



# **Vulnerability and Capacity Assessment Report**

## **Strengthening Resilience to Disasters in Urban and Rural Malawi (STRIM) Project**

### **Mzuzu City**

*Masasa, Chibanja, Chibavi West, Chiputula and  
Mzilawaingwe Wards*

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*Submitted by: Mzuzu VCA Team*

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## **EXECUTIVE SUMMARY**

### *Mzuzu City VCA Report*

Mzuzu City is one of the fastest growing cities in Malawi and is the third largest urban center after Lilongwe and Blantyre. It has a population of 221,272 and it has experienced the highest intercensal growth rate in Malawi at 5.4 percent beating the national average of 2.9 annual population growth contributing to population density of 1,516 people per square kilometer beating the national average of 186 people per square kilometer. This has contributed to uncontrolled development in fragile areas leading to environmental degradation and consequently disasters

Malawi Red Cross has targeted five wards namely Masasa, Chibavi West, Chibanja, Chiputula and Mzilawaingwe with a project funded by European Union humanitarian aid and civil protect titled “Strengthening Resilience to Disasters in Urban and Rural Malawi”. The total population in the five wards stand at 66,136 people which is 30% of the total population of Mzuzu.

According to Mzuzu City Contingency plan 2018-19, the high population density has contributed to uncontrolled development in fragile areas leading to environmental degradation and consequently disasters. Therefore, Malawi Red Cross conducted Vulnerability and capacity assessment in five wards in Mzuzu city to assess hazards, risks and vulnerabilities facing communities and their capacities in order to identify risk-reduction activities to mitigate, prevent, prepare and respond to hydro-met risks and disasters.

The study found out that the three major common disasters in the proposed project area are floods, landslides and strong winds. The following is a list of findings and recommendations

- The person of highest authority in all the wards in relation to disaster management is the ward councilor and there are 18 NGOs and CBOs in the five wards. The project should actively engage ward councilors, WCPC, block leaders and the 18 community based organizations and non-governmental organizations in its operations
- The channels of communication most people prefer are radios and door to door awareness channels of communication. This means MRCS should support both community Radio programs and volunteer door to door visit such as PASSA group visits.
- None of the ward has a Ward contingency plan. There is a need to support community and District contingency plans and clearly link the two plans
- There are Ward Civil Protection Committees (WCPC) in every ward but they said they were not trained. Two of the WCPC (Masasa and Chiputula) were oriented on their functions but the rest were not. There is a need to train Ward Civil Protection Committees in their roles and in first aid, search and rescue, climate change, Urban DRR and safe house construction
- None of the WCPC had a DRM plan. It is important to support DRM plans produced during the VCA. The support can be in the form of community awareness of the plans and direct material support for communities to construct drainage systems, support waste management and tree planting along fragile areas.
- There is no early warning system in any of the ward. It is recommended to work with other stakeholders especially, DoDMA, DCCMS and DWR to establish a type of early warning system that can be feasible in the city. *Possible systems can be to work with DCCMS to establish or to support existing Met-stations (rain gauges)*

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- The VCA study found out that all the five wards have no designated evacuation center nor plan nor system with well labeled or mapped evacuation routes. MRCS has to invest in advocacy and collaboration with owners of the alternative evacuation sites to sign post or map the evacuation routes and sites,
- There are few toilets at alternative evacuation sites and the few toilets are normally overwhelmed during disasters. There is a need to construct additional toilets at the evacuation sites
- The wards have no material resources to respond to disaster apart from human resources with limited equipment. There is a need to support the wards with the following materials tents, personal protection equipment such as gumboots, gloves , raincoats, work suits) , Android phones, first aid kits, mobile toilets, pots, plates, bicycles, rakes, shovels, Stretchers, mega phones, torches, ropes, whistles, hoes, *mosquito nets, plates, cups, blankets, basins, plastic pails, soap, chlorine/water guard, dignity kits*
- All the five wards came up with community disaster risk management plans and there is need to support the DRM plans as follows

The Mzuzu VCA team would like to thank European Union humanitarian aid and civil protection for providing funds for the VCA which apart from being a tool for identification of capacities and vulnerabilities, it also act as training or eye opener for communities to understand their disaster risks in details.

