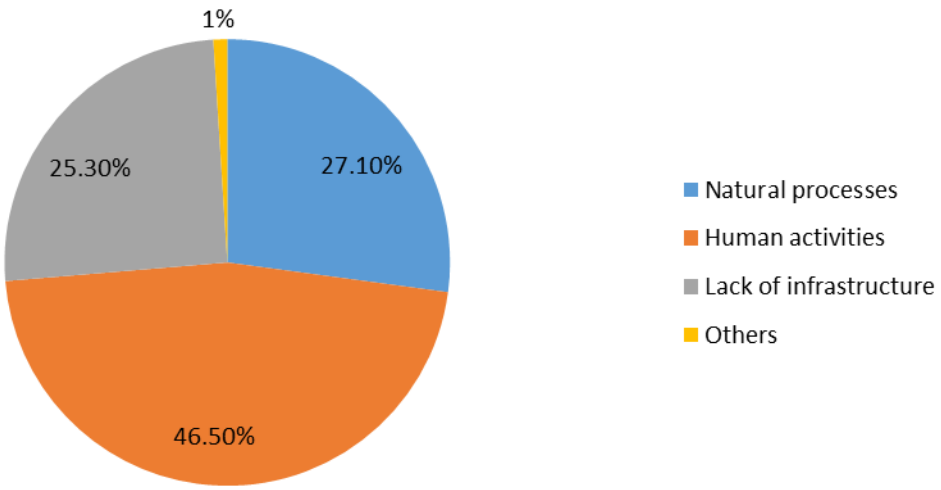

Figure 5: Knowledge of key contributors to climate hazards

3.3.5 PERCEPTION OF READINESS TO TACKLE CLIMATE EVENTS

To assess community preparedness for climate-related hazards, respondents were asked to indicate their agreement and disagreement with the statement that their community is well-prepared to handle such events. As shown in Figure 6, 69.4% of respondents disagreed with this statement, while 22.3% agreed that their community is well-prepared. The findings suggest that community awareness or confidence in preparedness efforts is relatively low, which reflects a significant gap in climate resilience measures. More proactive measures may be required with targeted interventions to strengthen community preparedness, including enhancing early warning systems, building resilient infrastructure, promoting education and awareness programmes, and fostering inclusive planning processes that involve all community members. The survey findings align with the perspective shared by a key informant in Micheweni, who stated:

"There hasn't been enough investment in building adaptive strategies. Without a comprehensive, community-wide approach that includes education, training, and investment in resilient infrastructure, we're at a significant disadvantage when it comes to facing climate-related challenges" Interview with District Disaster Management Officer in Micheweni Pemba on 7th November 2024.

This statement emphasises the need for more significant investment in both infrastructure and community preparedness to address climate hazards effectively.

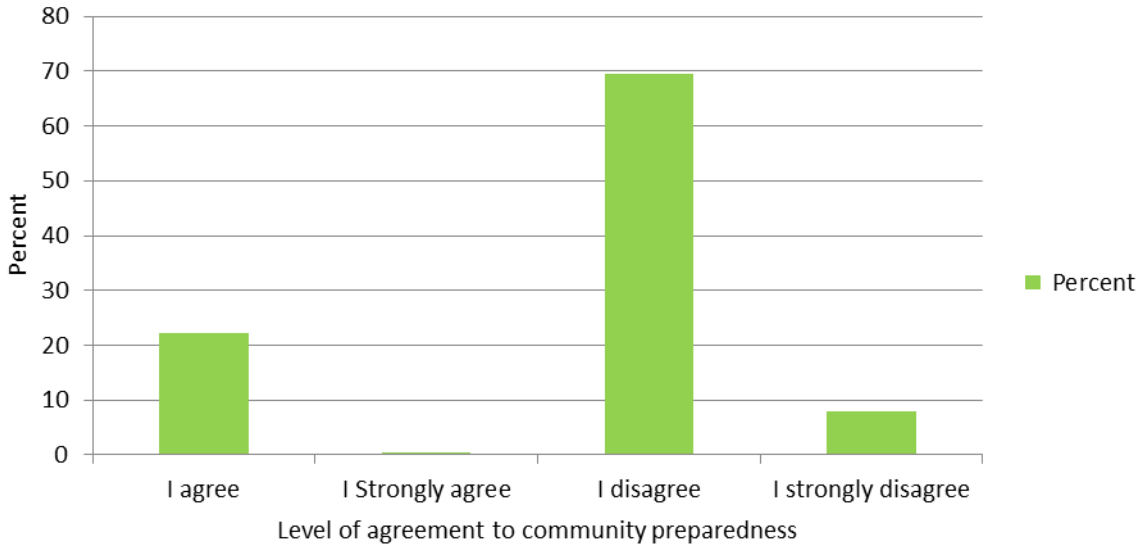

Figure 6: Perception of readiness to tackle climate events

3.3.6 MEASURES TO IMPROVE COMMUNITY'S PREPAREDNESS FOR CLIMATE-RELATED HAZARDS

To assess measures for improving community preparedness for climate-related hazards, respondents were provided with a list of potential actions and asked to select those they believe would enhance their community's readiness. The findings in Figure 7 show that community training and education, better early warning systems, and improved infrastructure were the most highly rated, with 75.5%, 62.6%, and 51.2% of responses, respectively.

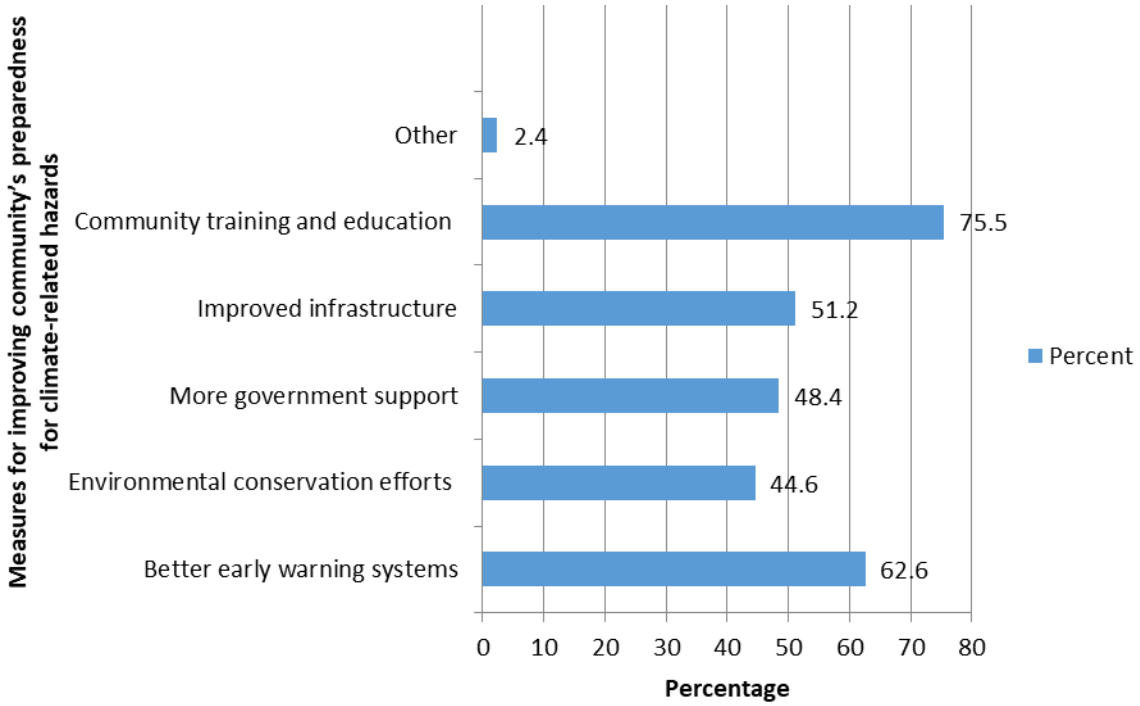

Figure 7: Measures for improving community's preparedness for climate-related hazards

Additionally, the disaggregated data reveals that a slightly higher percentage of males (52.4%) than females (47.6%) recommended a better early warning system. On the other hand, a slightly higher percentage of females (53%) suggested improved infrastructure, compared to 47% of males. This greater emphasis on improved infrastructure suggests that women may experience heightened challenges related to mobility, access to services or resilience of essential facilities during climate crises. Similarly, a slightly higher percentage of females (51.1%) proposed increased government support, compared to 48.9% of males. The findings also show that an equal number of males and females recommended community education and training. These findings underscore the need for gender-sensitive planning in climate adaptation strategies that ensure accessibility and inclusivity to meet the needs of both genders.

