ECHO 4- STRENGTHENING RESILIENCE IN URBAN AND RURAL AREAS IN MALAWI (STRIM) BASELINE SURVEY REPORT

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ECHO STRIM Baseline Survey Report

Introduction

Malawi Red Cross Society with funding from European Community Humanitarian Office and technical support from the Belgium Red Cross is implementing a Strengthening Resilience in Urban and Rural areas in Malawi (STRIM). The project will be implemented for a period of 24 months up to June 2021. The project is being implemented in Karonga district, Lilongwe and Mzuzu cities targeting 30 Group Village Heads and Wards. The principle objective of the project is contributing to reducing the impact of disasters in Malawi by strengthening the preparedness and response capacity of national response structures, communities and schools. The project has four key result areas namely:-

- Regional Red Cross structures and National-level stakeholders are able to conduct coordinated and scalable Actions in response to hydro-meteorological alerts through improved availability of Early Warning information and strengthened response capacities.

- 30 Targeted GVH's, in rural and urban areas, have strengthened their capacity to respond to identified hazards through improved Early Warning Systems, integrated community and district level contingency plans and trained, well equipped community-based response structures.

- Increased DRR awareness and improved infrastructure and response capacities in targeted schools leads to reduced impact of disasters.

- Crisis Modifier - Essential, life-saving assistance is delivered to disaster affected populations within 72 hours of the disaster.

It is against the background that instituted a baseline study to establish basis against which Malawi Red Cross Society (MRCS) will measure the impact of the Strengthening Resilience in Urban and Rural areas in Malawi (STRIM) project interventions aimed at building resilience in Malawi. The study gathered and assessed quantitative data from a sample of 30 communities in Lilongwe City, Mzuzu City and Karonga District. The sampled communities represented both the urban and rural set up. Figure 1 below shows the communities where the study was conducted.

Table 1: Impact Areas

District / City	GVHs / Wards
Mzuzu	Masasa, Mzilawaingwe, Chibavi, Chibanja, Chiputula
Lilongwe	Kawale, Biwi, Mchesi, Kaliyeka, Mtandire
Karonga	TA Mwakaboko: GVH Mwakaboko, Mwangulukulu and Mwandambo
	TA Mwirang'ombe: GVH Kaswela, Mchekacheka, Kapiyira, Muyeleka, Mwakashunguti
	TA Kilupula: Mwantende, Malindafwa, Mwabulambo, Mwanjasi, Musomba, Mwakasangila, Gweleweta, Chisi, Chibobola, Katumbi, Mwenewisi and Mwangwela

Objectives of the study

The main objective of the study was to ascertain earlier findings during the needs assessment and establish the benchmark through which this project will be evaluated.

Specifically, the baseline study was commissioned to accomplish the following objectives:

- To collect both qualitative and quantitative data to triangulate with the findings of the VCA which was conducted simultaneously with the baseline
- To confirm the baseline values of key indicators of the project.

Methodology

Data collection was done using Mobile data collection tools. A questionnaire capturing all the result areas of the project was developed and deployed using Open Data Tool Kit (ODK). Enumerators drawn from the City Councils, Government Departments and Malawi Red Cross volunteers were oriented on mobile data collection and the exercise was simultaneously done in 4 days in all the 3 impact areas.

Sampling, Preparation, Data Collection Tools and Analysis

Household surveys were conducted on randomly sampled respondents. Sampling method as opposed to census achieves great results in terms of speed in carrying out the survey, reduced cost, scope and accuracy amongst others. Therefore this survey used this methodology to yield maximum quality results. The data collected was analysed in Excel and the ODK online data analysis tools available and was categorised in themes. Sampling was done

using the Cochran equation shown below. The Cochran equation ensures reduced measurement errors and therefore makes the findings credible and acceptable to generalise for the whole population of the study area.

Cochran equation

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

Representations

n= desired sample size

z= standard normal deviation (at 95% CI)

p= proportion in target population estimated to possess desired characteristics (at least 50%)

q=1-p (compliment of p)

d= precision level (5%)

Taking in consideration on statistical methods for unknown population a P-value of 5% was used.

Therefore, the sample size was justifiably set for the following values:

$$\boldsymbol{n} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

n = 384

A minimum sample size of 384 households was proposed to be studied for each study area. However, Lilongwe City had 432 households sampled; Mzuzu City 603 households and Karonga district had 604 households covered under this study. This was the case because the sample size for each district was based on the above mentioned 95% confidence interval with 0.5% margin of error. A team of 30 enumerators and 5 facilitators were used to support data collection using Tablets running ODK Collect. In each sampled village, a sample size proportional to its number of households was calculated. Enumerators used systematic sampling to select houses for interviews.

Findings and DiscussionsHousehold Demographics

Table 2: Demography of respondents

	Lilongwe		Mzuzu		Karonga	
Age group	Male	Female	Male	Female	Male	Female
0-2 years	7%	6%	8%	7%	8%	8%
2-5 years	8%	8%	9%	9%	12%	11%
5-15 years	27%	26%	26%	26%	31%	33%
15-30 years	32%	35%	32%	34%	25%	25%
30- 60 years	24%	23%	22%	21%	18%	19%
over 60 years	2%	2%	3%	3%	5%	4%