## **CHAPTER 1: INTRODUCTION**

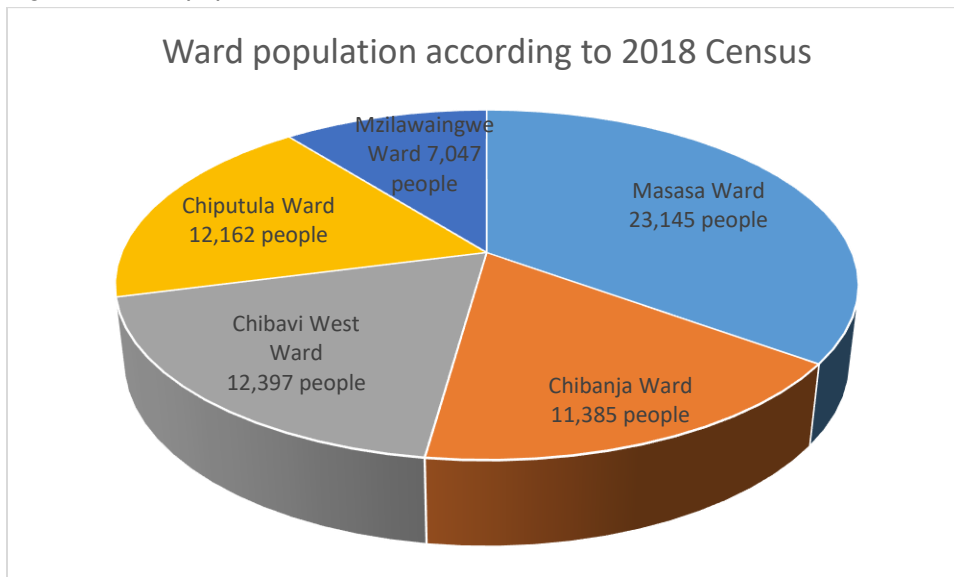
### **1.1 Background information**

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Mzuzu city is located in Mzimba District and it lies in a gap in the Viphya Mountains, and the Viphya Plantation south of the city is the largest man-made forest in Africa, and the Lunyangwa and Kaning'ina forest reserves lie east of the city. The City is one of the fastest growing cities in Malawi and is the third largest urban center after Lilongwe and Blantyre. It has a population of 221,272 and it has experienced the highest intercensal growth rate in Malawi at 5.4 percent beating the national average of 2.9 annual population growth contributing to population density of 1,516 people per square kilometer beating the national average of 186 people per square kilometer.

The high population density has contributed to uncontrolled development in fragile areas leading to environmental degradation and consequently disasters. The major disasters risks are floods, landslides and strong winds. For example In April 2016, the city of Mzuzu experienced the worst floods ever recorded since its establishment, 15 settlements were affected, 19,000 people were displaced, seven people died and seven camps were set up to accommodate the displaced.

*Figure 1. Ward population*



Therefore, Malawi Red Cross has targeted five wards namely Masasa, Chibavi West, Chibanja, Chiputula and Mzilawaingwe with a project funded by European Union humanitarian aid and civil protect titled “Strengthening Resilience to Disasters in Urban and Rural Malawi”. The total population in the five wards stand at 66,136 people which is 30% of the total population of Mzuzu.

## **CHAPTER 2: RESEARCH METHODOLOGY**

### **2.1 Preparations or organization for conducting the VCA**

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Malawi Red Cross Society assembled a team of national level supervisors which reviewed the VCA tools and developed of the enhanced VCA tools in Mzuzu for two days. This was followed by one day orientation of district Supervisors on the tools and methodology. The district supervisors then conducted a one day orientation of district VCA facilitators. Five teams were then created (one team per ward) which then conducted 3 days data collection. The data then was consolidated and report written in two days.

