"When the Hippo Walks, We Know a Flood Is Coming"

Community Perceptions on Locally Led Adaptation to Climate Change in Malawi

Table of Contents

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Executive Summary

This report presents findings on locally led climate change adaptation efforts, based on research conducted in two districts in southern Malawi: Phalombe and Nsanje. A total of 357 households were surveyed using structured questionnaires – 139 (39%) in Nsanje and 218 (61%) in Phalombe. To complement the quantitative data, six focus group discussions and 14 key informant interviews were conducted to gather qualitative insights. Quantitative data were analyzed using Microsoft Excel, while qualitative data were examined through thematic content analysis.

Key knowledge gaps identified

The research highlights critical gaps in community understanding, including:

- Climate knowledge gaps: many community members do not differentiate climate change from meteorological and environmental phenomena, often using mitigation and adaptation terms interchangeably.
- Delayed response to climate risks: communities exhibit a delayed response to early warnings, indicating a need for tailored risk communication, meaningful engagement, and preparedness strategies.
- Limited awareness of adaptation measures: there is low awareness among community members regarding locally led adaptation measures to climate change impacts.

Impacts of climate change

Community members in Phalombe and Nsanje districts face significant challenges due to climate change, including:

- Livelihood Loss: Substantial impacts on livelihoods due to decreased agricultural productivity and other economic activities.
- Agricultural Decline: Decreased crop yields and food insecurity resulting from changing climatic conditions.
- Infrastructure Damage: Vulnerability of infrastructure, such as roads and housing, to climate-related hazards.
- Health Effects: Adverse physical and mental health outcomes exacerbated by climate stressors.

Identified challenges to effective adaptation

The report identifies several barriers hindering effective adaptation efforts:

- Limited Resources: Scarce financial and material resources available for climate adaptation initiatives.
- Knowledge Gaps: Insufficient understanding and awareness of climate change dynamics and adaptation strategies.

- Community Engagement: Inconsistent participation and community engagement in sustained climate action and preparedness.
- Preparedness Planning: Inadequate development and implementation of contextualized and effective preparedness plans that consider local knowledge and capacities.
- Political Commitment: Minimal political will to prioritize and support comprehensive climate adaptation efforts.

Recommendations for integrated approaches

To address these challenges, the report proposes integrated initiatives at the community, district, and national levels:

- Enhanced Community Knowledge: Increase awareness and understanding of climate change through targeted education and awareness campaigns.
- Community Participation: Foster active community participation in identifying risks, developing disaster preparedness plans, and implementing locally led adaptation initiatives.
- Social Protection: Strengthen social safety nets to enhance community resilience in coping with climate change impacts.
- Livelihood Improvement: Implement sustainable livelihood programs that build economic resilience to climate variability.
- Education Integration: Embed climate change adaptation into the local education system to cultivate a culture of preparedness and resilience.
- Stakeholder Coordination: Develop robust mapping and coordination mechanisms involving governments, NGOs, and organizations like the Malawi Red Cross Society to streamline efforts and avoid duplication.
- Local-Sustainable Financing: Promote local financing mechanisms such as community savings groups to support climate adaptation initiatives.
- Scientific and Indigenous Knowledge: Translate scientific knowledge into locally understandable information and integrate indigenous knowledge systems into adaptation strategies.
- Capacity Building: Enhance the capacity of social networks, local community structures, including religious groups and traditional leaders, to effectively mobilize communities for climate action.
- Perception Studies, Community Insights Research: Conduct ongoing perception studies and formative research to monitor community trust, attitudes, behaviors, and adaptation progress over time.

By co-designing and implementing these integrated approaches, Malawi can enhance its resilience to climate change impacts and foster sustainable development across its communities, districts, and national landscape.

List of acronyms

Area Development Committee	ADC
Area Development Risk Management Committee	ADRMC
Church's Aid in Relief and Development	CARD
Community Based Organization	CBO
Community Engagement and Accountability	CEA
Civil Society Network for Climate Change	CISONECC
Civil Society Organization	CSO
Department of Climate Change and Meteorological Services	DCCMS
District Civil Protection Committee	DCPC
District Executive Committee	DEC
Director of Planning and Development	DPD
District Risk Management Officer	DRMO
Disaster Risk Reduction	DRR
Department of Disaster Management Affairs	DODMA
Environmental Affairs Department	EAD
Focus Group Discussions	FGDs
International Committee of the Red Cross	CRC
International Federation of Red Cross and Red Crescent Societies	IFRC
Intergovernmental Panel on Climate Change	IPCC
International Red Cross and Red Crescent	RCRC
Key Informant Interviews	KIIs
Malawi Growth and Development Strategy	MGDS
Malawi Extractive Industries Transparency Initiative	MWEITI
National Adaptation Plan framework	NAP-F
National Climate Change Investment Plan	NCCIP
Nationally Determined Contribution	NDC
National Environmental Action Plan	NEAP
Non-Governmental Organization	NGO
Natural Resources Justice Network	NRJN
Village Civil Protection Committee	VCPC
Village Development Committee	VDC
Village Development Risk Management Committee	VDRMC
Wildlife and Environmental Society of Malawi	WESM

1. Introduction

Climate change is one of the most serious challenges of our and future generations. The impacts of climate change are increasing at an alarming rate, as recognized by the 6th Inter-Governmental Panel on Climate Change (IPCC) Assessment Report. Addressing the climate crisis is an institutional priority, identified both in IFRC's Plan and Budget 2021 – 2025, as well as the IFRC 2030 Strategy. It also is part of the IFRC's targets to implement the Climate and Environment Charter for Humanitarian Organizations, specifically to support 250 million people in addressing rising climate risks and make all our programs and operations climate-smart by 2025.

The IFRC's Global Climate Resilience Program aims to foster an unprecedented scale-up of locally-led climate-smart Disaster Risk Reduction (DRR) and adaptation actions to prevent and reduce climate-related disaster impacts and build community-level climate resilience. The USAID-funded program, "Scaling up Locally Led Adaptation and Transforming Humanitarian Responses to Climate Change" (herein "the Scaling Up Program"), which provides multi-year funding for twelve climate vulnerable countries, supports this overall ambition. The program's goals are to develop and implement locally led, integrated and multi-sectoral approaches, to support National Societies to establish evidence-based locally led adaptation.

Malawi is one of the most vulnerable countries to climate change in the world, mostly due to its high reliance on rainfed subsistence farming, increase in population and overdependence on wood as source of energy; which increases its susceptibility to climate hazards such as dry spells, seasonal droughts, strong winds, intense rainfall, cyclones, riverine floods and flash floods (World Bank 2020; UN 2023). As Malawi is experiencing high increase in temperature, it is projected that by 2075, there will be 2.7^{o}C rise in temperature. However, the overall increases or decreases in rainfall are difficult to predict in Malawi and there is a high level of uncertainty (Warnatzsch and Reay 2019). Thus, for Malawi, the locally led adaptation project aims to support communities to adapt to climate-related risks, including in some of the least supported and most vulnerable and marginalized communities, by scaling up locally led, integrated and multi-sectoral approaches which can help build sustained climate resilience at the community level.

The success of climate adaptation and resilience efforts hinges upon various factors including ensuring that the society, community and individuals change their behavior and take social action to adapt and protect themselves and the environment from the impacts of climate change. Community Engagement and Accountability (CEA) is crucial in reducing the humanitarian impacts of climate change as it empowers local populations to actively participate in resilience-building efforts, share invaluable local knowledge, and ensures that adaptation strategies are locally led, contextually relevant and effective over time. This is a report about a perception study conducted in Malawi in March 2024. The study covered two districts, Nsanje and Phalombe, and used a mixed-method approach, utilizing quantitative and qualitative methods to deepen the understanding of local perceptions, knowledge and practices in relation to climate change adaptation that is aimed not only to be community-based or community driven, but community-led.