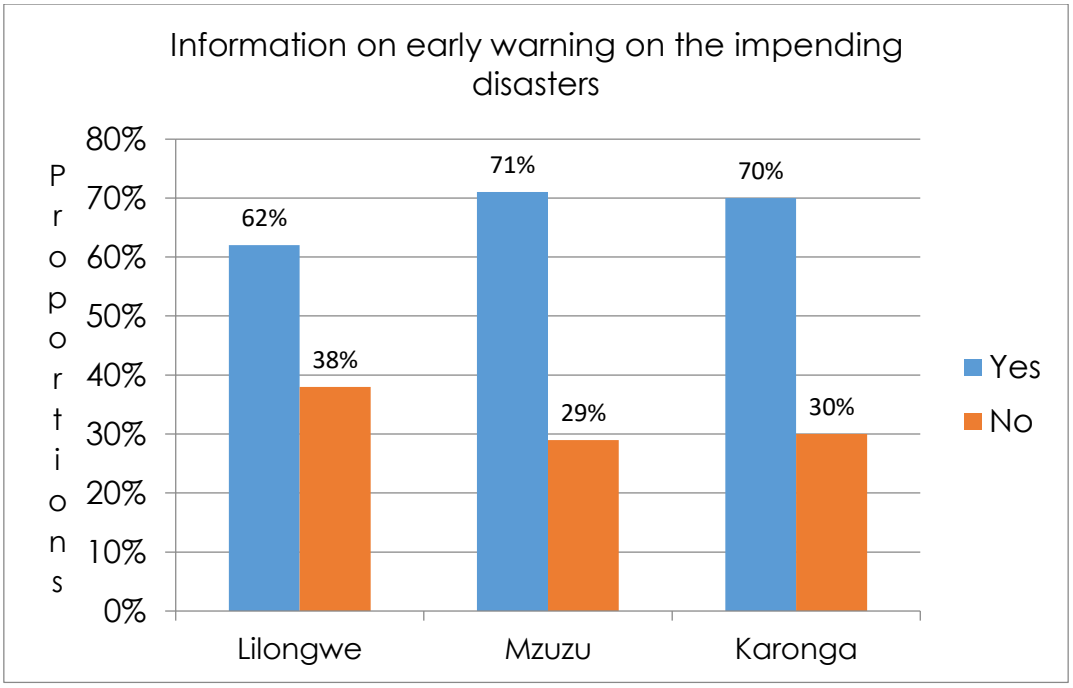
The figure above describes the disaggregated data of both male and female for various age groups for the sampled households. The dominant age for the urban areas (Mzuzu and Lilongwe is 15-30) whereas in Karonga (rural) is 5-15 years. It could be argued that the active age group of 15-30 years migrate to cities in search for employment opportunities and piece work. Therefore the project activities should target more youths in Lilongwe and Mzuzu Cities while school level activities should be encouraged in Karonga district.

Awareness and preparedness to disasters

Communication on impending disasters

The study revealed that out of the households interviewed 62% in Lilongwe City, 71% in Mzuzu City and 70% in Karonga district receive messages on early warning of the impending disasters, see Figure 2 below. The findings suggest that a very small population is less aware of impending disasters; however there is still need for enhancing the system support for message dissemination targeting majority of residents in the areas. Apparently the frequency of the disasters might have greater bearing on how communities' alertness to receiving messages on early warning of looming disasters. The project should therefore continue to disseminate early warning massages with emphasis for the need of early action as it was noted that despite the high levels of warning knowledge, most people are still being affected by disasters in all the three locations

Figure 1: Communication on early warning messages



The early warning messages help communities prepare themselves before the hazards reach their homes. For instance, in times of flooding; communities would move their property to upper land before being hit by the floods. This will ensure that lives 0f people and property destruction is minimised.

Source of information

All the communities in the 3 project areas cited radio as the most reliable channel of communication through which messages on early warning are received. This was evidenced by the scores of 42%, 44% and 32% for Lilongwe,

Mzuzu and Karonga respectively. This is shown in figure below;