### **2.2 Methodologies (VCA tools)**

The assessment employed a number of tools in order to guide and facilitate the scientific and systematic process of collecting data. Selecting these tools required thinking carefully about which ones will best give the information needed using the available resources. The tools included Pair-wise Ranking, hazard assessment matrix, Historical Profile, Seasonal Calendar, Focus Group Discussion Guide and DRM plan matrix and below is a brief description of how the team used each of these tools:-

#### **2.2.1 Pair-wise Ranking:**

This is a structured method for ranking a small list of items in priority order as a way of prioritizing a list of hazards. Hazards were compared against a set of different indicators in terms of overall preference, severity, magnitude and frequency of occurring. Pair wise ranking in this VCA involved four stages which are Pair wise comparison of the identified hazards, scoring of hazards, ranking and interviewing the list. The tool was selected due to its easiness in prioritizing hazards. The aim was to compare the hazards to find out what is ranked high and what should be solved first.

#### **2.2.2 Historical Profile:**

Historical Profile is a tool used for gathering information about what has happened in the past and what changes have occurred over time. It is an important tool because it helps communities to understand what has been happening in their community and how those events has increased their risks and vulnerabilities and strengthened their resilience to disasters.

#### **2.2.3 Hazard assessment matrix**

The hazard assessment matrix aims at helping people to be able to list the different types of hazard found in their areas and know how to describe or quantify these hazards and be able to describe trends in hazard type, frequency & intensity. This is a great community awareness tool on hazards. It helps all people to be clear of the hazards by emphasizing that trends are as important as history and that climate change have serious impact.

#### **2.2.4 Seasonal Calendar**

A seasonal calendar helps to explore the changes taking place in a community over the period of one year. It can be used to show weather patterns, such as hurricanes, floods or periods of drought, social and economic conditions (including economic recession), public events such as carnivals, holidays and festivals, and seasonal activities such as harvesting. A chart is created with the months of the year along the horizontal axis and the events, activities and significant climatic phenomena listed in the vertical axis. This tool was selected to help the communities to identify periods of stress, hazard, disease, hunger, debt and/or vulnerability.

#### **2.2.5 Community risk maps**

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Community risk maps aim at helping people to identify locations at particular risk such as areas prone to hazards and locate groups that are most vulnerable to hazards. They also helped participants to understand complex relationships and allow visual comparison of information. They were drawn to indicate fragile areas vulnerable to floods, landslides and strong winds. The team used a process called participatory GIS, where base maps of the wards were drawn on A1 paper and the people were asked to locate areas prone to hazards such as rivers and available capacities such as evacuation centers, schools, churches etc. The information will be used by a GIS expert to create actual maps for the wards.

### **2.2.6 Focus Group Discussion (FGD)**

A focus group discussion is a qualitative information-gathering tool whereby a group of selected individuals, guided by a facilitator, are invited to give their thoughts and views on a specific issue. Although the discussion may focus on a specific topic, the group members may talk freely and spontaneously about the issue. FGD addresses research questions that require *depth of understanding* that cannot be achieved through quantitative methods and the purpose may be exploratory, pretesting and triangulation.

Focus Group Discussion Guide as a tool was selected because it is effective in gathering background information, diagnoses problems, stimulates new ideas or identifies new relationships and its ability to generate discussion on a specific topic.

When selecting the participants MRCS considered the following gender, age, power, and special interest. The national level supervisor developed FGD guide that aimed at addressing hazards, vulnerabilities, capacities and indicators of the project. The tool comprises the following areas, Demographic data, human vulnerability to disasters, tree coverage, water resources, information, education and communication on DRR, preparedness planning, early warning, evacuation and response skills and resources including emergency response resources.

### **2.2.7 DRM Plan Matrix**

DRM plan matrix was used to build the community's capacity in strategizing to reduce the reduce disasters risks and participants were able to actively develop their disaster risk management plans. Matrix comprises key components of a DRM plan namely hazard type, Issues being addressed, Activities target, time frame, Resources (materials and technical), community resources, sources, responsible persons, monitoring indicator