Findings from this study will be relevant for shaping the Malawi climate journey to be more community led, for enhancing the Malawi Climate Risk Assessment Report and the Enhanced Vulnerability and Capacity Assessment (EVCA), for identifying and contextualizing climate adaptation priorities, and for designing, implementing and monitoring locally led adaptation program. The study findings will be

relevant for putting people and communities at the center of national and regional policies, plans, and strategies on climate change adaptation and mitigation.

2. Methodology

2.1. Study locations

This study was conducted in Phalombe and Nsanje districts, where the Malawi Red Cross Society is working on implementing the *"Scaling up Locally Led Adaptation and Transforming Humanitarian Responses to Climate Change"* program. Previous studies in southern Malawi have shown how community perceptions, practices, and behaviors have highly impacted the uptake and use of early warning messages, climate smart agriculture, and tree planting (OCHA, 2022).

Nsanje District:

Surrounded by Mozambique, Nsanje district is situated at the southern tip of Malawi with a population of 194, 924 people. The district is prone to flooding, mainly due to its geographical position – low lying area. Further, the district has the highest prevalence of historical dry spell events. Specifically, our study was conducted in Traditional Authorities Tengani and Malemia that are on the riverbanks of Shire River.

Phalombe district:

Phalombe district is in the eastern part of southern Malawi and shared boundaries with Mozambique to the east. Topographically, the district is mostly a flood plain, it has Mulanje mountain to the north and Lake Chirwa to the south. The study was conducted in TAs Jenala and Chiwalo that are prone to flooding mainly due to their closeness to Lake Chirwa and Mpoto lagoon.

2.2. Study design and data collection

The study employed a mix-method approach which incorporated both qualitative and quantitative methods. Data was collected in parallel, and the two methods were integrated iteratively at the analysis and interpretation stage to gather a comprehensive understanding of issues surrounding locally led adaptations to climate change in Malawi. The reasoning for this design was that the qualitative study supplies strengths to offset the weaknesses of the quantitative study, and that a more complete understanding of contextual climate change results from collecting both quantitative and qualitative data.

Household survey was used to collect data from the conveniently selected household respondents to establish their level of knowledge, involvement and action they take pertaining to adaptations to climate change initiatives. The questionnaire was coded and uploaded on kobo and phones were used in data collection. KIIs were carried out to gather relevant information on locally led adaptations to climate change at district and community level. This assisted to assess the current barriers and interventions being applied in relation to climate change adaptations. FGDs were done with community leaders in the selected communities to provide community regulated practices which were not uncovered using KIIs and structured questionnaires and generate a rich understanding of participants' experiences and beliefs about climate change. The FGDs also helped to assess any key differences in social norms among target population residing in different geographic locations.

To complete the task within the specified period, well experienced 10 enumerators collected the data in each district. The KIIs and FGDs were led by expert research team members.

2.3. Study Participants and sampling

The study included participants from different levels including the district and community levels. The study also interviewed officers from Malawi Red Cross Society. At District level the study interviewed the District Disaster Risk Management Officer (DRMO) and the Director of Planning and Development (DPD). At community level, the study interviewed the Group Village head, chairperson of any community committee, people living with disabilities, elderly, lead farmer, women, men and the youths, Annex 1. In total, 6 focus group discussions and 14 key informant interviews were conducted while 357 households participated in the survey (Annex 2).

2.4. Sample size for qualitative data

Sample size was mainly determined by participant and theme saturation. As for information from KII, the sample size was predetermined as these were specific study participants that provided useful information to specific questions.

2.5. Sample size for quantitative data

Number of respondents for the quantitative data (structured questionnaire)

The study used the following conventional statistical formula that is used when the target population is more than 10,000.

$$n = \frac{z^2pq}{d^2}$$

Where:

- n = the desired number of households to be surveyed
- z = standard normal deviation (set at 1.96 corresponding to 95% confidence interval)
- p = 0.8 a conservative estimate in the absence of a known proportion
- q = (1.0 – p)
- d = acceptable error margin which we have set at 5%
- The required sample size was 245 for both districts. The estimated sample sizes per district were summarized in Table 2.

2.6. Study participants socio-demographics

In total, the study reached out to 357 households representing a 145% response rate. Of the 357 households, 135 (38%) were from Nsanje and 218 (62%) were from Phalombe. The study purposively sampled three traditional authorities from each district (Annex 8).

The detailed household and participant characteristics are presented in Table 1. Majority of the study participants were between the age bracket of 26 to 50 years, were female and in terms of education level, 11% and 22% of the study participants in Phalombe and Nsanje districts had never been to school respectively; and most of the participants in both districts had primary level of education as the highest attained. For both districts, the largest proportion of the participants were small scale farmers practicing subsistence farming who are highly susceptible to the impacts of climate change.

Characteristic	**Overall**, N = 357	**Phalombe**, n = 218	**Nsanje**, n = 139
Gender			
Female	225 (64%)	-	-
Male	128 (36%)	-	-
Age			
<26 years	43 (12%)	33 (15%)	10 (7%)
26 years to 50 years	214 (60%)	131 (60%)	83 (60%)
>50 years	99 (28%)	54 (25%)	45 (33%)
Marital status			
Divorced	52 (15%)	41 (19%)	11 (7.9%)
Married	247 (69%)	141 (65%)	106 (76%)
Single	19 (5.3%)	13 (6.0%)	6 (4.3%)
Widowed	39 (11%)	23 (11%)	16 (12%)
Household head			
Father	245 (69%)	138 (63%)	107 (77%)
Mother	101 (28%)	70 (32%)	31 (22%)
Other	11 (3.1%)	10 (4.6%)	1 (0.7%)
Education level			
From 1 to 2	35 (9.8%)	28 (13%)	7 (5.0%)
From 3 to 4	47 (13%)	33 (15%)	14 (10%)
Never been to school	55 (15%)	24 (11%)	31 (22%)
Std 1 to 5	95 (27%)	49 (22%)	46 (33%)
Std 6 to 8	121 (34%)	81 (37%)	40 (29%)
Tertiary education	4 (1.1%)	3 (1.4%)	1 (0.7%)
Family size	5.6±2.2	5.1±2.0	6.3±2.2
Source of Income			
Business	61 (17%)	31 (14%)	30 (22%)
Employed	8 (2.2%)	8 (3.7%)	0 (0%)
large scale farming	2 (0.6%)	2 (0.9%)	0 (0%)
Other	72 (20%)	56 (26%)	16 (12%)
small scale farming	214 (60%)	121 (56%)	93 (67%)
Income	38,234.9±65,069.7	31,084.9±62,945.0	49,448.6±66,970.4

Table 1: Distribution of household questionnaire in the two districts

2.7. Data management and analysis

Deliberations from FGDs and KII's data were recorded using recorder, and accompanied by note taking by the interviewer. The recordings were in local language (Chichewa) which were followed by verbatim transcription and translation to English on the same day so as not to forget some aspects of the discussions. The research team formulated themes in advance guided by the research questions before reading the transcripts but during the reading of transcripts emerging themes were added. Translated transcripts were loaded in NVivo where first reading of the whole script was done, followed by second reading of the transcripts during which coding was done. Once the coding was done, analysis through development of at frequencies and summaries was conducted. Common quotes were identified and included in the report.