3.3.7 LEVEL OF CONFIDENCE IN COMMUNITY'S ABILITY TO RECOVER FROM CLIMATE HAZARDS

Figure 8 presents findings on respondents' confidence in their community's ability to recover from climate hazards. The results show that only 28.1% of respondents were confident, and 9.1% were very confident in their community's recovery capacity. In contrast, a significant proportion (38.3%) expressed a lack of confidence in their community's ability to recover from climate shocks. This perception may reflect gaps in community training and education, infrastructure, and early warning systems, suggesting that these areas need improvement to better address the challenges posed by climate change. The disaggregated data reveals that a slightly higher percentage of males (51.4%) than females (48.6%) expressed confidence in their community's ability to recover from climate hazards.

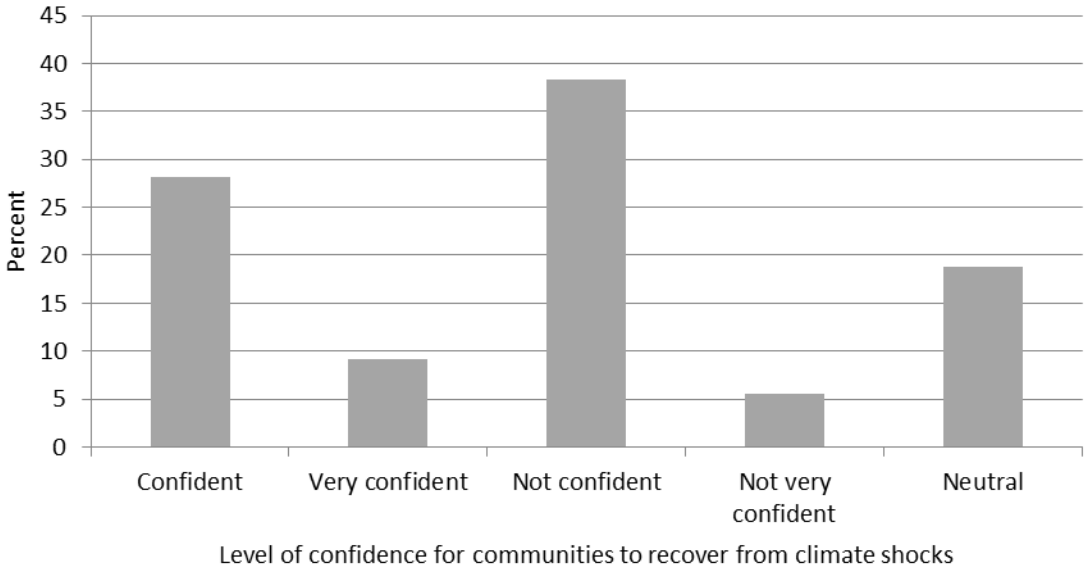

Figure 8: Level of confidence for communities to recover from climate shocks

3.4 Gendered impacts of climate-related hazards

3.4.1 Gender-specific climate hazard

The survey findings revealed that both male and female respondents identified drought as the primary climate hazard they face, with a higher percentage of men (82.7%) than women (77.3%) considering it as their top concern. However, a notable gender difference emerged in the ranking of secondary climate hazards. Among male respondents, agricultural pests and diseases were identified as the second most pressing climate hazard, with 45.6% highlighting this concern. In contrast, female respondents ranked water scarcity as their second most significant concern, with 51.5% prioritising it. For the third-ranked climate hazard, female respondents identified agricultural pests and diseases (42.6%), while male respondents ranked water scarcity (41.5%) as their third most significant concern.

In terms of the proportion of women versus men who reported a specific hazard, results in Figure 9 show that 54.5% of women compared to 45.5% of men reported exposure to heatwaves, and 55% of women compared to 45% of men reported exposure to storms, cyclones, and hurricanes. On the other hand, a higher percentage of men reported being more exposed to ecosystem degradation (60.5% of male vs 39.5% of female), desertification (55.8% of male vs 44.2% of female) and landslides (52.8% of male vs 47.2% of female). The findings further show that there is a very minimal gender difference in exposure to agricultural pest and diseases, water scarcity, drought and wildfire. These findings underscore the varying priorities and challenges faced by men and women in responding to climate hazards, reflecting their distinct roles and responsibilities in managing resources and livelihoods.

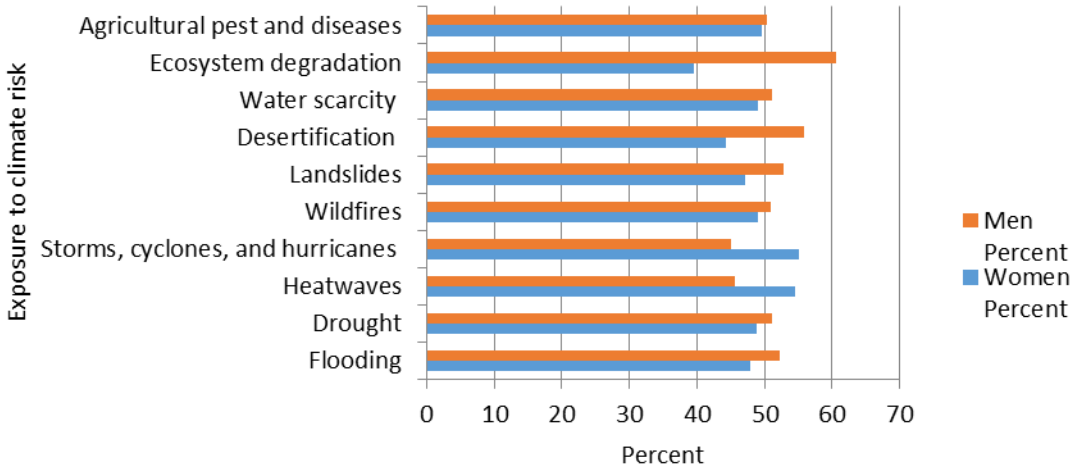

Figure 9: Exposure to climate hazard

3.4.2 EXPOSURE TO CLIMATE HAZARD

The findings in Table 4 reveal that drought is the most commonly experienced climate hazard, affecting 80.5%, 80.6%, and 81.7% of individuals, families and communities, respectively. Following drought, water scarcity is the subsequent most significant risk, impacting 45.2%, 47.0%, and 48.7% at individual, family, and community levels. Furthermore, the results indicate that agricultural pests and diseases are ranked third, with 43.7%, 41.5%, and 45.6% of individuals, families, and communities experiencing their effects.