## **CHAPTER 3: THE VCA FINDINGS**

### **3.1 Common hazards in Mzuzu city**



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Findings from the pair wise ranking (Annex 1) found out that the major priority hazards in Mzuzu city are floods, landslides, strong winds and disease outbreaks such as Cholera. Floods were found to be a priority problem in the four out of the five wards except Masasa. Participants said that the major underlying factor for floods in the city are poor drainage, poor waste management and uncontrolled development and settlement in fragile areas especially around streams. Number one hazard in Masasa is landslides. Masasa is vulnerable to landslides because houses are constructed on fragile areas i.e. weak soils and too close to the rivers. The soil is naturally weak soil and in addition houses are constructed on slopes with poor landscaping that exacerbated landslides. Strong winds are attributed to deforestation especially lack of tree cover. Poor drainage and solid waste and wastewater management in slums such as Salisbury in Chibanja do not only contribute to flooding but also disease outbreak hazards especially Cholera.

### **3.2 .History of disasters in Mzuzu city**

The historical profiles (Annex 2) found out that disasters are on the increase in the city. Although it was found out that people could remember disasters such as floods as early as 1976, it was found out that disasters such as floods, landslides and strong winds have been rising from 2002 and gain pick in 2016 when a mixture of landslides, floods and strong winds caused havoc in the city. DoDMA reports that in April 2016, the city of Mzuzu experienced the worst disasters (floods, landslides and strong winds) ever recorded since its establishment, 15 settlements were affected, 19,000 people were displaced, seven people died and seven camps were set up to accommodate the displaced

Nevertheless, there are developmental activities that enhances the capacity and resilience of the people to respond to disasters. For example between 2016 and 2019 in Chibanja ward DoDMA, Red Cross and CICODE implemented a drainage clearing and construction project. CICODE also implemented a slum upgrading project in conjunction with from Mzuzu university and women federation from 2015-2016. The coming of SOS and St John of God in 2004 and 2016 respectively in Masasa ward greatly contributed to the capacity of vulnerable people to withstand shock. SOS partnered with CBOs that are involved in livelihood activities such as Village savings and loans (VSL) and vocational skills. St John of God established school of the elderly and children with special needs .It was also observed that Mzuzu city council has brought amenities in other wards which have increased capacity of the people to cope to disasters. For example the construction of access roads in Mzilawaingwe and other townships has increased access in times of disasters and introduction of community taps/kiosks in many locations has enhanced access to safe water during disasters

### **3.3 Disaster trends in Mzuzu city**

The hazard assessment matrix (Annex 3) results were in agreement with the historical profile that disaster trends has been increasing. Floods, landslides, strong winds have been increasing. The severity of disasters has also been intensifying resulting in deaths and displacement and for the first time there were 19, 000 internally displaced people who lived in seven camps in the city in 2016. Furthermore the occurrence of the disaster has become an annual phenomenon. Using the hazard assessment matrix and seasonal calendar (Annex 4) the following disaster trends were established:

#### **3.3.1 Floods trends**

Floods were a priority problem in four out of five wards namely Chibanja, Chibavi West, Chiputula and Mzilawaingwe. The trend is that floods are increasing and their intensity increases too. Some communities

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such as Chibanja remember floods as early as 1976 but they have been occurring on yearly basis from 2002 increasing in magnitude on yearly basis. The biggest flood occur in 2016. Floods normally occur between December and April.

### **3.3.2 Landslide trends**

Landslides are a priority hazard in Masasa ward. Landslides often start from February when the land is wet enough to April. The trend and intensity is also increasing and it annually affects 90% of the people of Masasa ward and mainly houses constructed on fragile slopes weakened by poor landscaping, In April 2016 landslides destroyed many homes and three of the seven camps in Mzuzu flood/landslide disaster were due to landslide in Masasa ward.

### **3.3.3 Strong wind trends**

Deforestation has increased the trend, intensity and frequency of strong winds in all the five wards Strong winds start as early as August up to April

### **3.3.4 Seasonal trends in vulnerabilities and capacities to disasters**

It was found out from the Seasonal calendar that all the three main disasters above occur before harvesting in April. This means periods of stress, hazards and vulnerability occur in lean periods when people have run out of food. This makes many households vulnerable. Cultural events also increases food insecurity/ vulnerability before the disaster season start. Village saving and loan (VSL) and small and medium enterprises are run all year round and winter cropping is done from June to December and these increases the capacity of people to withstand shocks.