The quantitative data were downloaded in Excel format from Kobo, then cleaned and exported to STATA where detailed analysis was done.

2.8. Quality assurance

Orientation training was conducted for the experienced research assistants to familiarize themselves with the purpose of the assessment so that they would efficiently collect data in the field. To get reliable data, the research assistants were thoroughly briefed about the objectives and the methodology of the study prior to data collection through a one-day workshop. The approach and mechanism to conduct the survey was well explained to them. Simulations and role-playing were used during the training session to develop a common understanding amongst the research assistants. This was followed by a fine-tuning process to come up with the final set of tools to be used in the study. During the data collection period, transcription and translation occurred in parallel to data collection and was shared on an ongoing basis with the study team to ensure the quality of the data. Transcripts were reviewed by an experienced supervisor throughout the data collection process to ensure data content and quality.

2.9. Study limitations

The study did not have a balanced gender representation. We had more female participants than their male counterparts. This was attributed to the fact that most men being household heads were not available during the time of the interviews as they were out fetching for the household. It was not possible to follow men in their workplaces due to time constraints. Thus, the gender sampling was too low to allow for gender disaggregation at district level. However, it allowed gender disaggregation for the whole sample size.

3. Study findings

3.1. Community understanding of climate change

Study participants in Nsanje and Phalombe showed strong awareness of climate change. In Nsanje, 96% believe climate change is real and 94% recognize its negative impacts; in Phalombe, the figures are 90% and 82%, respectively (see Figure 1).

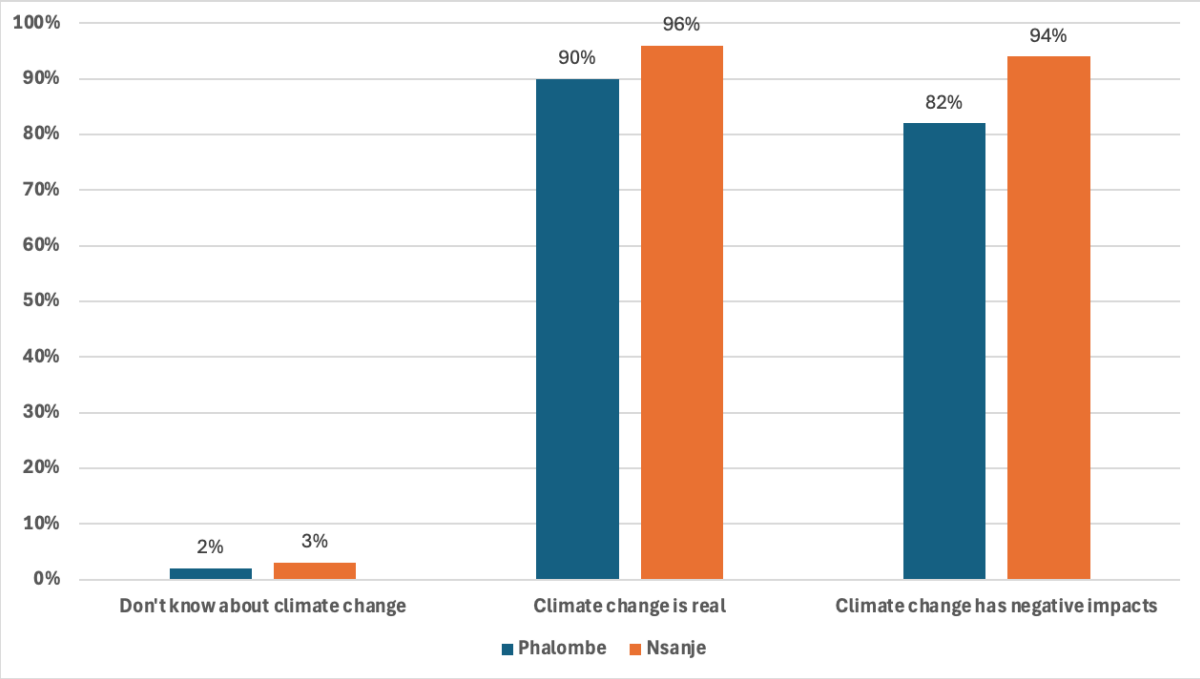

Figure 1: Climate Change knowledge among the survey respondents (N=357)

Participants emphasized noticeable shifts in weather and climate patterns in Malawi:

> *"Previously we were having specific months that we were expecting to have rains, and we had specific months that we were planting our crops, but this is no longer the case, as the rain is now coming in the unexpected months. This shows that the climate has changed."* KII, woman, aged 69, Nsanje

However, many define climate change by its visible impacts – such as dry spells, floods, and tropical cyclones – and often conflate it with weather forecasts, referring to meteorological updates as climate change messaging:

> *"We are informed through the radio that we will have dry spell or will experience flooding, which is the climate change we are talk about in this area…"* KII, woman, aged 40, Nsanje

This limited understanding can delay or prevent early action and preparedness. It promotes a reactive rather than proactive mindset and may prevent people from recognizing broader, structural causes of climate change.

3.2 Perceptions about the causes of climate change

Communities identified multiple causes of climate change – natural, social, and supernatural. Many acknowledged the role of human activity, particularly deforestation linked to overpopulation:

> *"I think climate change is caused by high population growth, due to high population, people are cutting down trees to clear land for settlement."* KII, VCPC, aged 44, Phalombe

Others attributed climate change to spiritual causes, such as divine punishment. In Nsanje, 13.3% of respondents, and in Phalombe, 15.1%, said climate change results from God's anger over human misbehavior:

> *"God can have power over climate change because we are disobedient... That is the reason God has made the rains stop coming as they used to."* FGD with women, Phalombe

Local spiritual traditions were also cited. In Nsanje and Chikwawa, people referenced the M'bona culture, where the spirit M'bona is believed to control rainfall and respond to environmental practices like deforestation.

A few participants linked climate change to external actors – scientists or "Westerners" – who, they believe, engage in harmful scientific or technological practices:

> *"We can't deal with climate change; these scientists have other means of getting to bring something else... Let's talk of Ebola, where did it come from? Talk of Tuberculosis and HIV, they are all coming from there."* KII, person living with disabilities, aged 50, Nsanje

While awareness of climate change exists, there is a clear need for deeper understanding – particularly of its causes and the rationale behind adaptation and mitigation. Strengthening this knowledge is essential to support informed, proactive community responses.

3.3 Climate change information: what is shared, how, and what is trusted

3.3.1 Source and channels of climate change information

In both Nsanje and Phalombe districts, people learn about climate change mainly through community meetings organized by government officers and NGOs, especially the Malawi Red Cross Society. These meetings use megaphones, extension workers (alangizi), and local leaders to spread messages and update communities on climate-related events.

> *"These meetings do happen frequently. They do use a megaphone to warn people to be alert with the impending climate events. They also engage various committees, to brief them on the current climate change trends, and they encourage us to be self-dependent. So mostly they do use our community leaders, alangizi."* KII, man, aged 67, Nsanje

For more formal early warnings (e.g. about floods or droughts), people rely on:

- Radio broadcasts (from the Malawi Department of Climate Change and Meteorological Services)
- Local government officials (e.g. District Council)
- NGOs (e.g. Malawi Red Cross Society)

However, community-based structures like Village Civil Protection Committees and Disaster Risk Committees are often not active or well-trained enough to share climate warnings consistently. They depend heavily on external actors.