Table 4: Exposure to climate hazard

Climate hazards	Risk experienced by Respondent	Risk experienced by Respondents' household/family	Risked experienced by Respondents' Community
Flooding	141 (19.0)	138 (18.5)	146 (19.6)
Drought	599 (80.5)	600 (80.6)	608 (81.7)
Heatwaves	128 (17.2)	125 (16.8)	135 (18.1)
Storms, cyclones, and hurricanes	58 (7.8)	60 (8.1)	65 (8.7)
Wildfires	44 (5.9)	39 (5.2)	45 (6.0)
Landslides	37 (5.0)	46 (6.2)	43 (5.8)
Desertification	102 (13.7)	104 (14.0)	100 (13.4)
Water scarcity	336 (45.2)	350 (47.0)	362 (48.7)
Ecosystem degradation	86 (11.6)	90 (12.1)	90 (12.1)
Agricultural pest and diseases	325 (43.7)	309 (41.5)	339 (45.6)

3.4.3 IMPACT OF CLIMATE HAZARD

Findings in Table 5 show that the most significant impacts of climate hazard are on food and water shortages (87.4%), followed by income loss (79.2%). The impact is experienced at the level of individual, family as well as the community. The findings highlight the severe and widespread effects of climate risks on basic necessities and income/ economic stability.

Table 5: Impact of climate hazard

Climate hazards impact compared	Impact on Respondent (%)	Impact on respondents' household/family (%)	Impact on respondents' Community (%)
Loss of income	79.2	80.5	74.6
Damage to property	42.1	42.7	48.1
Health issues	38.3	39.2	40.5
Displacement	24.3	23.3	30.4
Food and water shortages	87.4	88.6	87.5
Domestic-based violence	15.9	13.2	21.2

3.4.4 GENDER-SPECIFIC IMPACT OF CLIMATE HAZARD

Figure 10 presents findings on the gender-specific impacts of climate hazards. The data reveals that women are more significantly affected by food and water shortages (93.5%) and domestic violence (25.9%) compared to men, highlighting the disproportionate burden women face in these areas. However, the findings also show that climate hazards have a greater impact on men's income (91.1%) than on women's (75%).These survey results are consistent with perceptions shared during the FGDs, where participants, especially in Handeni and Micheweni, identified men as the primary breadwinners, while women were expected to manage household responsibilities. However, findings of FGDs and key informants show that peoples with disabilities are more impacted by climate hazards regardless of their gender as highlighted in the following quote from a key informant:

"Climate hazards disproportionately affect people with disabilities, irrespective of their gender, because they face additional barriers to accessing resources, information, and support during emergencies. For instance, challenges such as difficulty evacuating during flood, limited availability of accessible shelters, or challenges in receiving timely warnings, compound their vulnerabilities. These challenges are exacerbated not only by the severity of the hazard but also by pre-existing systemic barriers," Community Development Officer, Monduli 29th October 2024.

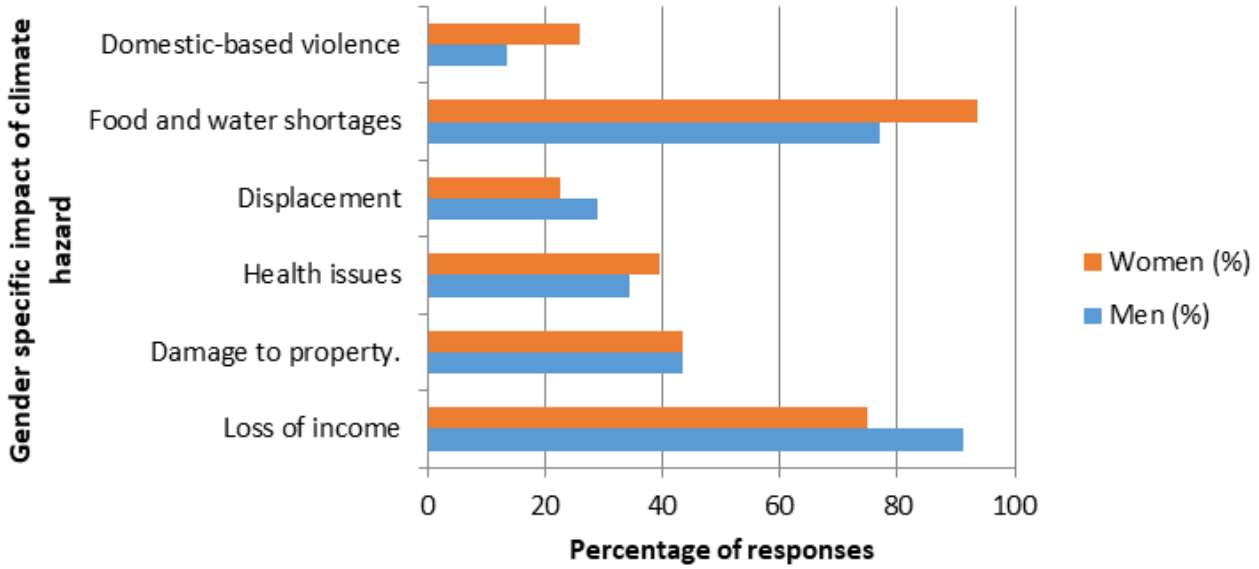

Figure 10: Gender specific impact of climate hazard

3.4.5 HOW CLIMATE HAZARDS IMPACT ROLES AND RESPONSIBILITIES

3.4.5.1 IMPACT ON ROLES AND RESPONSIBILITIES OF ADOLESCENT BOYS AND GIRLS

Qualitative findings indicate that the most significant climate hazard, drought, affects adolescent boys and girls similarly. During focus group discussions, participants emphasized that when drought is particularly severe, school-going adolescents, both boys and girls, are unable to attend school due to food shortages and water scarcity at home. Consequently, they stay home to either engage in income-generating activities or assist their parents with tasks, particularly casual labour or small-scale businesses. In addition, since water sources dry up during this period, adolescents must help their parents fetch water. Overall, FGD participants agreed that drought leads to truancy, involvement in income-generating activities, and long walks in search of water. Findings of key informant interviews confirmed the FGD findings as indicated in this statement:

"The drought not only impacts students' well-being but also has long-term consequences for their future opportunities. Based on my experience working with local communities, it is evident that school attendance declines significantly during severe droughts, as children are required to stay home to assist with the shortage of food and water." Interview with Sheha in Michewen district on 6th November 2024.

Apart from drought, flooding was also reported to affect adolescents, both boys and girls. Participants in FGDs noted that during floods, certain roads become impassable, preventing school-going adolescents from attending school. However, they emphasized that, compared to drought, floods have a lesser impact.

3.4.5.2 IMPACT ON ROLES AND RESPONSIBILITIES OF MIDDLE-AGED MEN AND WOMEN

Climate hazards, particularly droughts, significantly reduce crop yields, causing food insecurity and the depletion of water sources. As a result, women are compelled to engage in small-scale businesses particularly making buns (i.e. dough cake, chapatti, pancakes and kacholi). Also, they offer labour for hire to earn income to support their families. In addition, reliance on men increases because opportunities to earn income are reduced. On the other hand, due to water scarcity women also have to travel long distances to find water, as nearby water sources have dried up. Participants in women's FGDs noted that during droughts, agricultural activities decrease due to reliance on rain-fed farming. On the other hand, men's roles and responsibilities also shift as drought negatively affects their income. To provide for their families, many men seek temporary employment, either within their districts or elsewhere. Additionally, in Meatu and Monduli, men migrate with their cattle in search of pastures, often traveling away from their homes.

In Micheweni, Pemba, most men travel to fishing camps, known as "KWENDA DAGO," and only return once conditions improve. To address water scarcity, men also dig wells and take on the responsibility of caring for their elderly parents, as highlighted in one of the FGDs in Micheweni, Pemba:

> **"During periods of drought, the additional burden of caring for others becomes even more challenging due to limited resources such as food, water, and healthcare."** Men's FGD in Pemba, 5th November 2024.

3.4.5.3 IMPACT ON ROLES AND RESPONSIBILITIES OF OLDER ADULT MEN AND WOMEN (65+)

The findings in Table 6 suggest that older adult men (65 years and above) are more impacted by climate hazards in several areas, particularly in terms of loss of income (65.6%), food and water shortages (58.8%), and displacement (55.6%). However, findings show that women experience slightly higher health impacts from climate hazards (56%). The differences in these impacts may be due to varying social roles, health conditions, and access to resources among older men and women. It is crucial that climate adaptation strategies and disaster relief programmes specifically address the needs of older adults, considering the unique challenges faced by men and women in this age group.