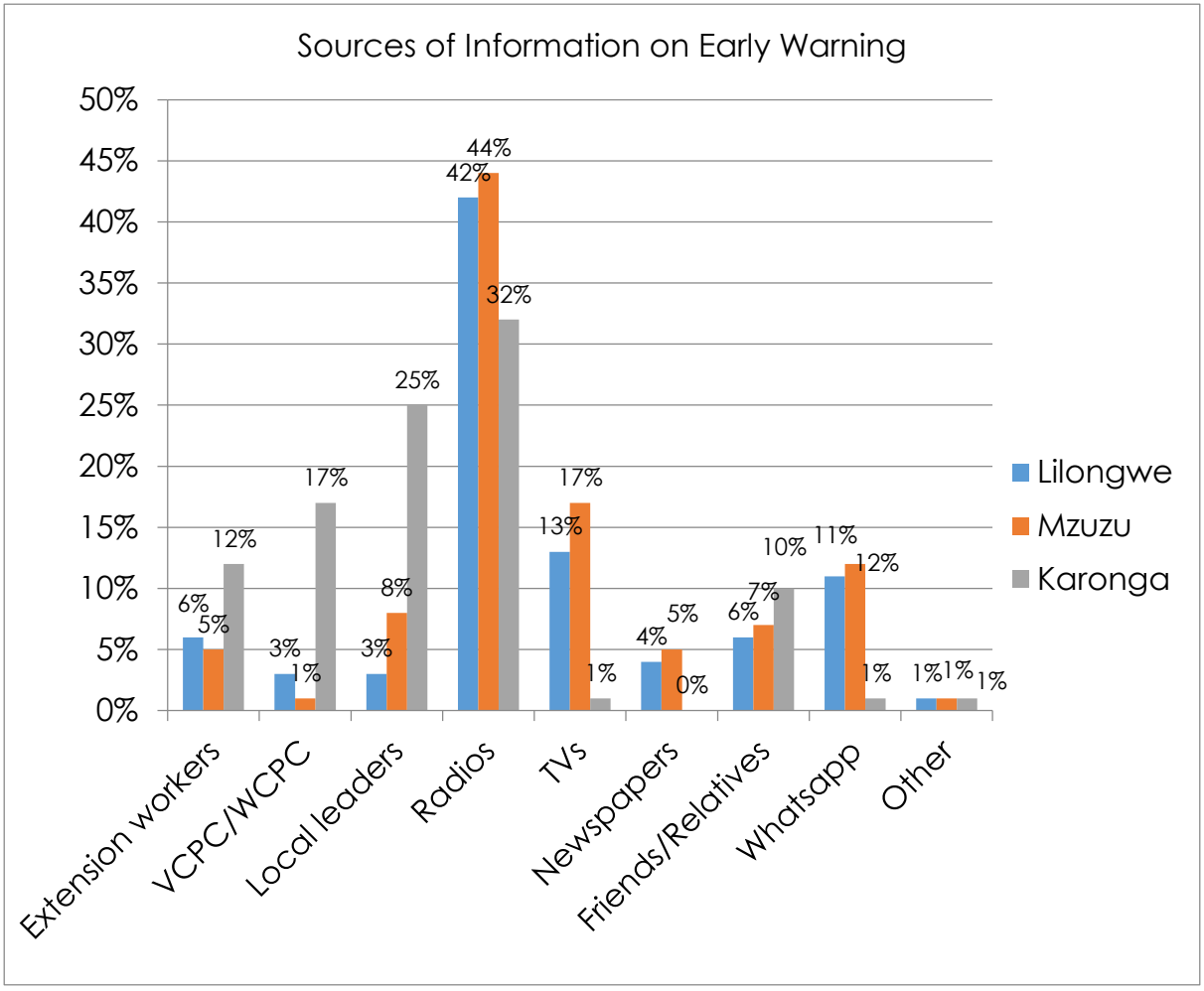


Figure 2: Source of information on early warning

In both cities television is second rated as an alternative channel through which early warning messages are disseminated while in Karonga it is through community leaders.

Radio remains the most preferred source of information followed by Television, Local leaders, WhatsApp and Extension workers as indicated in figure below. Apparently social media channels such as WhatsApp have emerged as a powerful channel especially in cities where residents have embraced the technology coupled with better internet access. Such a communication channel would be something to consider when disseminating information about this project in cities. It is therefore important that the project should explore promoting the use other channels of communications such as whatsApp while enhancing the use of the radio and television.