In Phalombe, where participants tended to be younger and more educated, people also get climate information through social media and local news outlets. These digital channels are seen as promising tools for future communication strategies.

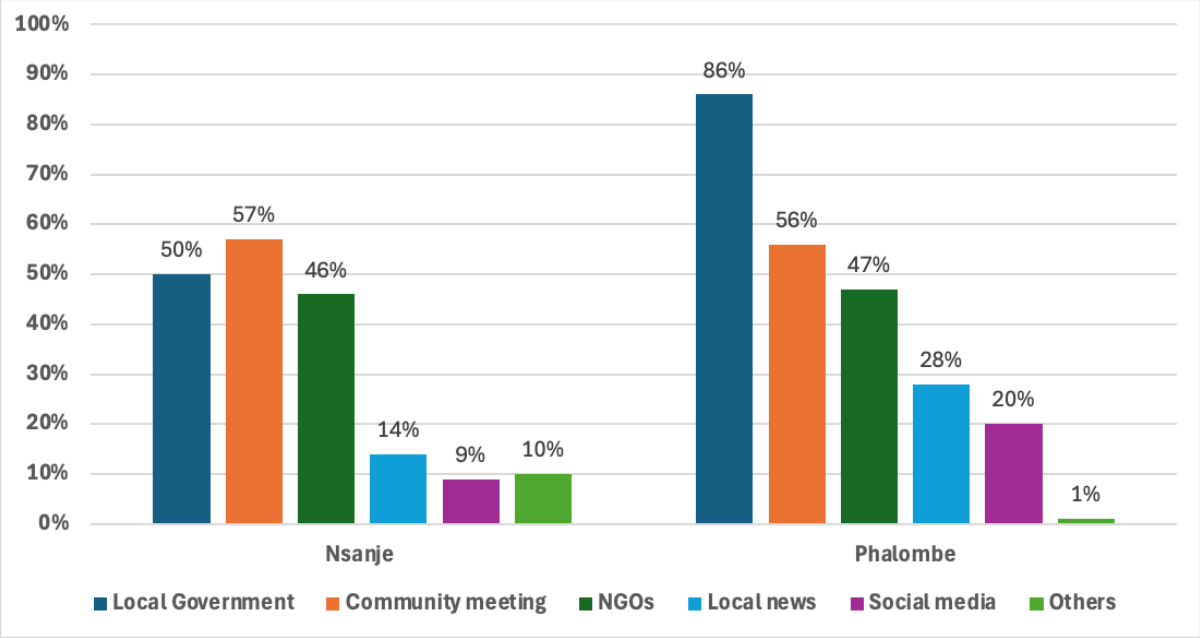

Figure 2: Sources of information about climate change (N=357)

To be effective, climate information must be shared using trusted, existing community structures and committees such as village banks, women's groups, men's groups, and youth clubs. These actors help translate scientific messages into local understanding, especially when paired with traditional knowledge.

> *"We use the Department of Climate Change and Meteorology Services for seasonal forecasts, but committees say things like 'the hippopotamus was walking from the river to the community,' meaning it smells a flood. So, the community relies more on indigenous information than on scientific forecasts."* KII, local organization staff, aged 29, Nsanje

3.3.2 What type of climate information is shared?

a) Early warning messages about an upcoming hydro – meteorological event

Mainly, communities are sensitized about upcoming floods, cyclones, heatwaves, and droughts that may affect their areas, and they are encouraged to take preparedness actions – such as moving to higher ground or avoiding river crossings during floods. However, a Key Informant Interview indicated that these messages do not reach everyone equally:

> *"Sometimes the information does not reach everyone because only a few people have phones or radios. Or maybe they have a phone, but when the message comes, the phone is off or something like that."* KII, man, aged 67, Nsanje

Furthermore, communities are often slow to act on early warnings because they are not adequately prepared – lacking the necessary resources to take action (e.g., drought-resistant seeds during dry

spells). Many rely on the belief that the government and humanitarian partners will provide relief if the predicted events occur.

b) Messages about climate change mitigation and adaptation measures

Messages about mitigation measures include afforestation and reafforestation, while adaptation information includes planting of drought resistant crops, construction of contour ridges, household level growing vegetables, practicing irrigation farming and use of fertilizer and manure to enhance crop yield. Nevertheless, these highlighted initiatives are mostly facilitated by external support from Government and NGOs and not their own community initiatives.

Yet, despite the training and outreach, awareness of locally led adaptation remains limited. As shown in Table 3, many respondents rated their awareness as low to medium on a scale from 1 to 10. Only about one-third of respondents rated their awareness as high (8-10).

Are you aware about locally led adaptations to climate change							
Scale of 1 to 10	Nsanje			Phalombe			Overall Total
	Female	*Male*	*Total*	*Female*	*Male*	*Total*	
1	4.90%	3.70%	4.40%	6.30%	6.80%	6.40%	10.80%
2	7.40%	11.10%	8.90%	6.90%	6.80%	6.90%	15.80%
3	1.20%	7.40%	3.70%	4.90%	8.10%	6.00%	9.70%
4	13.60%	16.70%	14.80%	6.30%	5.40%	6.00%	20.80%
5	11.10%	14.80%	12.60%	17.40%	16.20%	17.00%	29.60%
6	19.80%	9.30%	15.60%	13.20%	9.50%	11.90%	27.50%
7	9.90%	5.60%	8.10%	6.30%	14.90%	9.20%	17.30%
8	14.80%	9.30%	12.60%	16.70%	18.90%	17.40%	30.00%
9	7.40%	3.70%	5.90%	6.30%	4.10%	5.50%	11.40%
10	9.90%	18.50%	13.30%	16.00%	9.50%	13.80%	27.10%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	

Table 3: Information about locally led mitigation and adaptation measures

Using existing structures – such as government departments (e.g., Agriculture and Forestry), NGOs like the Malawi Red Cross Society, and local bodies like Village Disaster Risk Management Committees and Village Civil Protection Committees – community members are sensitized on measures they can take to prevent and respond to the effects of climate change.

3.3.3 Trust in climate change information

The study observed differences in how participants from Nsanje and Phalombe districts trusted climate change information. In Nsanje, participants' trust in climate change messages varied depending on the

information source. They expressed greater trust in sources like government announcements and community meetings organized by NGO and government officers, compared to information from their traditional leaders. Overall, 64%, 45%, and 18% trusted information from Government, NGOs, and local sources respectively (Annex 7). This lower trust in local leaders was attributed to the leaders' limited knowledge and skills regarding climate change issues, or potential past experiences.

Additionally, mistrust was seen as harmful in previous cyclones by study participants. During one FGD, it was mentioned that in a past experience, not everyone trusted climate-related warnings because sometimes past warnings had not turned into reality:

> *"Before the occurrence of Cyclone Freddy in early 2023, a mobile van passed in our community sensitizing us about the upcoming floods, and we were told to move away from the flood-prone areas… however, most of us did not move because we did not believe in the messaging; hence, we were hit hard by the effects of the cyclone."* FGD with men, Phalombe

In Phalombe District, participants indicated that they are beginning to trust information about climate events regardless of the source because the warnings about climate change events have consistently proven accurate. For example, during FGDs with men, it was mentioned that community members were warned by the meteorological department via radio, as well as by government and NGO officers in November 2023, that their area would receive minimal rain from December 2023 to April 2024. This prediction has been accurate. Similarly, a prediction about Cyclone Freddy in early 2023 was made, and the community indeed experienced the cyclone.