*(For findings 3.3.4 to 3.3.14 please refer to Annex 6: FGD transcript)*

## **3.4 Local authorities and organizations in Mzuzu**

The study found out that the person of highest authority in all the wards in relation to disaster management is the ward councilor. This is so despite that in other wards the councilor delegate his authority to WCPC chair as is the case in Chibanja or to Ward Development Committee as is the case in Chibavi or to block leaders as is the case in Chiputula.

In all the five wards, the study found out that eighteen organizations (community based organizations and NGOs) have been operating to enhance the capacity of communities to respond to disasters, health and social problems.

In disaster management field, DoDMA, CICODE, and Red Cross has helped to construct drainage systems that are a contributing factor to flooding in the city. In additional, a large number of non-government and community based organizations are involved in socio-economic development of people that can enhance their capacity to be resilient to disasters. CICODE has implemented an urban improvement project at Salisbury location in Chibanja in collaboration with Women Federation. Other organizations involved in health, WASH and social support activities include SOS, Plan Malawi, World Vision, COMSIP and ASCOD. St John of God, an affiliate of CADECOM is involved in social inclusion through schools of the elderly and children with disability. Community based organizations are also present in other wards such as Taonga and Chidetso CBO in Masasa ward, Wanzako ndi wako yemwe and Walisungu CBO in Mzilawaingwe, Tilipo widows. Most of the CBOs are involved in Village savings and loans and vocational skills.

## **3.5 Housing type**

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The VCA study found out many houses are two bedroomed houses with a sitting room and each of the two bedroomed house is estimated at 12 sq m. The majority of houses in the five wards are dominated by iron roof houses with unburnt bricks. This makes them vulnerable to disasters such as floods, landslides and strong winds since most of them are constructed in fragile and risky areas. Many houses are constructed in areas that are risky to disasters, for example in Masasa ward houses are constructed on slopes where they have to dig to make it flat and the poorly done landscaping make soil to be loose and with loose unburnt bricks many houses are destroyed during landslides. In locations such as Salisbury line in Chibanja houses are mostly constructed with mud or unburnt bricks. The focus group discussion found out that only 25% of houses in the wards are well constructed permanent iron roofed with burnt brick.

### **3.6 Human Vulnerability to disasters**

The VCA study found out that in the five wards in Mzuzu city, the people most at risk are the elderly, people with disabilities orphans more especially child headed households, widowed women and low income people. The causes of vulnerability for the above groups includes poverty especially due to limited skills in Livelihoods and illiteracy. The low income are mostly affected as they have poorly constructed houses and likely to reside in disaster prone area. The elderly and people with disability are additionally vulnerable due to their inability to run and evacuate during disasters

Outbreaks such as Cholera were reported in Chibanja and this is the main public health emergency related hazard identified during VCA. Participants also reported that Mzuzu has experienced climate change related changes in the past decade as evidenced by the landslides, floods, strong winds, heat wave and erratic rainfall.

Despite all the vulnerabilities identified in the VCA, many wards can be accessed during any disaster including floods or landslides. However, it was reported in Chibavi and Chiputula that access is slightly affected during floods.

### **3.7 Tree Cover**

Geographically, Mzuzu city is surrounded by big forests such as and the Viphyia Plantation south Lunyangwa and Kaning'ina forest reserves lie east of the city. However, the VCA found out that the five Mzuzu city wards have mainly open areas with occasional trees here and there although some communities such as Masasa ward has a community forest

### **3.8 Water resources**

Main water sources are piped water which they accessed in their homes and communal water kiosks. The people who access water from communal taps and landlords tap often times supplement water they get with water from open shallow well. This exposes them to disease outbreaks. Open shallow wells is a second most common source of water in Mzuzu.

Piped water which is the main source of water is rarely affected by flooding. Open shallow wells are vulnerable to disasters such as floods and landslides. Very few homes with piped water sometimes are affected by floods and lands due to busting of pipes.