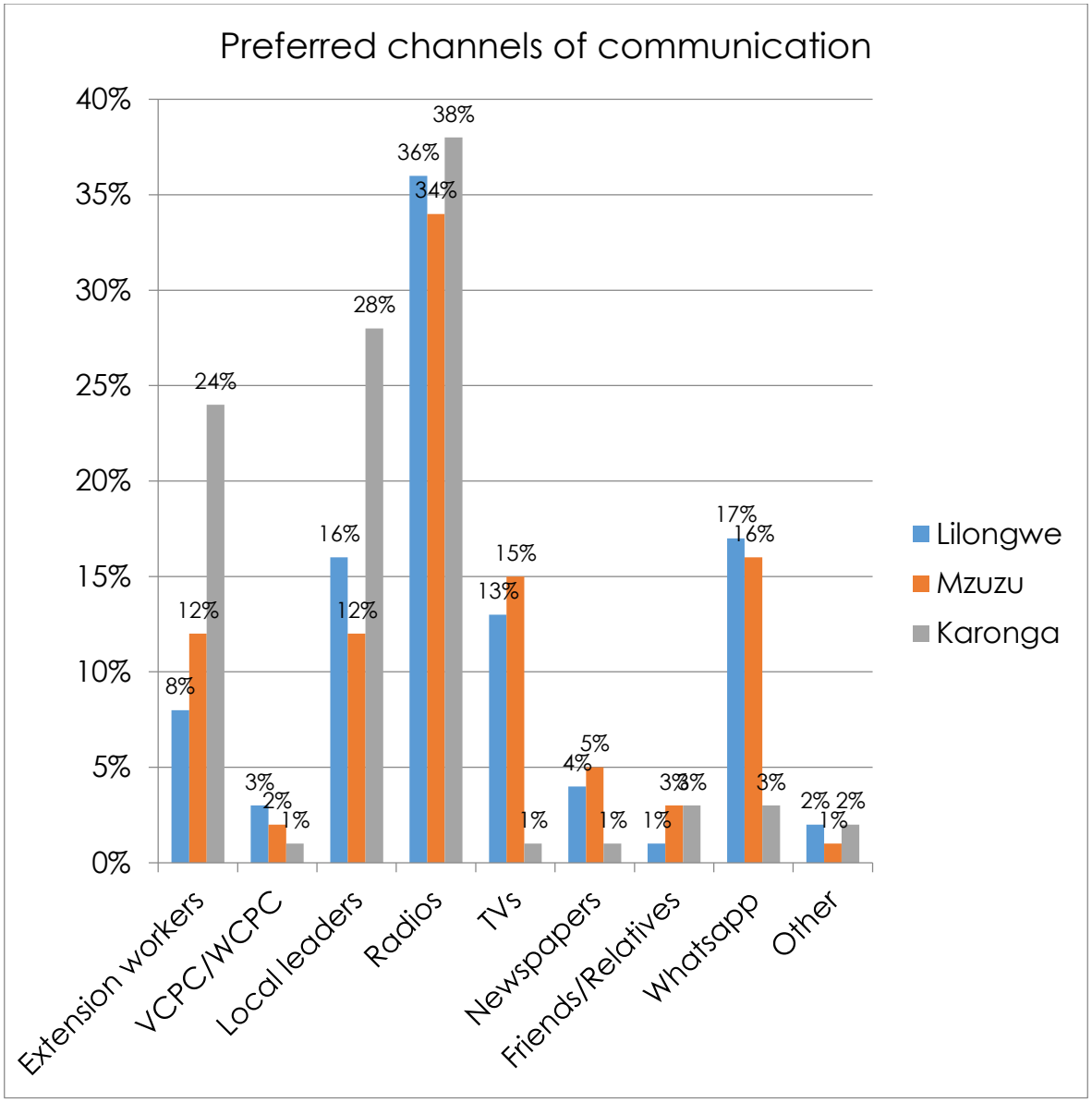


Figure 3: Preferred channels of communication

Community Actions

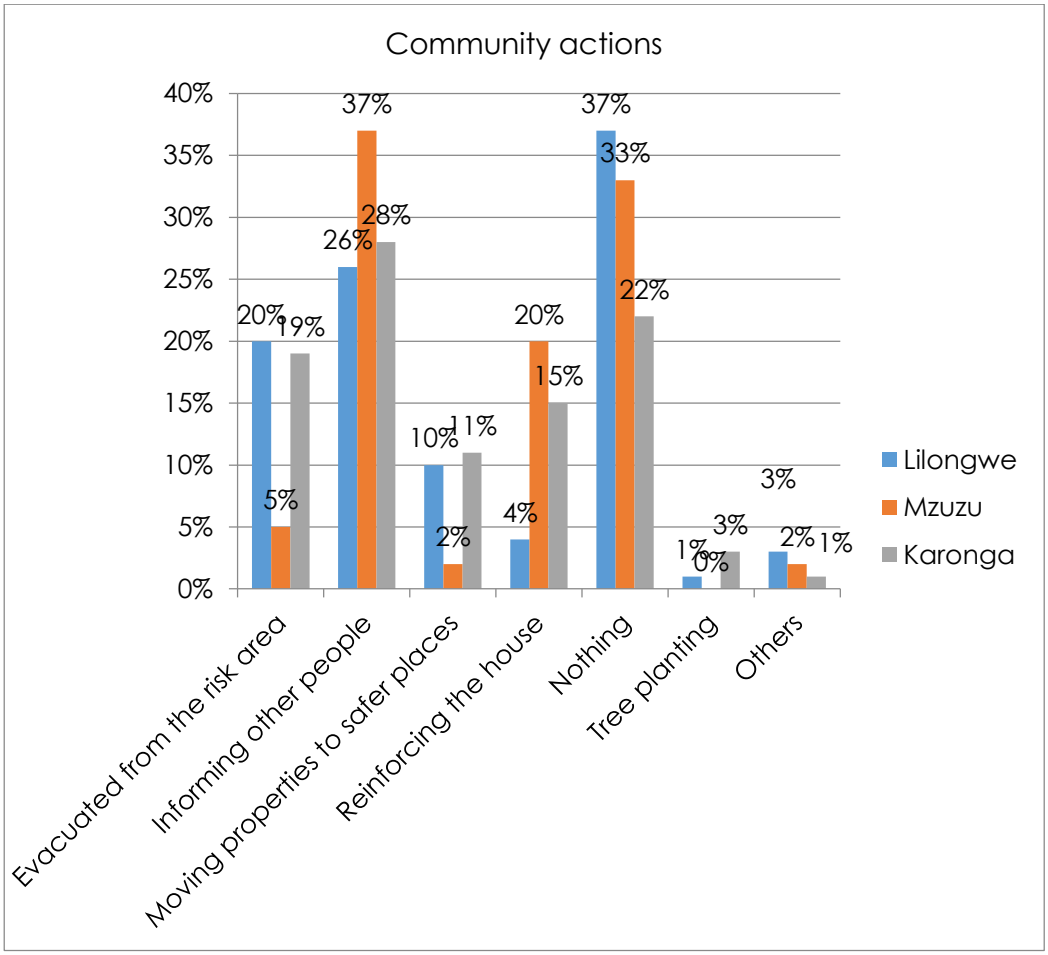


Figure 4: Actions taken by communities after receiving early warning messages

Enquiring on what actions the communities take when they receive early warning messages the study revealed the following;

- In Lilongwe 37% of the households do nothing, 26% informed others of the looming disasters, 20% evacuated from risky areas, 10% moved their properties to safer places and only 4% reinforced their houses. 1% engaged in tree planting. Although 62% of the respondents earlier on indicated that they receive early warning messages in Lilongwe City, here it is showing that mostly these messages do not trigger any action thus why people continue to lose property and lives to different disasters. It is imperative to invest more behavior change to stimulate community actions when a warning has been received.
- In Mzuzu 33% of the households did nothing, 37% informed others of the looming disasters, 5% evacuated from risky areas, only 2% moved their properties to safer places and 20% reinforced their houses.
- In Karonga 22% of the households did nothing, 28% informed others of the impending disasters, 19% evacuated from risky areas, 11% moved

their properties to safer places, and 15% reinforced their houses. Only 3% engaged in tree planting.

Apparently the course of action which was taken by most communities is informing others. Apart from advocating for other preparedness measures, these communities needs more awareness on the important of protecting their assets and livelihoods from disasters through tangible actions such as moving to safer sites or improving their houses in the next season among others. This course of action needs to be promoted.