> *"We are beginning to trust climate change-related disasters - in December 2023, we were told about inadequate rains in the January – March 2024… it's exactly what we are experiencing."* FGD with men, Phalombe

Local beliefs about the occurrence of disasters and emergencies significantly influence how people trust climate change messages. A KII with a man living with a disability in Nsanje District revealed that while many people trust modern sources of climate information, such as meteorologists and government announcements, others still adhere to traditional beliefs and indicators passed down from their parents. He noted that sometimes these traditional clues can be just as accurate as the information provided by weather specialists.

> *"Yes, people do trust these sources, while others still believe in what our parents used to believe in – traditional clues – and sometimes the traditional clues are accurate compared with the information that weather specialists do tell us."* KII, man living with disability, aged 50, Nsanje

This dual reliance on both traditional and modern sources highlights the complex interplay between cultural heritage and contemporary science in shaping community trust and responses to climate change information.

3.4 Impacts of climate change on vulnerable communities

3.4.1 Perceptions of climate change vulnerabilities

Study participants in both districts felt vulnerable to climate change events, reporting exposure and impacts. However, interviews revealed that certain community groups are more vulnerable than others, highlighting the contextual nature of vulnerability.

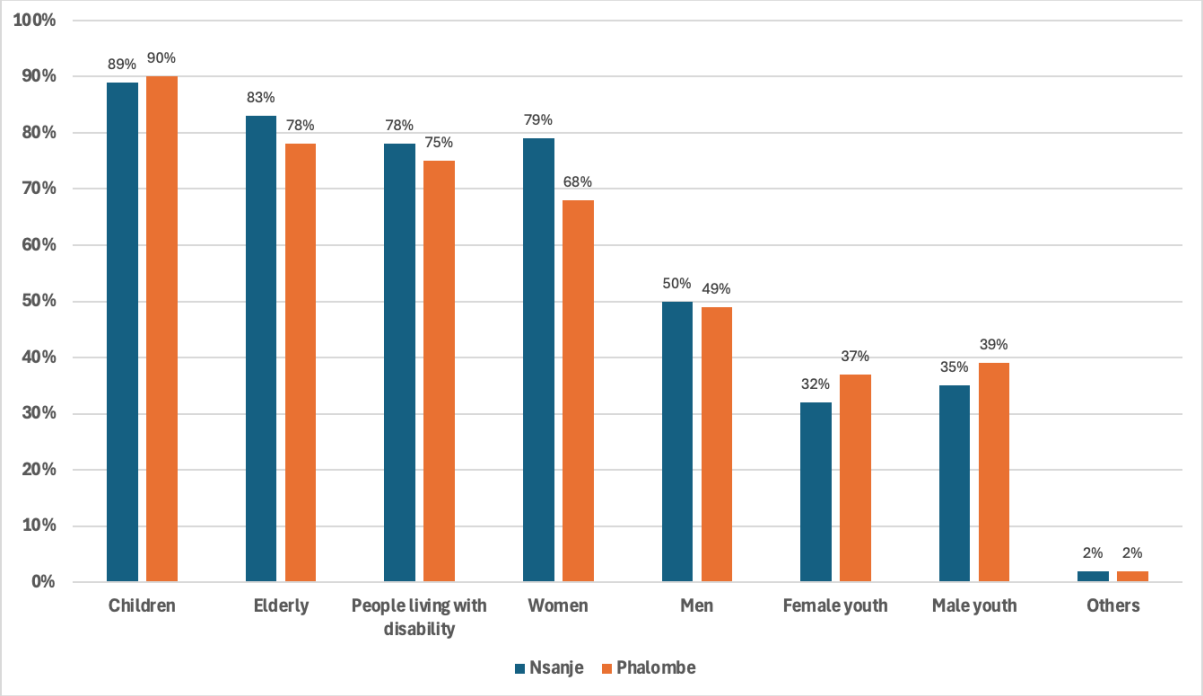

Figure 3: Perception of the most Vulnerable groups to climate change related events (N=357)

The following groups were highlighted as being more vulnerable to climate change events (Figure 3): children, people living with disabilities, the elderly and women.

a) The elderly

They were referred to as among the most vulnerable groups because they depend on others to rescue them during times of disaster e.g. during flooding. In addition, during post- disaster events, they are not active enough to fetch for themselves e.g. participating in food for asset programs to support their livelihoods.

b) People living with disabilities

They were identified as among the most vulnerable members of society because they experience challenges to evacuate during disasters (e.g. flooding) and, like the elderly, they struggle to fetch food when they lose all their crops e.g. because of drought. In addition, they have mobility challenges, especially those that use wheelchairs and mobility aids due to road infrastructure damage caused by flooding.

> *"During Cyclone Freddy, a boy with a disability was swept away by the flooded river. Amid the chaos, everyone was saving themselves, the boy was forgotten, and sadly he died. We found him later, deceased, in this very location but close to school.* KII, man, aged 48, Nsanje

c) Women, girls, and children

Women and children were also mentioned as vulnerable groups to climate change events mainly because they depend on others (i.e. men) for their survival during the time of disasters resulting from climate change.

> *"For girls and women, it may seem as though their rights are violated when living together with men, as they are left with no privacy, particularly concerning safe spaces for changing clothes or bathing in communal bathrooms that is being used by many people with limited time slots for use."* KII, man, aged 48, Nsanje

While all members might experience the same event (e.g., flooding), their ability to cope, respond and recover determines their level of vulnerability. Financial stability plays a crucial role; although both affluent and impoverished individuals may suffer similarly during disasters, those with financial resources recover more quickly, prolonging the vulnerability of those who are financially unstable.

> *"Elderly individuals, youths, and people with disabilities are particularly susceptible to direct impacts of flooding or prolonged dry spells. Their limited capacity to respond, especially those with disabilities like visual, exacerbates their vulnerability, particularly during nighttime events. Additionally, financial stability affects vulnerability, particularly in terms of recovery. Although both affluent and impoverished individuals experience similar degrees of impact during disasters, the time required for recovery differs."* KII, Government officer, aged 34, Nsanje

This underscores the need for context-specific interventions tailored to different community groups, rather than a one-size-fits-all approach.

3.4.2 Impacts of climate change on vulnerable communities

When asked about the effects of climate change events they have experienced in their respective districts, most of the participants in Nsanje and Phalombe indicated loss of livelihoods due to flooding and decrease in agricultural production. Many participants referenced the impact of Cyclone Freddy in 2023, which damaged crops, livestock, houses, roads, and caused physical injuries (Figure 4), also affecting social relations.