Table 6: Impact of climate hazards on older adult men and women (65+)

Impact of Climate Hazard	Older adult (65+)	
	Male	Female
Loss of income	63 (65.6%)	33 (34.4%)
Damage to property	31 (54.4%)	26 (45.6%)
Effect on health	22 (44%)	28 (56%)
Displacement	20 (55.6%)	16 (44.4%)
Effect on food and water shortages	60 (58.8%)	42 (42.2%)
Domestic-based violence	11 (57.9%)	8 (42.1%)

Furthermore, qualitative findings reveal that during climate hazards, particularly droughts, the roles and responsibilities of older adults (65+) are significantly impacted, exacerbating their vulnerability due to age and physical limitations. These limitations make it difficult for them to perform daily tasks, especially fetching water as nearby sources dry up, and collecting firewood. Additionally, droughts cause food shortages, further increasing their dependence on others for support. Both FGD and key informant findings indicate that there is little distinction between the roles of older men and women (65+) during such times, as both face similar challenges.

3.4.5.4 IMPACT ON ROLES AND RESPONSIBILITIES OF PEOPLE WITH DISABILITIES

The findings in Table 7 indicate that climate hazards have a disproportionately negative impact on people with disabilities, affecting them economically, physically, and socially. While both male and female individuals with disabilities are significantly impacted by climate hazards, the findings reveal that a higher percentage of males, compared to females, reported being negatively affected. The only exception to this trend is domestic-based violence, where 52.6% of females, compared to 47.4% of males, reported being violently affected.

Table 7: Impact of climate hazards on people with disabilities

Impact of Climate Hazards	Persons with disabilities	
	Male	Female
Loss of income	16 (55.2%)	13 (44.8%)
Damage to property	12 (60%)	8 (40%)
Effect on health	12 (54.5%)	10 (45.5%)
Displacement	9 (45%)	11 (55%)
Effect on food and water shortages	18 (81.8%)	4 (18.2%)

Additionally, findings from FGDs and KIIs indicate that people with disabilities, particularly those with hearing, visual or cognitive impairments, face significant barriers in accessing climate-related early warning systems. Warnings, often communicated via radio, television or mobile messages, are not designed with accessibility for them in mind. Additionally, discussions from FGDs revealed that heatwaves, especially when the sun's intensity is higher, disproportionately affect people with albinism. One participant from an FGD in Meatu highlighted the specific challenges faced during such extreme heat events:

> **"People with albinism cannot work effectively when heatwaves are intense. Likewise, children with albinism struggle to learn at school during such times, "** One of the respondents in FGD in Meatu District.

These findings suggest that heatwaves disrupt the livelihoods of adults with albinism and negatively impact the education of school-going children with albinism.

3.5 Vulnerability, gendered needs and priorities

3.5.1 VULNERABILITY OF PEOPLE TO CLIMATE HAZARD

Table 8 presents data on the vulnerability of various household members to climate hazards. The findings reveal that infants and young children are particularly vulnerable, with over 65% classified as at risk. Other groups identified as highly vulnerable include older adults (65+ years), with vulnerability rates of 53.8% for men and 46% for women, as well as middle-aged women (45-65 years) at 45.1%. These results align with observations made during FGD conducted in the areas where the survey took place. For example, in Handeni at Kwa Sunga ward, women explained that they are particularly vulnerable to climate change impacts because they often remain at home, depending on their husbands for food. Most FGD members agreed with the following:

"Men are mobile. When food is scarce due to drought, they go out to seek non-farm income and eat from there. Women, children and the elderly do not have this opportunity, and therefore, they are more vulnerable." Women FGD participant from Kwa Sunga Ward, in Handeni District on 28th October 2024.

Table 8: Vulnerability of people to climate hazard

Household Members	Vulnerable	
	Yes (%)	No (%)
Infants and young children (0-5y)	65.7	34.3
School-age children (5-9y)	34.7	65.3
Adolescent boys (10-19y)	21.8	78.2
Adolescent girls (10-19y)	20.7	79.3
Young women (20 to 45y)	19.0	81
Middle-aged men (45-65y)	22.7	77.3
Young men (20 to 45y)	14.7	85.3
Middle-aged women (45-65y)	45.1	54.9
Older adult men (65+)	53.8	46.2
Older adult women (65+)	46.0	54
Low-income families	1.7	98.3

3.5.2 GENDER-SPECIFIC VULNERABILITY

Table 9 presents findings on gender-specific vulnerability to various climate impacts, comparing how men and women experience different aspects of climate hazards. The findings reveal that men and women experience climate hazards differently, with women generally being more vulnerable to issues related to food security and water scarcity (91.7%), health issues reported by 40.5% and household stress (28.1%), while men are more vulnerable to economic impacts like income loss with percentage responses of 90.2. Although women are also affected by loss of income, their percentage response is smaller (74.9%). The differences in climate vulnerability between women and men could be linked to the nature of their work (e.g., agriculture, which is often highly climate-dependent). This difference may reflect gender-specific roles, with women potentially being less reliant on income-generating activities that are directly affected by climate hazards, or they may be more involved in informal economies, which may not be as readily impacted by climate events.

Table 9: Gender-specific vulnerability

Climate Impact Vulnerability	Gender	
	Men	Women
Loss of income	90.2	74.9
Damage to property	43.7	39.4
Health issues	34.3	40.5
Displacement	25.9	19.0
Food and water shortages	74.3	91.7
Environmental degradation	21.9	20.7
Household tensions	23.7	28.1
Community tensions	11.0	10.6

3.5.3 IMMEDIATE SUPPORT NEEDS DURING CLIMATE HAZARDS

The findings in Table 10 highlight the immediate support needs of individual respondents, their families/households and their communities during climate hazards. Food emerged as the most critical form of support, identified by 92.7%, 92.9%, and 90.5% of respondents at the individual, family, and community levels respectively, followed by water, with 78.5%, 76.3%, and 74.6% reported for individual, family and community needs respectively. Additionally, financial support was highlighted as an urgent requirement, with 73.7%, 73.3%, and 74.9% of respondents at the individual, family, and community levels indicating its importance. Overall, the findings suggest that there is little variation in the three most critical support needs across individual, family, and community levels.

Table 10: immediate support needs during climate hazards

Climate impact vulnerability	Respondent needs (%)	Respondent Family/ household needs (%)	Respondent Community needs (%)
Food	92.7	92.9	90.5
Water	78.5	76.3	74.6
Shelter	33.3	32.9	29.8
Medical assistance/ health	45.4	46.8	49.7
Financial support	73.7	73.3	74.9

3.5.4 GENDER-SPECIFIC SUPPORT NEEDS DURING CLIMATE HAZARDS

The findings in Figure 11 highlight gender-specific support needs during climate hazards, comparing the responses of women and men. A greater proportion of women (95.8%) identified food as a critical need, compared to 81.9% of men. This suggests that women may place a higher priority on food during climate-related crisis potentially due to their roles in managing household needs and caregiving responsibilities. Similarly, women (79.4%) expressed a stronger need for water than men (63.0%), indicating that women may face greater concerns regarding access to clean water during such events. In addition, a higher percentage of women (50.7%) than men (41.1%) reported needing medical assistance or health-related support, suggesting that women may experience more health-related challenges during climate hazards. On the other hand, more men (84.0%) than women (71.9%) identified financial support as an immediate need, which may reflect differing financial vulnerabilities or priorities between genders during climate-related crises. Furthermore, qualitative findings show that in addition to gender-specific support needs, people with disabilities require specialized needs:

"For instance during flooding people with disabilities need technology that provides personalized alerts, such as vibration or flashing lights for those with hearing impairments, or GPS tracking for individuals with cognitive impairments." Ward Councillor, Kwa Sunga Ward, Handeni District on 29th October.