Knowledge about Response Teams

All communities in the 3 study areas indicated that they had knowledge of the existence of Response Teams. Karonga communities topped the chart with 80% positive responses from the respondents followed by Mzuzu City and then Lilongwe City with 75% and 70% respectively as shown in the figure below;

Figure 5: Participants' knowledge about Response Teams

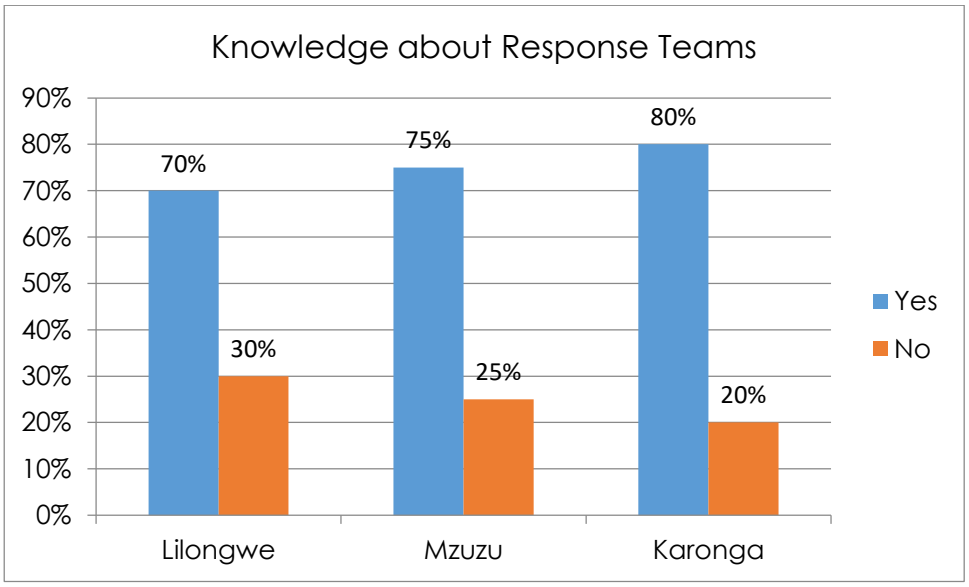


Figure 5 above indicates that most of the respondents have an idea of response teams during times of disasters. This is a good sign that a large number of people in the community know which teams can assist them in times of disasters in terms of response.

And most of the respondents reported to have seen and or heard response teams helping affected people in the community in times of disasters, as indicated in the figure below.

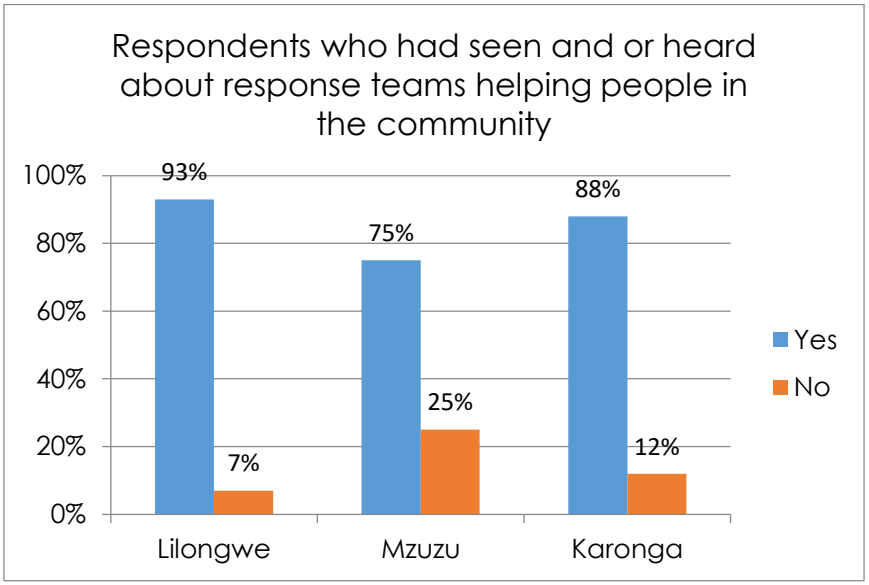


Figure 6: Knowledge about response teams helping people in the community

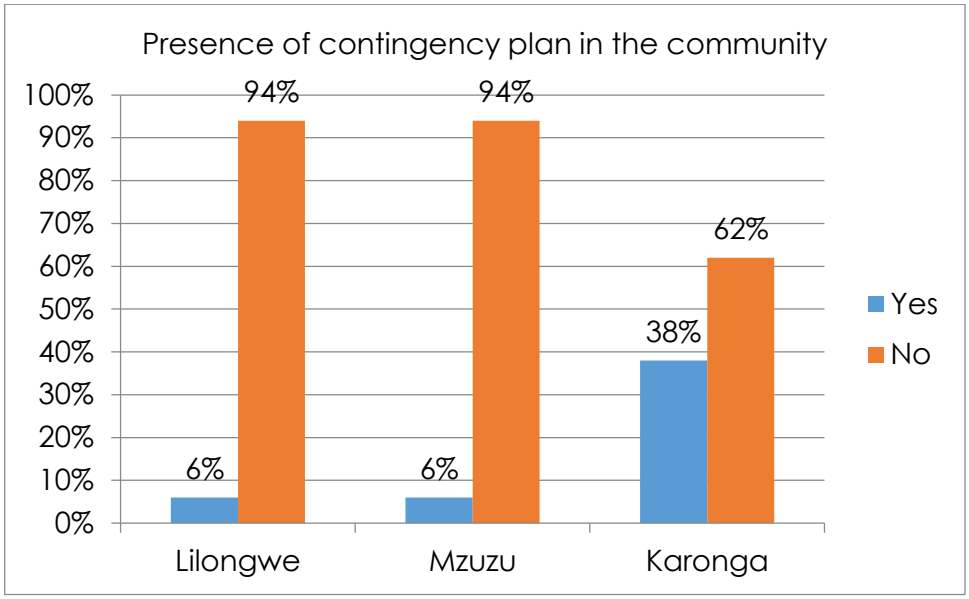
- Lilongwe leads with positive response rate of 93%, seconded by karonga (88%) and then Mzuzu (75%). It is therefore important for the project to support sustenance of the structures and the support provided to them during emergencies while increasing the awareness and role of the same committees in Mzuzu

Disaster Risk Reduction

Community Contingency Plan and communication on Disaster Risk Reduction

Only 6% of the households interviewed in both Lilongwe and Mzuzu indicated that they are aware that their communities have contingency plans, against 38% in Karonga as indicated in the figure below.