The VCA found that the major water source (piped water sources) are not polluted during landslides or floods but the shallow well are due to collapse of toilets and shallow wells. Landslides and floods also

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increases flooding of toilets and septic tanks. For example Katoto housing septic tanks which are close to Salisbury lines in Chibanja ward mostly leaks in rainy season.

### **3.9 Information, education and communication (IEC) on disaster risk reduction (DRR)**

Many people in Mzuzu city have heard messages on DRR the past one year. The main message has been not to settle or construct home in disaster prone areas such as landslide prone areas in Masasa and flood prone dambo areas in other wards.. Messages on relocating from disaster risk settlements were also provided. In addition, messages on how to prevent disease outbreaks such Cholera including handwashing with soap were disseminated. The main channel of communication was community awareness meetings followed by Radios and Television. Other channels of communication include, social media including WhatsApp, IEC materials, newspapers and door to door visits by extension workers and volunteers.

Of those channels of communication most people prefer radios and door to door awareness channels of communication. This means MRCS should support both Radio programs and volunteer door to door visit such as PASSA group visits. The VCA found out that not many people have participated in DRR activities with few exception in Masasa ward who were involved in tree planting and DRR Awareness and Chibavi ward community members were involved in drain clearing

### **3.10 Disaster preparedness planning**

The VCA found that none of the five wards has a Ward contingency plan nor a DRM plan. It was also found out that In 2017 Mzuzu City Council established Ward Civil Protection Committees and Block City protection committees. Sensitization and identification of members and formation was done in all the five wards. However, although it was found that Masasa and Chiputula WCPC were trained, there are very few people in the Ward Civil Protection Committees who were oriented in their work for example some people in Masasa ward civil protection committee were oriented in disaster assessment. However, three WCPC namely Chibanja, Chibavi and Mzilawaingwe were neither trained nor oriented. All the five wards links with Mzuzu City Council especially during disaster assessment by conducting joint assessments. They also do joint DRR awareness activities with some NGOs and CBOs in the five wards

### **3.11 Early warning and early action**

The VCA found out that none of the five wards has early warning system. In addition they use no indigenous early warning system. However, they indicated that they receive alerts from the Department of climate change and meteorological services through radios and most of the time they do nothing when they receive such alerts

### **3.12 Evacuation plans and systems**

The VCA study found out that all the five wards have no designated evacuation center nor plan nor system with well labeled or mapped evacuation routes. There are no evacuation plan or procedures nor designated authority to announce evacuation. It was also found that most wards have not put sign post nor mapped routes to evacuation centers because they did not agree with the owners of the sites to designate them as evacuation centers. They argue you cannot label a property that is not yours as evacuation center. This means if MRCS has to sign post or map the evacuation routes and sites, a great deal of time and resources should be invested in advocacy and coordination with owners

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The VCA found out that there are alternative evacuation sites which are mostly churches, schools, CBO and stadium. For example, Masasa ward uses Heaven is here church, Chidetso CBO and Kauwa Primary school as alternative evacuation centres and Chibavi ward uses Morovian Church. Mzilawaingwe uses a stadium as an evacuation centre. Chibavi ward uses Chibavi Seventh Day Church, Chibavi Baptist Church. Chiputula ward uses schools mosques and churches such as Chiputula School and Chiputula Lutheran church.

It was found that there are toilets at the alternative sites. However, the toilets are overwhelmed during disasters. Therefore temporary toilets are constructed There are also piped water at the alternative evacuation sites. However, water sources are overwhelmed during disasters

### **3.13 Response skills and resources**

It was found that all the five wards have Ward Civil Protection Committees that act as a response team. They were however not trained as response teams. Some WCPC have rudimentary disaster assessment, first aid and reporting skills. They need a comprehensive training. The wards have no material resources to respond to disaster apart from human resources with limited equipment. For example DoDMA gave Chibanja WCPC two pairs of gumboots, one phone and two work suits. They do not have a stockpile of emergency items either.

It was found out that the community need the following equipment to respond to disasters: preposition Tents, personal protection equipment such as gumboots, gloves , raincoats, work suits) , Android phones, first aid kits, mobile toilets, pots, plates, bicycles, rakes, shovels, Stretchers, mega phones, torches, ropes, whistles, hoes, *mosquito nets, plates, cups, blankets, basins, plastic pails, soap, chlorine/water guard, dignity kits*

The community members have never participated in emergency response or evacuation simulations. However, the community reported that all the five WCPC can start disaster assessment within 24 hours and City Civil Protection Committee with 72 hours.