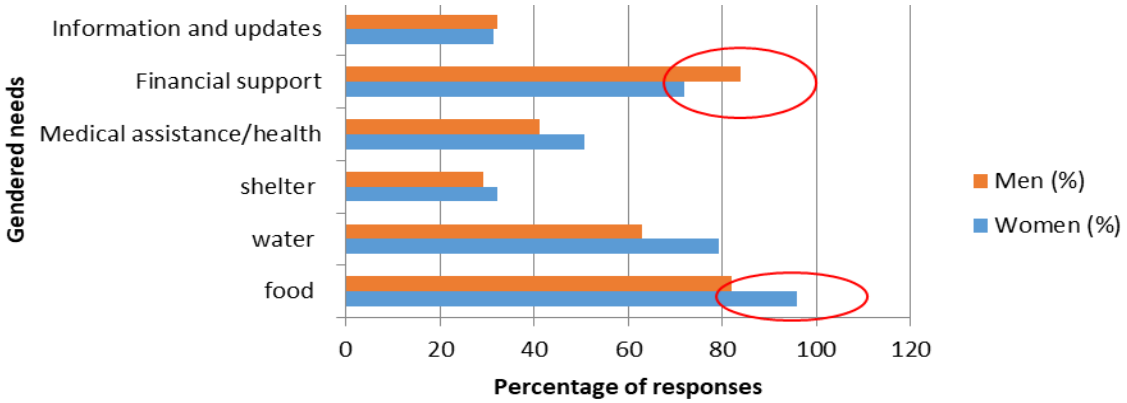

Figure 11: Gender-specific support needs during climate

3.5.5 WHETHER SUPPORT NEEDS WERE MET DURING THE MOST RECENT CLIMATE EVENT

The findings show that 26.1% of respondents felt their needs were fully met, while the majority (56.9%) reported that their needs were only partially addressed, indicating that the support they received was inadequate or incomplete. Furthermore, 17.1% of respondents felt that their needs were not addressed at all, highlighting a substantial gap in the assistance provided. Explaining the support they have been receiving, the FGD participants and key informants explained that, in most cases, they have been receiving food in terms of subsidized maize, seeds for planting, mattresses and bed sheets. Additionally, FGD participants emphasized that although people with disabilities are given priority in receiving support, the assistance provided is insufficient in meeting their actual needs. In general, these findings suggest that there are substantial deficiencies in the response to climate events, with many individuals either receiving partial support or no support at all.

3.5.6 LEVEL AT WHICH NEEDS WERE MET

Table 11 shows how support needs were addressed during the most recent climate event. The findings reveal that support was primarily provided at the family/household level, with 53.9% of respondents reporting that their needs were met at this level. Additionally, 36.2% of respondents indicated that their needs were addressed at the community level. Only a small percentage (9.9%) reported that their needs were met at the individual level. The findings indicate that interventions were likely aimed at assisting families or households as a unit rather than targeting individuals or the broader community.

Table 11: Level at which needs were met

Climate Impact Vulnerability	Individual level (%)	Family/household level (%)	At the community level (%)
Yes	74 (9.9)	401 (53.9)	269 (36.2)
No	670 (90.1)	343 (46.1)	475 (63.8)
Total	744 (100.0)	744 (100.0)	744

3.6 Barriers/challenges faced in accessing support

3.6.1 ACCESS TO RESOURCES

Table 12 presents the results of the question that sought to assess respondents' opinions on whether women and men face similar barriers to accessing resources and support to address climate hazard impact. Findings show that around 64% of respondents disagree or strongly disagree with the idea that men and women have equal opportunity in accessing resources, while a smaller portion of respondents agree (around 36%) that men and women have equal opportunity in accessing resources and support to address climate hazard impact. In general, the findings suggest that respondents largely perceive gender-based inequalities in access to resources and support for climate hazard management, highlighting the need for a gender-sensitive approach in policy-making and resource allocation.

Table 12: Equal opportunity of accessing resources

Equal opportunity to access resources	Frequency	Percent
Yes, agree	194	26.1
Strongly agree	75	10.1
Disagree	434	58.3
Strongly disagree	40	5.4
Neutral	1	1
Total	744	100.0

3.6.2 GENDER SPECIFIC BARRIERS TO ACCESSING SUPPORT

Figure 12 presents gender-specific barriers to accessing support. The findings indicate that women face more barriers than men. 43.0% of respondents identified cultural norms as a barrier for women, compared to 8.5% for men, reflecting deeply entrenched societal expectations and restrictions placed on women. 25.5% reported limited mobility as a barrier for women, compared to 13.8% for men and 12.4% cited social stigma as a barrier for women accessing resources and support, compared to 2.6% for men. This underscores the systemic challenges that restrict women's access to opportunities and support systems. Other barriers, though with minimal differences, disproportionately affect women compared to men, including lack of education, inadequate information about available support, distance to support centres and transportation issues.

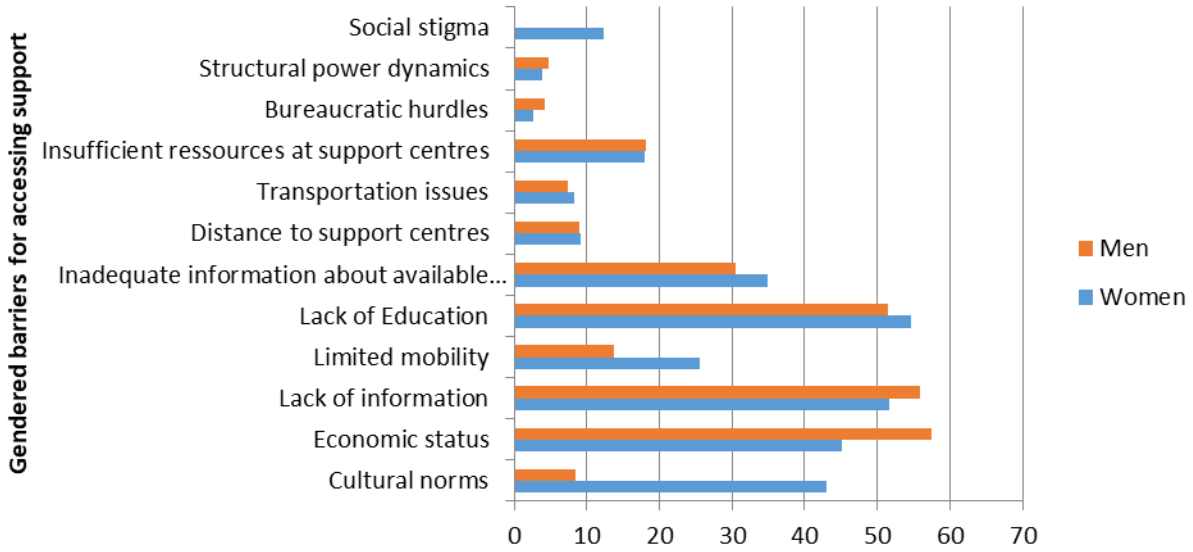

Figure 12: Gender-specific barriers to accessing support

The findings suggest that women encounter significantly more barriers than men in accessing resources and support, highlighting the unequal social and cultural dynamics at play. This calls on the importance of addressing structural inequalities and cultural biases to reduce disparities and promote equitable access to resources and support for women.

5.4.1 SATISFACTION OF SUPPORT RECEIVED FOLLOWING CLIMATE HAZARD

Table 13 presents the results of a survey on the level of satisfaction with the support received.