Figure 7: Knowledge about availability of contingency plan in the community



Karonga scores high on the list because of frequent occurrence of disasters in the district. Many stakeholders implement disaster projects in the area which support communities in the development of contingency plans unlike in the cities of Lilongwe and Mzuzu. Thus, more communities are made aware of the importance of developing contingency plans in Karonga than in Lilongwe and Mzuzu. The project should support the development/review of contingency plans in all the 3 impact areas. The project teams for Lilongwe and Mzuzu cities must put more energy and resources on this area as the two cities have had little investment in disaster preparedness in general and contingency planning in particular.

Information on Disaster Risk Reduction (DRR)

The study also checked on respondents whether they have heard messages about Disaster Risk Reduction in the past 1 year.

- In Lilongwe, 68% responded to have ever heard of messages, while in Mzuzu and Karonga it was 62% and 65% respectively as shown in the figure below.

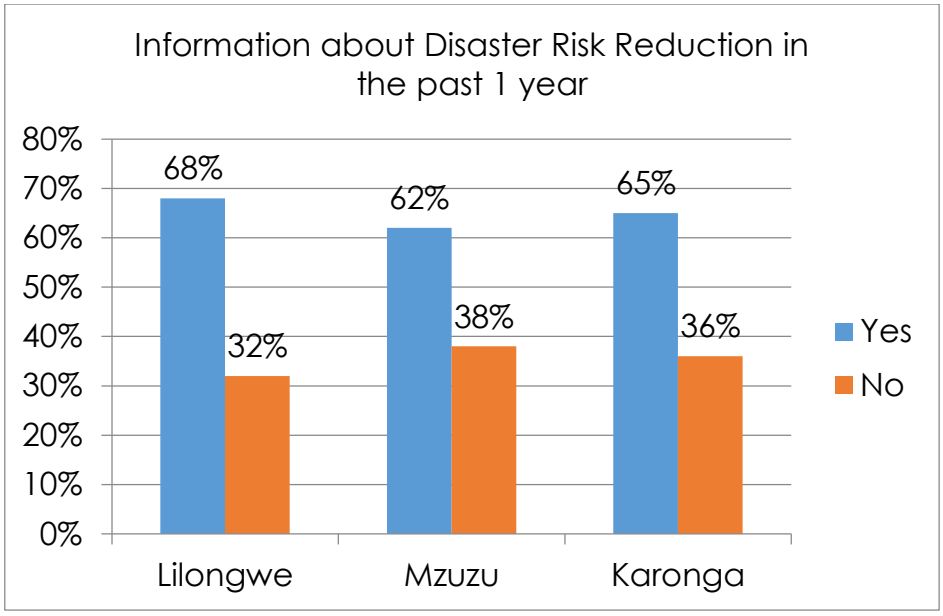


Figure 8: Information about Disaster Risk Reduction in the past 1 year

Figure 8 above shows that DRR information is being shared to at least all the communities in the area the project is going to be implemented. The information helps communities to prepare for disasters in order to reduce the impacts of disasters on the people's lives, livelihoods and properties. Hence, the need for the project to continue investing in this area to ensure safety of property, livelihoods and lives from disasters. The survey also enquired about the preferred channels of receiving DRR messages and the figure 9 below indicates people's responses on the preferred channels of communication on which they would like to be receiving information on DRR.

Figure 9 below indicates that in all the 3 districts, radio is the most dominant channel through which respondents would like to be receiving messages. Just like on early warning, here too, respondents in the cities would like to receive the messages through TVs and WhatsApp whereas in karonga, many people would also prefer to receive messages in DDR through their local leaders and extension workers. Thus, the aforementioned preferred channels should be adopted in the Cities and Karonga respectively.