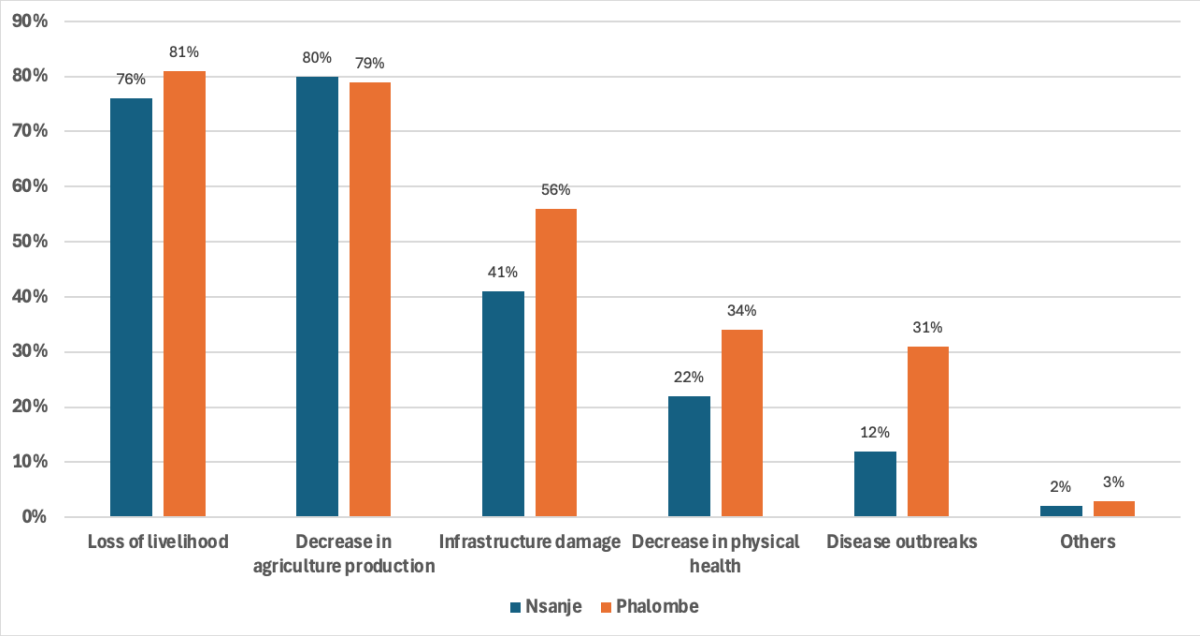

Figure 4: Reported effects of climate change by the survey respondents (N=357)

a) Loss of livelihoods and agricultural production

In terms of loss of livelihoods, participants attributed their reduced crop yields to dry spells caused by climate events.

> *"Because of the population growth people have been lacking farming places and they have been farming in the riverbanks and when the rain comes the soil is being carried by the water and slowly the water in the river starts rising to the land surface and also causing droughts."* (KII, man, aged 46, Nsanje)
>
> or

> *"The way we grow food is also being affected, especially by bugs that eat our crops. We've noticed that when it's dry for a long time, there are more bugs destroying crops like maize."* KII, Government officer, aged 34, Nsanje

It should be noted that most livelihoods (85%) in Malawi depend on rain-fed agriculture, primarily smallholder farms (USAID 2017; WFP 2020). Consequently, the agricultural production of maize, groundnuts, cassava, potatoes, pulses, sorghum, pigeon peas, and cowpeas, which are common in Malawi, is highly sensitive to changes in rainfall (Stevens and Kaveh 2016; USAID 2017).

b) Infrastructure damage

The interview highlights significant infrastructure challenges in the community, including vulnerable housing, poor roads, and impassable bridges during flooding. These issues create severe difficulties in accessing essential services such as healthcare and education. Improved infrastructure is needed to enhance community resilience and ensure reliable access to vital services.

> *"A lot of buildings are damaged once there is an occurrence of earthquake, because we can't afford to build strong buildings. For the roads, we struggle a lot, as sometimes we do find the bridges impassable due to overflowing of water, so if you have a pregnant woman, that becomes a big problem. Even patients suffering from cholera were not making it through that bridge (...) We are also struggling with education, as school children struggle to reach their schools".* KII, man, aged 67, Nsanje

Our findings relate to an early observation by Malawi Red Cross Society (IFRC, 2023) that although the housing sector is usually the sector that is most significantly affected by floods, it often receives a relatively low priority ranking during recovery and reconstruction. As a result, most families rebuild their houses using their own traditionally sourced materials, resulting in the production of sub-standard housing that is highly susceptible to the impact of future disasters. The Malawi Red Cross Society assessment studies found that most of the damage to houses could have been prevented if safer housing construction guidelines had been followed (MRCS,2019).

Photo 1: A damaged house following Cyclone Freddy in Phalombe

Photo 2: A damaged road during rainy season of 2023 – 2024 growing season in Phalombe

c) Physical and mental health

Some study participants linked the 2023 cholera outbreak to Cyclone Freddy, noting that the damage to water points (e.g., boreholes) and sanitation facilities (e.g., toilets) led to the contamination of community water sources. This aligns with reports predicting that communicable diseases like cholera and dysentery will increase due to the heightened contamination of surface waters from floods and

droughts (Pullanikkatil et al., 2013; Khamis, 2006; USAID, 2017). The cholera outbreak is seen as a direct impact of climate change.

> *"In terms of cholera, let me say that back in the days before climate changed, we used to experience cholera in certain known seasons, but now there is no season for cholera and so that has happened because of climate change and most of the areas the wind is what is causing the quick spread of the disease."* KII, man, aged 48, Nsanje

Participants indicated that food insecurity due to drought and cyclones adds a burden to the already stressed community members, mostly the elderly and people with disabilities. Further, young girls and women are left with the responsibility of fetching for their families, exposing them to protection risks. Farmers in Malawi were found to have worse mental health when there was less rainfall (MRCS, 2023).

Photo 3 and 4: Damaged borehole and temporary latrine after Cyclone Freddy in TA Chiwalo, Phalombe

3.5. Community participation in climate mitigation and adaptation measures

Study participants emphasized that community sensitization meetings are central to ensuring local engagement in climate-related planning and decision-making. These in-person meetings – often organized by government agencies and NGOs like the Malawi Red Cross Society – serve as important platforms for sharing information, clarifying concerns, and mobilizing collective action.

> "Community sensitization meetings happen frequently. They do use a megaphone to warn people to be alert with the impending climate events such as drought, cyclone or floods." KII, man, aged 48, Nsanje

These sessions often begin with consultations between implementing organizations and local leaders – including traditional and religious authorities – who help disseminate messages within their communities. This process helps build trust and contextual understanding of the climate issues being addressed.

> "Yes, when the organization comes here, they do first approach the community leaders, and they do move around with them to sensitize the community members on climate change. So, the community leaders and religious leaders do inform their members respectively."
> *KII, man, aged 48, Nsanje*

Focus group discussions highlighted the role of traditional beliefs and religious values in shaping how climate change is understood and addressed at the local level. Participants stressed that interventions must be designed with an understanding of the local cultural and social context to ensure community ownership and long-term sustainability.

Despite this, several barriers to meaningful participation were reported across both districts. Many community members – particularly youth and people with disabilities – faced challenges such as:

- Limited knowledge of locally relevant mitigation and adaptation options
- Few opportunities for two-way dialogue with government and NGOs
- Lack of skills or training to implement adaptation strategies
- Minimal engagement from program implementers to promote inclusive participation