The findings show that only a small portion of respondents (3.1%) reported being very satisfied with the support, while 25.4% expressed being satisfied. In contrast, 48.3%, the largest group of respondents, reported being dissatisfied with the support they received. Generally, these findings suggest that the current support systems are not adequately meeting the needs of most respondents, with a largely dissatisfied group and only a small portion expressing satisfaction.

Table 13: Satisfaction of support received following climate hazard

Level of satisfaction of support received	Frequency	Percent
Very satisfied	23	3.1
Satisfied	189	25.4
Neutral	173	23.3
Dissatisfied	322	43.3
Very dissatisfied	37	5.0
Total	744	100.0

3.7 Coping strategies and potential interventions

3.7.1 COPING STRATEGY/ INTERVENTION

Table 14 presents various coping strategies that respondents, their households/families, and their communities would employ during climate shocks or hazards. The findings indicate that the strategy of reducing food consumption, portion size, or eating less expensive foods is the most commonly adopted across all groups, with 77.7%, 81.7%, and 73.9% at the individual, family/household, and community levels respectively. The results further show that seeking income-generating opportunities elsewhere is the second most commonly adopted strategy across all groups, with 51.1%, 53.9%, and 52.6% at the individual, family/household and community levels respectively. Respondents also mentioned other strategies they would use, such as migrating temporarily, selling assets, using savings, borrowing money and relying on community support from relatives and friends.

Table 14: Coping strategy/intervention

Coping strategies	Strategies adopted by respondent	Strategies adopted by respondent Family/ household	Strategies adopted by respondent Community
Reducing food consumption/ portion size or eating less expensive foods	77.7	81.7	73.9w
Using savings	40.7	40.3	40.3
Borrowing money	37.1	38.7	40.7
Relying on community support, relative and friends	44.6	41.3	50.1
Migrating temporarily	25.0	20.8	36.0
Selling assets	31.2	29.2	40.3
Seeking income-generating opportunities elsewhere	51.1	53.9	52.6
Leaving children with relatives	8.1	8.6	16.1
Irrigation	8.3	7.4	9.5
Reducing livestock/animals	27.4	25.5	38.3

Generally, the findings highlight that climate shocks or hazards trigger a range of coping strategies, with an emphasis on food security, income diversification, social support, and financial resilience. These strategies indicate the adaptive capacity of individuals and communities but also reveal the vulnerabilities they face in the face of climate change. There is a clear reliance on personal savings, informal networks, and temporary migration, but these measures may not be sustainable in the long term, suggesting a need for more structured support systems, such as social safety nets or climate-resilient livelihoods, to better equip communities to cope with future climate hazards.

3.7.2 GENDER-SPECIFIC COPING STRATEGIES/INTERVENTIONS

Figure 13 presents the results of coping strategies employed by men and women in response to climate shocks or hazards. The findings indicate that a significant majority of respondents (87.6%) believe women are more likely to reduce food consumption or opt for less expensive foods, compared to 58.3% of men.

Additionally, 52.7% of respondents reported that women would rely on community support, relatives, and friends, as opposed to 34.9% of men. Other notable differences in coping mechanisms between men and women include borrowing money (47.4% for men vs. 41.4% for

women), selling assets (49.3% for men vs. 21.9% for women), seeking income-generating opportunities elsewhere (57.1% for men vs. 51.3% for women), and temporarily migrating (41.4% for men vs. 16.8% for women).

Overall, these findings suggest that women are more likely to engage in immediate and social coping strategies, while men tend to rely on financial and mobility-related coping mechanisms. The differences point to broader gender dynamics where women, often in charge of household care, face more immediate and communal challenges, while men may access financial resources and physical mobility to respond to climate shocks.

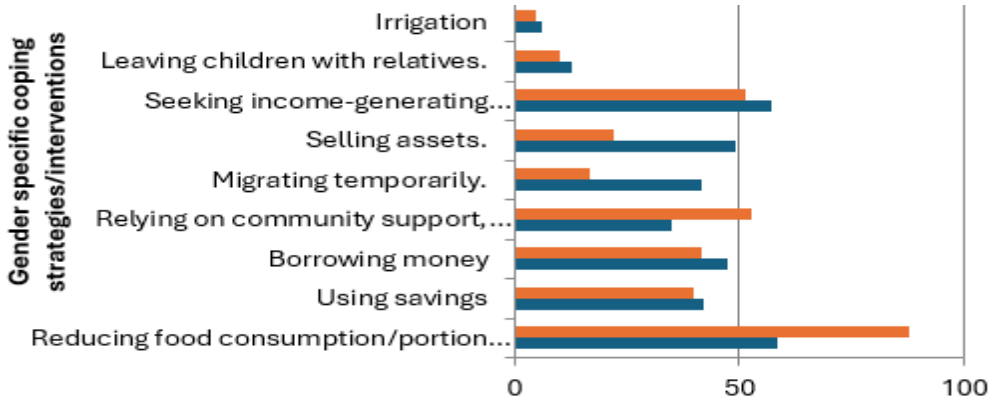

Figure 13: Coping strategies and potential interventions

3.7.3 PERCEIVED EFFECTIVENESS OF COPING STRATEGIES

The findings on respondents' perceptions of the effectiveness of coping strategies in response to climate shocks or hazards show that 40.7% of respondents believed the coping strategies to be very effective, while 35.8% viewed them as ineffective. Overall, those who considered the coping strategies effective (53.2%) outnumbered those who thought they were ineffective (45.6%). These findings suggest that a majority of respondents have a positive view of the effectiveness of the strategies they would adopt. The findings from the FGDs indicate that the strategy is perceived as effective when it has been in use for several years, despite the negative consequences of its adoption. For example, reducing food consumption or resorting to lower-quality food is likely to negatively impact the nutritional status of children.

3.8 Involvement in AA Planning

In all the districts visited, there is a well-established framework for addressing hazards, including those related to climate change. This framework refers to Disaster Management Committees established under the Prime Minister's office. This framework extends down to the ward through the village level, where specific committees are tasked with managing hazards. Diligent efforts are required to ensure the integration of AA into disaster risk management. These committees are inclusive, ensuring representation of women, youth, and persons with disabilities. However, the committees primarily operate reactively, taking action after hazards occur. The involvement of community members is mainly through community meetings and the involvement revolves around receiving information about potential events.

Furthermore, the findings from the key informant interviews revealed that there are clear guidelines for the establishment of hazard response committees. At the district level, the committee is chaired by the District Commissioner (DC), with the District Executive Director (DED) serving as the secretary. At the ward level, the committee is chaired by the Ward Councilor (WC), while the Ward Executive Officer (WEO) acts as the secretary.

In addition, during key informant interviews, it was reported that citizens are often engaged in early warning systems by receiving timely information through printed and authorized social media about imminent hazards, such as weather alerts or flood warnings. However, it was noted that early warnings for climate-related hazards are issued by a separate government agency, specifically the Tanzania Meteorological Agency (TMA), rather than the hazard response committee. Consequently, it was revealed that the primary function of the hazard committee is to coordinate the support needed after a hazard has occurred.

3.8.1 Are AA planning strategies gender-responsive?

A review of the literature and key informant interviews revealed that in Tanzania, AA planning strategies are still relatively nascent. However, there are some notable gender-responsive initiatives which acknowledge the critical role that gender dynamics play in shaping vulnerability and the effectiveness of disaster responses. For instance, recognizing the barriers that women, youth, and people with disabilities face in accessing resources, district councils allocate 10% of their total revenue to provide loans to these vulnerable groups. This proactive approach aligns with AA as it helps ensure that vulnerable groups are better prepared to face different challenges, including those posed by climate change, thus fostering both individual and community resilience.

In response to climate shocks and risks, district councils, through the Farmer Input Support Programme (FISP), offer subsidized inputs, including seeds and fertilisers, to smallholder farmers, with a particular focus on reaching women. In general, the FISP's interventions are aligned with AA on climate change by enhancing resilience to climate shocks, targeting vulnerable populations, strengthening early warning systems and adaptive capacities and collaboration with climate-resilient programmes.