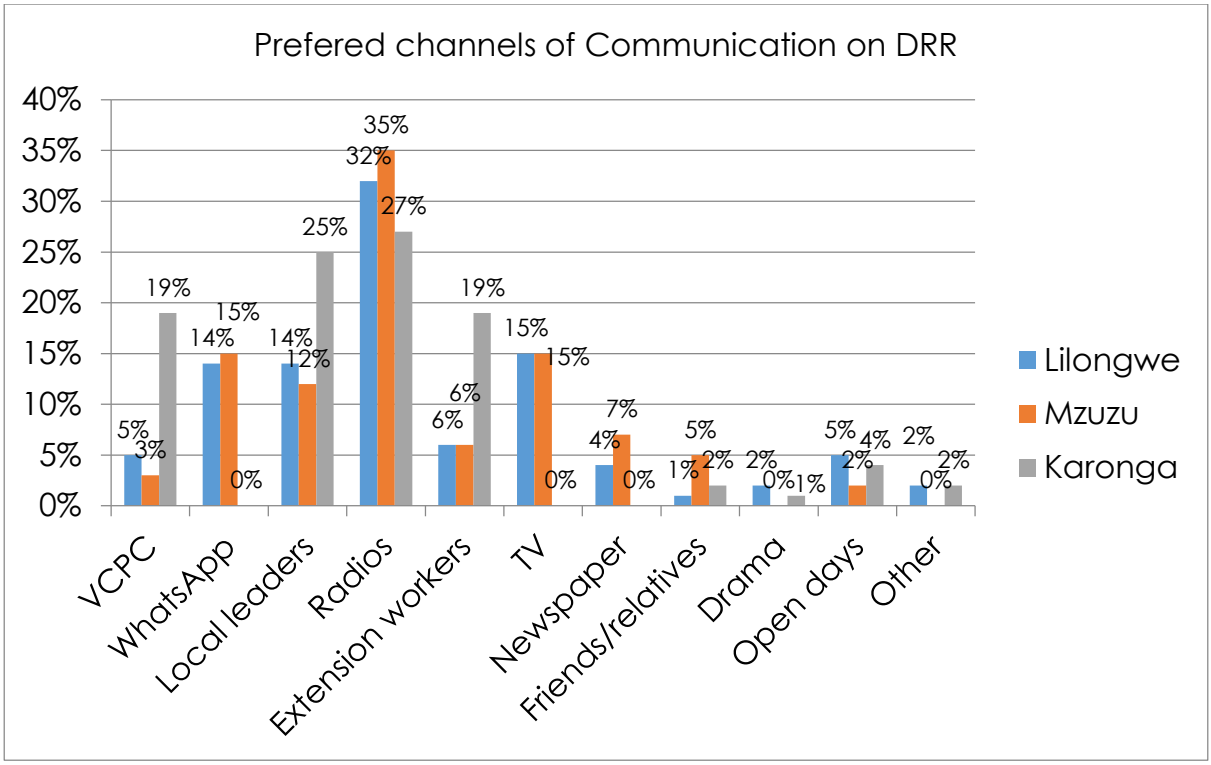


Figure 9: Preferred channels of communication on DRR

Participation in Disaster Risk Reduction activities

It was noted that Karonga district communities have participated in DRR activities the most followed by Mzuzu City communities. The higher number experienced could be attributed to the high frequency of disasters in Karonga and that there are more actors who support DRR activities in Karonga. The other factor could be that mostly in cities many organizations just provide a one off support when a disaster happen and hardly come back to support the DRR through recovery or mitigation activities leading to a low percentage of communities participating in DRR activities in the Cities than in Karonga.

27%, 30% and 39% of the respondents in Mzuzu City, Lilongwe City and Karonga respectively were once engaged in DRR activities. The table 2 below show DRR activities against the percentage of respondents who reported to have been engaged in DRR activities the 3 project areas.

	% Responses

DRR Activities participated in	Lilongwe	Mzuzu	Karonga
Tree planting	70	45	64
Early Warning	4	18	10
Contingency planning	2	8	9
DRR trainings	5	12	9
Simulations	4	1	0
Open Days	2	7	5
Clean campaigns	6	2	2
Other	8	7	2

Table 3: Participation in DRR interventions

Evacuation Centres

Very few household reported that they had knowledge with regards to evacuation centres in their communities. Specifically in Mzuzu City, only 18% of the respondents attested to have knowledge of the existing evacuation centres. 47% and 35% of respondents in Karonga and Lilongwe respectively indicated they are aware of the evacuation centres within their localities.

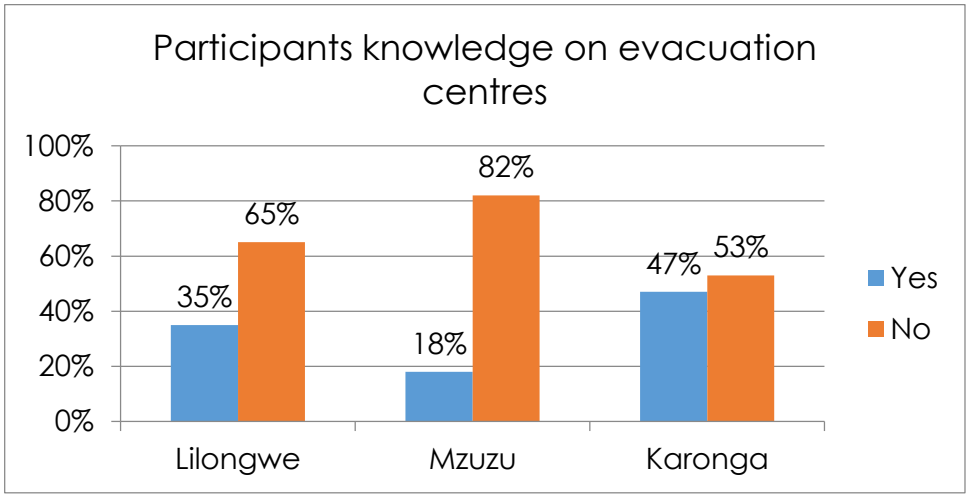


Figure 10: Participants knowledge on evacuation centres in the community

In view of the low knowledge and absence of the designated evacuation centres there is need to sensitize the community members with regards to the available evacuation centres or alternative safe routes present within their communities.

Communication on Evacuation routes

	% Responses		
Communication Channel	**Lilongwe**	**Mzuzu**	**Karonga**
Community Announcers	44	48	54
Sign Posts	22	31	1
Sensitization meetings	19	10	42
Maps	9	11	1
Other	5	0	1
Simulation	1	0	0

Table 4: Preferred channels of communicating about evacuation routes

Table 3 above indicates that in all the 3 districts; community announcement is the most favourable channel for communicating information about evacuation routes. Similarly all communities cited sensitization meetings as an equally important channel for communicating the same. However, unlike the communities from both cities the communities from Karonga were not in favour of the use of sign posts and maps to communicate evacuation routes.