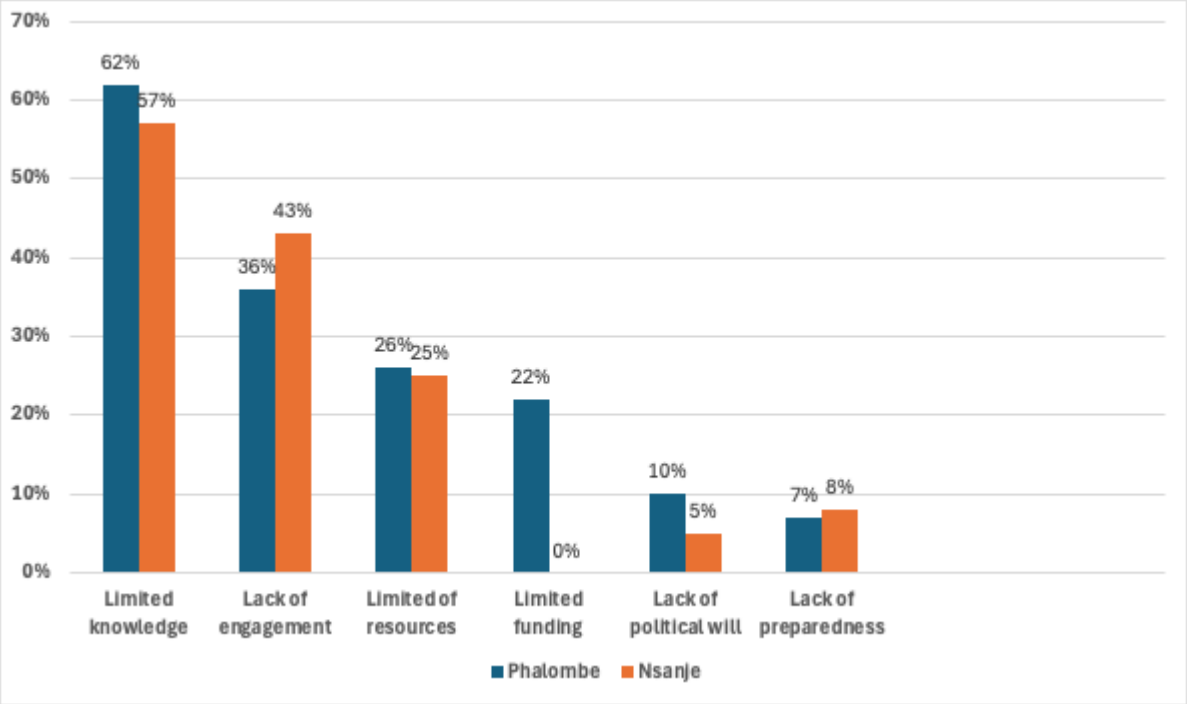

Figure 5: Contributing factors to low participation in climate change mitigation and adaptation measures (N = 357)

These constraints were captured in Figure 5, which outlines the key factors contributing to low participation in climate change mitigation and adaptation measures (N = 357).

In terms of the types of climate actions communities are engaged in:

- Mitigation measures most mentioned included afforestation and reforestation activities, often initiated by external actors.

- Adaptation measures included vegetable gardening, irrigation farming, use of drought-resistant seeds, and climate-smart agriculture. However, these are often supported by NGOs or government projects, rather than locally initiated.

Photo 5: Youth group during focus group discussions in Phalombe.

People with disabilities noted their involvement in activities like tree planting, vegetable gardening, and village savings groups that support climate preparedness. However, they expressed a preference for participating through self-organized groups, which allow them to engage more freely and effectively.

Youth participants reported some involvement in adaptation activities such as food-for-work programs (e.g., construction of check dams), afforestation campaigns, and peer-led climate awareness sessions targeting adolescents. Nonetheless, youth also cited gaps in knowledge and limited access to skills training as significant barriers to deeper engagement.

3.6. Initiatives, actors, and community gatekeepers to address climate change

3.6.1. Current initiatives to address climate change

Much as there are local structures in place to support communities on climate related emergencies, communities are not fully prepared to cope or lead future climate- induced events. While recognizing the community's potential to face such events is part of adaptation, complete recovery from tropical cyclones Anna and Freddy has not yet taken place. Agency is not inherent but rather a developmental process requiring the support efforts of local organizations within communities.

Table 4 highlights some of the initiatives implemented by various stakeholders to address climate change events. However, such initiatives mainly focus on adaptation measures which are more reactive than being proactive. This calls for additional efforts in terms of mitigation measures so that communities are responsive in halting global warming and the subsequent global climate change.

Local Initiatives		
District	**Mitigation**	**Adaptation**
Nsanje	- Tree planting (afforestation/reforestation) - Drought-resistant crops (e.g. hybrid maize)	- Household vegetable gardens - Communal maize farming led by local disaster committees - Women's savings groups

Phalombe	- Tree planting (afforestation/reforestation)	- Drought and flood-resistant farming - Road repairs - Contour ridges - Communal maize barns - Youth and women's savings groups - Village gardens
Government Initiatives		
Nsanje	- Climate change training - Tree seedling distribution (Forest Dept)	- Adaptation training - Relief item distribution
Phalombe	- Climate change training - Climate-smart public works (tree planting for payment)	- Adaptation training - Monetary and relief support to vulnerable groups - Public works (check dam construction for payment) - Road rehabilitation after disasters
NGO Initiatives		
District	**Mitigation**	**Adaptation**
Nsanje	None reported	- Food aid and dike construction (WFP) - Property restoration (CARD) - Relief and shelter during disasters (Red Cross, UNICEF)
Phalombe	- Energy-efficient stoves and business grants (C-QUEST)	- Goat pass-on program (CARD) - Lake Chirwa conservation (WFP, CICOD) - Food and shelter during disasters (Red Cross, UNICEF, WFP, CARD)

Table 4: Climate change initiatives

3.6.2. Local actors and community gatekeepers

A range of stakeholders at the community level are actively involved in climate change initiatives. These actors play critical roles before, during, and after climate-related emergencies by supporting awareness-raising, preparedness, response, and recovery efforts. Key stakeholders include:

- Government departments (e.g. Disaster Management Affairs, Meteorological Services, Agriculture, Health, Education, Forestry, Lands)
- Local structures (e.g. village leaders, Village Disaster Risk Management Committees [VDRMCs], Area Development Committees [ADCs])
- Non-governmental organizations (e.g. Malawi Red Cross Society [MRCS], CARD, DAPP, World Vision, Concern Worldwide)
- UN agencies (e.g. UNICEF, WFP)

While each actor contributes to addressing climate change at the local level, collaboration – particularly across community and district levels – remains limited. Strengthening coordination mechanisms could enhance the overall effectiveness of climate action.

Table 5 outlines key actors and gatekeepers in Nsanje and Phalombe districts, grouped by their level of influence.

District	Level of Influence	Stakeholders
Nsanje	Essential (Level 1)	Government departments (DODMA, DCCMS, Agriculture, Health, Education, Environment/Forestry, Lands), local leaders, community structures (ADC, ADRMC, VDRMC, NRMC)
	Important (Level 2)	MRCS volunteers, community members, faith-based organizations, local/community radios, Malawi Police (Marine Unit), youth clubs, creative groups (drama, poetry, music)
	Interesting (Level 3)	NGOs and partners such as Concern Worldwide, World Vision, CARD, Evangelical Association of Malawi, and other local NGOs
Phalombe	Essential (Level 1)	District Council (DRMO), departments of Agriculture, Health, Land, Forestry, CSOs (e.g. Oxfam, World Vision, CARD), community members, volunteers, local leaders, VDRMCs, VRNMCs
	Important (Level 2)	Community-based organizations (CBOs), VDCs, ADCs, councilors, faith-based groups, farmer groups, district departments (Social Welfare, Education, Gender)
	Interesting (Level 3)	Youth groups, drama groups

Table 5: List of actors and gatekeepers for Nsanje and Phalombe districts (Source: MRCS, 2024)

A range of stakeholders operate at the community level to support climate change initiatives. These actors play critical roles before, during, and after emergencies, contributing to awareness, response, recovery, and long-term development. Key stakeholders include government departments, local structures (such as village leaders and Village Disaster Risk Management Committees), local non-governmental organizations (e.g., Malawi Red Cross Society, CARD, DAPP, World Vision, Concern Worldwide), and other partners (e.g., UNICEF, WFP). While these stakeholders actively engage in addressing climate change issues, collaboration at both community and district levels remains limited. Table 5 summarizes the key actors and gatekeepers in Nsanje and Phalombe districts.