Additionally, land is a vital resource for agricultural production and wealth generation in Tanzania, yet women face significant barriers to access. The Certificate on Customary Right of Occupancy (CCRO) plays a significant role in enabling women to access land in Tanzania, a country where land rights have traditionally been governed by customary laws. Under customary systems, women's land rights have often been marginalized or informal, with men typically holding primary control over

land ownership and use. The introduction of the CCRO aims to address this imbalance and strengthen women's access to land by providing a formal, legal recognition of land rights, including for women.

Generally, while AA planning strategies in Tanzania are still in their early stages, there are significant strides being made towards gender-responsive initiatives that address the unique vulnerabilities of women, youth, and people with disabilities.

4. Discussion

The findings also reveal that approximately 5% of respondents identified as having a disability, although the specific type of disability was not disclosed. These findings suggest that persons with disabilities represent a small but significant proportion of the population studied. Overall, the findings show that the gender difference in disability rates is minimal, with males representing 51.4% and females 48.6% of those with a disability. This balance highlights the importance of ensuring that programmes and policies addressing the needs of persons with disabilities are inclusive and gender-sensitive, considering the unique challenges faced by both men and women with disabilities.

4.1 Source of information on climate hazards

The study findings revealed that 66.2% of respondents reported not receiving any information, compared to 33.8% who did. Among those who received information, the majority relied on friends and family as their primary sources. The findings suggest that females are disproportionately disadvantaged in receiving information through normal channels such as television, internet and other media sources as compared to their male counterpart. Instead, a larger proportion of females rely on informal networks such as friends and family, community meetings and word of mouth for information. This gap could hinder women's ability to access critical information for making informed decision on issues i.e. employment, education and climate adaption. The reliance on informal sources further underscores the need for targeted interventions to bridge the gender information gap by promoting inclusive access to formal information channels.

4.2 Emergent vulnerabilities in climate related hazards

The findings of this study highlight that infants, young children, middle-aged women, and older adults (both men and women) are most vulnerable to climate hazards. These groups are particularly at risk due to their heightened exposure to the main climate hazards identified in the study areas, drought, extreme heat and food and water shortages. Infants and young children, due to their physical and developmental needs, are especially susceptible to malnutrition. Malnutrition becomes one of the primary risks to these groups as insufficient or improper nutrition during the early years can result in stunting, weakened immunity, and long-term cognitive and physical developmental issues. On the other hand, middle-aged women and older adults experience compounded vulnerabilities due to their social roles, health conditions, and mobility challenges.

Middle-aged women face gendered vulnerabilities related to caregiving and domestic roles, often exacerbated by limited access to resources, while older adults face health risks, mobility challenges, and social isolation. These vulnerabilities not only affect their immediate ability to cope with climate change but also hinder their long-term resilience.

Generally, vulnerabilities of these social groups are shaped by existing gender inequalities, roles, and power dynamics whereby infants, young children and adults are more vulnerable due to limited access to resources, education, and decision-making power. Furthermore, people with disabilities face additional vulnerabilities due to discrimination and social exclusion. The findings align with global literature, demonstrating that socio-political factors such as access to resources, governance, cultural norms, and knowledge influence women's vulnerability to climate change.

4.3 Level of knowledge about causes of climate events

The findings of the study revealed that at least 72.3% of females reported to have no knowledge of the causes of climate change compared to 27.7% of men. These findings suggest a significant gender disparity in climate change knowledge with a higher proportion of women reporting a lack of understanding about the causes of climate change. This disparity indicates barriers that disproportionately affect women's access to information, or awareness programmes related to climate change. This calls for targeted efforts to enhance climate change education and awareness needed to understand and address climate related challenges.

4.4 Knowledge on key contributors to climate hazards

The disaggregated data reveals that males are more likely than females to acknowledge and believe that climate hazards are driven by natural processes and human activities, with 65.1% and 63.7% of males attributing these causes, compared to 34.9% and 36.3% of females respectively. These findings reflect the differences in awareness and access to information about the causes of climate-related challenges. The lower percentage of females identifying these factors indicates the gap in knowledge or lack of inclusion in climate related discussions. This calls for targeted awareness and inclusive campaign programmes that will help bridge the gender divide in understanding and responding to climate-related hazards.

4.5 Level of confidence in community's ability to recover from climate hazards

The disaggregated data revealed that only 48.6% of women expressed confidence in their community's ability to recover from climate hazards compared to their male counterparts. This data suggests that men may have a marginally higher level of perceived resilience regarding their community's ability to recover from climate hazards compared to women, which could be influenced by varying gender roles, responsibilities and access to resources that shape how men and women perceive and experience climate related challenges. Therefore, understanding these differences is essential for designing targeted interventions that address the specific needs and perspectives of both genders in building community resilience.

4.6 Gendered experience and impacts of climate hazards

The findings suggest that severe drought significantly disrupts the education and daily lives of adolescent boys and girls. Food shortages and water scarcity prevent them from attending school, keeping them at home. This highlights the negative impact of climate shocks on the education and well-being of adolescents underscoring the need for adaptive strategies that ensure the continuity of education and the reduction of the burden on young people during times of extreme weather. Unlike other social groups, men face greater challenges in sustaining their income during climate events, which participants in the men's FGDs associated with increased stress and social tensions within households. Generally, these findings highlight that while men may face greater challenges in sustaining their income during climate events, the social and emotional consequences of these challenges are far-reaching, affecting not only household dynamics but also mental health and community resilience.

The findings further revealed that the reduction in crop yields exacerbates food insecurity, which forces women to take on additional responsibilities, such as engaging in small-scale businesses or offering labour for hire to support their families. These findings highlight the gendered impact of climate change, with women facing increased workloads and economic vulnerabilities, underscoring the need for gender-sensitive adaptation strategies to address both their immediate needs and long-term resilience.

Furthermore, the findings have revealed vulnerabilities among older adults (65+) to climate shock increases due to age-related physical limitations. As local resources such as water sources dry up, older men and women face significant challenges in performing essential tasks, such as fetching water which is critical for daily survival. In some cases, elderly individuals are left with young children thus struggle to meet their own basic needs as well as those of the children such as feeding, bathing, or ensuring their safety.

Also, food shortages during droughts further increase the dependence of older adults on others for support, both in terms of food and physical assistance. This highlights the need for targeted interventions that address the specific needs of older adults during climate-related shocks, such as support with water collection and access to food to reduce their vulnerability and ensure their well-being.

4.7 Gender-specific support needed during climate hazards

The findings revealed that a greater proportion of women preferred food, water and medical assistance as critical needs compared to their male counterparts by 95.8%, 79.4%, 50.7% and 81.9%,63% and 41.1. % respectively. These data suggest that women prioritize basic survival needs more than men during climate-related crises, which reflects their roles as primary caregivers in many households as well as their heightened vulnerability to disruption in essential services. These findings underscore the importance of gender-sensitive disaster response strategies that address the specific needs of women, particularly in ensuring access to food, clean water, and healthcare. They also highlight the need for policies that alleviate the caregiving burden on women and enhance their resilience during crises.

4.8 Inclusivity of current AA approaches

Despite the existence of a well-established framework for AA interventions at the district, ward, and community levels that promote the representation of women, youth, and persons with disabilities, significant barriers hinder their meaningful participation. One major challenge is the eligibility criteria for leadership roles within district and ward committees, which require individuals to hold positions such as District Commissioner (DC), District Executive Director (DED), Ward Chairperson (WC), or Ward Executive Officer (WEO). These roles are often dominated by men, and social stigma further limits women's access to leadership opportunities, restricting their ability to fully participate in decision-making processes and access critical resources and support.