Preferred Non-Food Items

The respondents were also asked on their preference on the type of NFIs they would like to receive in response to disasters. Table 4 below indicates that among the listed NFIs; in Lilongwe a large majority of the respondents indicated that they would prefer to receive beddings (75%), while in Mzuzu and Karonga respondent's choice was fairly even among the various NFIs.

Table 5: Preferred Type of Non Food Items

	% Responses		
Type of Non Food Items	**Lilongwe**	**Mzuzu**	**Karonga**
Beddings	75	19	21
Kitchen utensils	14	17	18
Tarpaulins	2	9	7
Tents	5	13	20
Buckets	2	9	11

Dignity kits (sanitary pads, pants)	0	5	2
Soap	1	10	7
Mosquito nets	0	7	9
Oral Rehydration Salts	0	5	1
Chlorine Tablets	1	8	3

Human needs vary from community to community. Traditionally people affected by disasters receive non-food items in addition to food items and other relief items. It was worthwhile finding out which NFIs are preferred by each community. Overall beddings are the most preferred NFIs in all the 3 communities followed by kitchen utensils, tents and then tarpaulins. This entails that health, WASH and women dignity services are not prioritised by different communities during emergency. Therefore, there is need for the project to integrate the preferred items into its response package as well as lobbying for different actors to consider the inclusion of such support materials during response.

Cash to Non Food Items Preference

The study also solicited respondents' views regarding what response modality the communities preferred to receive as relief aid during disasters. In Lilongwe City 64% of the respondents opted for cash as opposed to non-food items. 40% and 47% of the respondents in Mzuzu City and Karonga district respectively indicated they preferred cash to NFIs. Figure 11 below highlight the respondent's between cash and NFIs in Lilongwe and Mzuzu cities and Karonga district. This means that when designing responses, cash modality should be considered first for Lilongwe city than the other areas while on the other hand there is a need to have increased awareness to the targeted communities on the importance of using cash as a response modality.

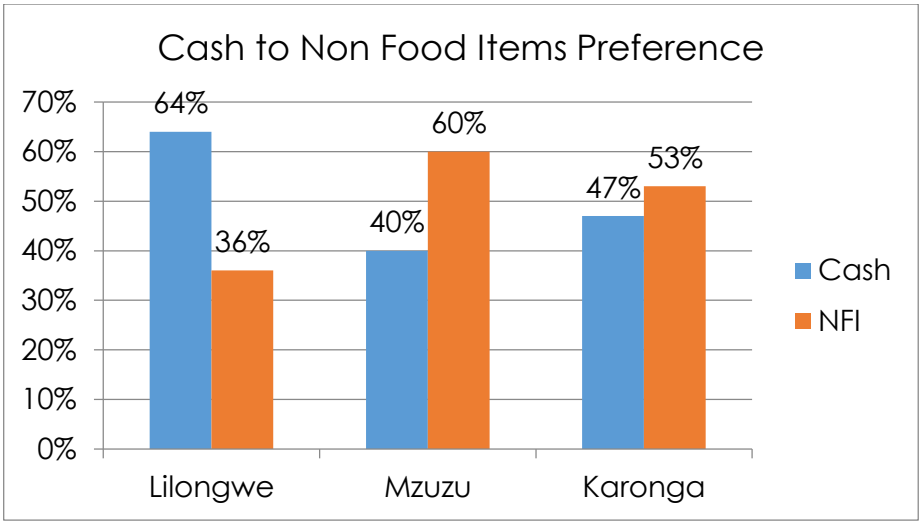


Figure 11: Cash to Non Food Items preference

These findings certainly provide room for considering multi- purpose cash programming for future response undertakings. Bearing this mind, it is plausible enough to consider the preferences of these communities prior to settling on the form of relief items to distribute during an emergency.

Conclusions

Lilongwe City, Mzuzu City and Karonga district have witnessed a significant number of devastating disasters in the recent decades including floods, drought, and strong winds and among others. If nothing is done to curb; the alarming impact of these disasters more losses are envisaged to occur in the forthcoming years. Building community preparedness, resilience, capacities and ability to respond to disasters can save loss of many precious human lives and property. As highlighted in many sections of this report, there are many gaps among communities in both preparedness and capacities with regards to early warming and DRR. It is therefore, our humanitarian obligation to take part in assisting targeted communities achieves both remarkable and sustainable levels of resilience to disasters in the Malawi and specific targeted communities.

The findings of study show that the communities in Karonga are more aware of the early warning and Disaster Risk Reduction interventions taking place within their localities than their urban counterparts in Lilongwe and Mzuzu Cities. These findings are in line with the assessments conducted during the proposal development stage. However Karonga communities continue to face multiple hazards year in year out hence the need to continuously prepare the

communities and help them to recover from shocks in case of any eventualities. The gaps identified in all the locations provide the project team with building blocks towards enhancing the proposed activities and proper prioritization of their actions.

Recommendations

The baseline study findings would also specifically recommend the following:

- Support both cities and district communities with the development and review of the available contingency plans
- Preferences of the communities prior to settling on the form of relief items to distribute during an emergency should be considered.
- On dissemination of messages for both early warning and DRR, consider using the communities' preferred channels of communication. For instance, radio has been the most preferred channel of message dissemination. However use of WhatsApp technology should be explored especially in the urban areas.
- The project should put more emphasis on the areas where more gaps have been identified especially in the cities as urban DRR is a new concept which needs more investment and dedication

List of Annexes

Annex 1: Household Survey Questionnaire