While at national level, our desk review identified the following stakeholders: Ministry of Natural Resources, Energy and Environment, Department of Climate Change and Meteorological Services (DCCMS), the Department of Disaster Management, Malawi Meteorological Services and Ministry of Gender, Women and Children Affairs. Non. State actors include Civil Society Network for Climate Change (CISONECC), Natural Resources Justice Network (NRJN), Malawi Extractive Industries Transparency Initiative (MWEITI), Wildlife and Environmental Society of Malawi (WESM) (IFRSC,2023).

4. Recommendations

4.1. Recommendations for climate programs

- **Enhance Understanding and Trust in Climate Information:** Develop clear and consistent information: Differentiate meteorological information from climate change concepts. Use local analogies and examples to bridge the gap between scientific knowledge and local understanding. This should be done through existing structures such as government extension workers, local leaders, and village committees. Additionally, leverage local radios (e.g., Gaka radio in Nsanje) and social media, especially for reaching the youth. Proven community-based participatory approaches like the Care Group Model (Edward et al, 2007) can be applied.

- **Localized Training and Capacity Building Conduct training sessions:** Focus on locally relevant adaptation and mitigation measures. Empower local committees, women's groups, and religious leaders with the necessary skills and knowledge to disseminate accurate climate information. Utilize community organizations like Malawi Red Cross Societies, and structures such as Village Development Committees and Village Disaster Risk Management Committees to develop specific plans for implementing locally led adaptation measures and anticipatory actions for disaster preparedness.
- **Utilize Traditional Knowledge Integrate traditional knowledge:** Combine traditional climate forecasts and indicators with scientific forecasts to improve community trust and engagement. Ensure scientific monitoring systems are valuable and accepted by communities by involving them in contextualizing scientific knowledge into local understanding.
- **Inclusive Communication Strategies Ensure message reach**: Ensure climate messages reach all community members, including those without access to radios or phones. Develop multi-channel communication strategies including community meetings, social media, local leaders, and community members.
- **Engage Religious Groups Collaborate with religious groups:** Engage religious groups to disseminate climate change information and encourage community participation in mitigation and adaptation efforts. In religious contexts like Malawi, religious leaders can be influential in spreading awareness and motivating collective action towards climate resilience.

4.2. Recommendations for the Malawi government

- **Strengthen Local Structures Enhance capacity:** Strengthen village disaster risk management committees and village committees. Provide ongoing support and resources to ensure these local structures remain active and effective. Empower these committees to take the lead in sensitizing and acting on mitigation and adaptation measures through conducting climate risk assessments and using an all-hazard approach.
- **Infrastructure Improvement Build resilient infrastructure:** Invest in roads, bridges, and housing that can withstand climate events. Prioritize the housing sector during recovery and reconstruction to prevent future vulnerabilities.
- **Targeted Support for Vulnerable Groups:** Create programs to support the elderly, people with disabilities, women, girls, and children during and after climate events. Ensure financial support mechanisms are in place for the quick recovery of the most affected households.
- **Proactive Measures and Resources:** Provide resources for afforestation, reforestation, and the distribution of drought-resistant crops. Implement early warning systems and community preparedness programs to anticipate and mitigate the effects of climate change.

4.3. Recommendations for organizations on the ground and beyond

- **Foster Collaboration:** Promote collaboration among organizations operating at the local level to share resources and align efforts to avoid duplication and maximize the impact of climate change initiatives. Conduct regular coordination meetings and joint planning sessions to enhance synergies and effectiveness in addressing climate change challenges.

- **Community-Led Initiatives:** Facilitate knowledge-sharing sessions where communities can share their successful strategies. Promote and support community-led climate adaptation and mitigation initiatives.
- **Resource Provision and Training:** Provide seedlings, drought-resistant seeds, and tools for climate-smart agriculture. Conduct regular training and workshops to keep communities informed about new and effective practices.
- **Psychosocial Support:** Offer mental health support services, especially after major climate events. Establish community support groups for sharing experiences and coping strategies.
- **Collaboration with Traditional Leaders:** Involve religious and traditional leaders in climate change education and mitigation efforts. Leverage the influence of these leaders to promote behavioral change and community participation.

4.4. Recommendations for All

- **Increase Awareness and Education:** Spread awareness about climate change, its causes, and effects through community events, campaigns, and various media platforms. Organize events and campaigns to discuss climate change and encourage proactive behavior.
- **Community Participation and Engagement:** Incentivize community participation in climate programs through recognition and rewards. Develop community projects that involve various groups, including youth and women, in climate action.
- **Sustainable Livelihoods:** Support sustainable agricultural practices that are resilient to climate variability. Encourage community savings and credit initiatives to build financial resilience.
- **Feedback Mechanisms:** Strengthen mechanisms for communities to provide feedback on *climate initiatives. Monitor the effectiveness of interventions and adapt strategies based on community input and changing conditions.*

5. References

- Alessa, L., Kliskey, A., Gamble, J., Fidel, M., Beaujean, G., & Gosz, J. (2016). The role of Indigenous science and local knowledge in integrated observing systems: moving toward adaptive capacity indices and early warning systems. *Sustainability Science*, *11*, 91-102.
- Edward A, Ernst P, Taylor C, Becker S, Mazive E, Perry H. Examining the evidence of under-five mortality reduction in a community-based program in Gaza, Mozambique. Transactions of The Royal Society of Tropical Medicine and Hygiene. 2007 Aug 1;101(8):814–22.
- International Federation of the Red Cross (IFRC). 2023 IFRC GO Platform. https://go.ifrc.org/emergencies/6377#infographics-and-maps
- Khamis, M. 2006. 'Climate Change and Smallholder Farmers in Malawi'.
- IFRC and Malawi Red Cross Society (2023). Climate risk assessment Malawi.
- OCHA. (2022). Anticipatory Action framework. Malawi dry spells 2021-2022. https://reliefweb.int/report/malawi/anticipatory-action-framework-malawi-dry-spells-2021-2022
- Pullanikkatil, D, Kaneka, b, et al. 2013. 'Linkages between Population, Reproductive Health, Gender and Climate Change Adaptation in Malawi Case Study from Lake Chilwa Basin'. https://doi.org/10.1080/19376812.2013.861758.

- Stevens, T, Kaveh M. 2016. 'Future Climate Impacts on Maize Farming and Food Security in Malawi'. Scientific Reports 6 (November): 36241. https://doi.org/10.1038/srep36241
- United Nations Disaster Risk Reduction (UNDRR). 2023. Desinventar Sendai. https://www.desinventar.net/DesInventar/profiletab.jsp#more_info
- USAID. 2017. 'Climate Change Risk Profile Malawi'. https://www.usaid.gov/malawi/global-health/maternal-neonatal-and-child-health.
- WFP. 2020. 'Malawi Country Brief October 2020'. WFP. https://docs.wfp.org/api/documents/WFP-0000120934/download/
- Warnatzsch, E, Reay, D. 2019. Temperature and precipitation change in Malawi: Evaluation of CORDEX- Africa climate simulations for climate change impact assessments and adaptation planning. Science of The Total Environment, 654, 378-392.
- World Bank. 2020. 'World Bank Climate Change Knowledge Portal - Malawi'. 2020. https://climateknowledgeportal.worldbank.org/.

6. Annexes

The annexes to this report can be accessed via this link: https://docs.google.com/document/d/1mzPevtWkdmKlStBl-NoHvXsyiklt8ax2/edit?usp=sharing&ouid=115533612506363723995&rtpof=true&sd=true