4.8.1 HOW CAN WFP IN THE COUNTRY IMPLEMENT AA TO RESPOND TO THE REALITIES IDENTIFIED?

For effective planning, implementation and monitoring of AA in Tanzania, WFP should continue working with the government agencies and partners to conduct a comprehensive climate risk and vulnerability analysis in different regions focusing on their impacts on food security, livelihoods, local resources and education for school going children, middle-aged women and adult men and women.

Additionally, the findings highlight significant gender disparities in access to resources and support, with women facing more barriers than men, including cultural norms, limited mobility, social stigma, lack of education, and inadequate information. These realities provide a clear opportunity for the WFP in Tanzania to implement AA strategies that are gender-sensitive and address these specific challenges. For instance, with regard to addressing cultural norms and social stigma, WFP can develop and implement community engagement programmes aimed at challenging and changing cultural norms and social stigmas that restrict women's access to resources. These programmes could involve local leaders, women's groups, and other community stakeholders in raising awareness about the importance of women's access to food, education, and financial resources.

With regard to the main coping strategies which include reducing food consumption, seeking income-generating opportunities elsewhere and utilizing coping strategies like migration, asset sales, borrowing money, and relying on community support which are commonly adopted by individuals, households, and communities in response to climate-induced food insecurity, the WFP in Tanzania can implement AA strategies that not only provide immediate relief but also address the root causes of food insecurity and enhance the long-term resilience of vulnerable populations. Given the high reliance on reducing food consumption, WFP can implement anticipatory food assistance programmes, including pre-positioned food stocks that are activated before a climate shock. These interventions can help ensure that vulnerable communities have enough food to avoid resorting to unhealthy coping strategies like reducing portion sizes or eating less nutritious foods.

4.9 Implications for Anticipatory Action

Effective AA requires a proactive and gender-responsive approach to preparedness and ensuring that vulnerable groups with a particular focus on women, children and persons with disabilities are not disproporitionately affected by crises. Therefore, integrating gender, protection and inclusion into AA frameworks will help address pre-existing inequalities by prioritizing the unique needs and capacities of marginalized groups. This includes establishing gender-sensitive early warning systems that are accessible and responsive to diverse populations, ensuring timely and inclusive decision making and designing pre-crisis interventions that strengthen resilience at the community level.

Additionally, anticipatory action should emphasize localized and community driven solutions by actively engaging women-led organizations and grassroot networks in preparedness planning and response coordination. Investing in gender-sensitive capacity building programmes, such as training on food security, resource management and protection measures will also empower communities around ownership of anticipatory interventions.

Finally, ensuring sustainability, AA should be aligned with national disaster risk management strategies which will enhance their long-term effectiveness, ultimately reducing vulnerabilities and improving crisis response outcomes.

4.10 Conclusion

In conclusion, droughts, water scarcity and agricultural pests and diseases are emerging as the most significant climate-related hazards impacting communities, in particular women, in the study districts. These challenges disproportionately affect vulnerable social groups, including infants and children, middle-aged women, and older adult men and women. Among these groups, women and those with children are particularly impacted by the shortages of food and water, as they are primarily responsible for managing household resources and providing care. Moreover, school children often face interrupted education as they are forced to work to support their families, thus hindering their future opportunities.

Women face unique barriers in accessing support, primarily due to cultural norms, lack of education, inadequate information and the distance to support centres. These barriers restrict their ability to seek help, exacerbating the challenges they face in times of crisis. In terms of coping strategies, many women are forced to reduce food consumption, either by decreasing portion sizes or resorting to less nutritious, cheaper foods in order to stretch limited resources.

Addressing these issues requires a gender-sensitive approach to climate adaptation and disaster response, ensuring that support systems account for the specific vulnerabilities and coping strategies of different groups. Moreover, improving access to education, information, and resources, as well as recognizing predominant social norms and gender barriers, as well as developing strategies and implementing gender transformative interventions that address root causes can empower women to cope better with and adapt to the increasing threats posed by climate related hazards.

5. Recommendations

Based on the study findings, the following recommendations outline specific actions to strengthen inclusion in AA and address gender and inclusion barriers:

- **Enhance multisectoral collaboration for inclusive AA:** WFP should establish formalized collaboration frameworks with key government agencies, including the Tanzania Meteorological Agency (TMA), the Ministry of Agriculture, the Ministry of Livestock and Fisheries, and the Prime Minister's Office. This should involve joint planning sessions, data-sharing agreements, and capacity-strengthening workshops to integrate gender-sensitive approaches into hazard preparedness and proactive response strategies. In addition, WFP should advocate for including women, youth, and marginalized communities in early warning and anticipatory decision-making structures, ensuring their representation in shaping preventive measures before hazards escalate.

- **Develop gender-responsive water management programmes within AA:** To address the disproportionate impact of drought and water scarcity on vulnerable groups, particularly women and children who often bear the brunt of such challenges, WFP should support the design and implementation of gender-sensitive water conservation initiatives within an AA framework. This includes developing and facilitating community-led rainwater harvesting projects/programmes, improving irrigation technologies tailored for smallholder farmers (especially women), and ensuring proactive measures to maintain access to safe water points before drought conditions intensify. WFP should also engage women and local leaders in pre-crisis water resource governance to ensure equitable distribution and preparedness.

- **Establish and scale up community-based food reserves for AA**: WFP should work with local authorities and women-led organizations to set up and operationalize anticipatory food reserves and resource-sharing systems in vulnerable communities, with a particular focus on women, children, and persons with disabilities. This initiative should involve training and pre-crisis planning programmes for women and marginalized groups on food storage, preservation, and anticipatory distribution mechanisms. This will strengthen their resilience by ensuring food availability before hazards lead to acute food insecurity.

- **Enhance local anticipatory capacities through inclusive training programmes:** WFP should design district, local-level, and community-based early action programmes with a strong focus on women, youth, and persons with disabilities. These programmes should provide hands-on training in anticipatory early warning systems, pre-crisis resource mobilization, and community-led risk mitigation. Furthermore, WFP should establish mentorship programmes to empower women in leadership roles within AA teams, ensuring gender-balanced representation in early decision-making processes. This approach will ensure that vulnerable groups are actively engaged in shaping proactive responses before disasters unfold.

- **Enhance AA through disability-inclusive programmes:** WFP should integrate disability inclusion frameworks into AA by developing targeted interventions that address the specific needs of persons with disabilities. This includes conducting accessibility assessments in high-risk areas before hazard onset, training humanitarian responders on disability-inclusive anticipatory risk reduction, and ensuring that early warning systems are delivered in accessible formats such as sign language,

Braille, and audio messages. In addition, WFP should collaborate with local disability organizations to strengthen community resilience and ensure equitable access to preventive disaster response resources.

- **Bridge the gender digital and information gap for AA:** WFP should roll out digital literacy initiatives targeting women and marginalized communities to enhance their access to climate information and gender-sensitive early warning systems. This could include community radio programmes, mobile-based information platforms, and training of women as local information agents who can disseminate climate alerts before hazards escalate. Additionally, WFP should collaborate with local and civil society organizations to develop simple, culturally appropriate, gender-sensitive communication materials that ensure all groups receive timely access to critical climate information before crises develop.
- **Conduct a gender-focused anticipatory vulnerability and capacity assessment:** WFP should lead or support a nationwide assessment to identify gender-specific vulnerabilities and barriers in anticipatory actions which will include gender-responsive early warning systems, risk reduction strategies and possible targerted interventions. Based on findings, WFP should design and implement targeted anticipatory interventions that empower both men and women to actively participate in and benefit from preemptive community resilience efforts. Additionally, the WFP should advocate for gender-balanced representation by promoting women's inclusion in decision-making at both national and local levels on anticipatory climate adaptation initiatives. This approach will help bridge gender disparities and strengthen proactive community resilience strategies.

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With the support of:
the Norwegian Agency for Development Cooperation (NORAD)

Norway