### **3.14 Community disaster risk management (DRM) plans**

The five wards developed community disaster risk management plans during the VCA which they can later improve or modify with the entire community. The plans seek to reduce the major risks identified during the VCA which are floods, landslides, strong winds and disease outbreaks. The following are description of the DRM plans

#### **3.14.1 Flood specific DRM plans**

There are several issues being addressed in the DRM plans in line with the *flood disaster* risk experienced in the five wards and these include deforestation, poor drainage system, and poor waste management, constructing houses and farming in flood prone areas such as dambo areas and along rivers.

The communities planned to solve the issues identified above. For example they want to deal with deforestation by planting of tree along rivers and planting of fruit trees around their homes. In order to solve the problem of poor drainage systems, the community is ready to construct new drains, repair existing ones and clear rubbish and soil from existing drains while widening them at the same time. Poor waste management also contribute to floods in the city and the community plans to sensitize people on proper waste management, encourage re-enforcement of city bylaws, promote use of refuse dustbins, refuse banks

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and promote recycling of refuse especially manure making. Resettlement of people that have constructed houses and are farming in flood prone areas such as dambo areas and along rivers is another activity the communities have planned to deal with floods

#### **3.14.2 DRM plans for landslides**

Masasa ward identified issues that contribute to landslides and they include deforestation and poverty that forces people to construct houses in landslide prone areas. They plan to address deforestation by planting fruit trees around their homes, establishing communal forests and learning new skills to introduce cleaner and energy saving technologies such as making of briquets and energy stoves. Masasa ward also want to address poverty and construction of houses in landslide prone areas promoting village savings and loans groups and by educating people on safer house construction.

#### **3.14.3 DRM plans for strong winds**

The main issue that contribute to landslides is lack of tree cover due to deforestation and the major solution is planting of trees around homes. Participants specifically suggested the planting of fruit tree because they do not grow tall to be a hazards during storms and that it is rare to cut down fruit trees

## **CHAPTER 4: CONCLUSION AND RECOMMENDATIONS**

The following are major conclusions on findings and recommendations:

- The person of highest authority in all the wards in relation to disaster management is the ward councilor and there are 18 NGOs and CBOs in the five wards. The project should actively engage ward councilors, WCPC, block leaders and the 18 community based organizations and non-governmental organizations in its operations
- The channels of communication most people prefer are radios and door to door awareness channels of communication. This means MRCS should support both community Radio programs and volunteer door to door visits such as PASSA group visits.
- None of the ward has a Ward contingency plan. There is a need to support community and District contingency plans and clearly link the two plans
- There are Ward Civil Protection Committees (WCPC) in every ward but they said they were not trained. Two of the WCPC (Masasa and Chiputula) were oriented on their functions but the rest were not. There is a need to train Ward Civil Protection Committees in their roles and in first aid, search and rescue, climate change, Urban DRR and safe house construction
- None of the WCPC had a DRM plan. It is important to support DRM plans produced during the VCA. The support can be in the form of community awareness of the plans and direct material support for communities to construct drainage systems, support waste management and tree planting along fragile areas.
- There is no early warning system in any of the ward. It is recommended to work with other stakeholders especially, DoDMA, DCCMS and DWR to establish a type of early warning system that can be feasible in the city. *Possible systems can be to work with DCCMS to establish or to support existing Met-stations (rain gauges)*
- The VCA study found out that all the five wards have no designated evacuation center nor plan nor system with well labeled or mapped evacuation routes. MRCS has to invest in advocacy and collaboration with owners of the alternative evacuation sites to sign post or map the evacuation routes and sites,
- There are few toilets at alternative evacuation sites and the few toilets are normally overwhelmed during disasters. There is a need to construct additional toilets at the evacuation sites
- The wards have no material resources to respond to disaster apart from human resources with limited equipment. There is a need to support the wards with the following materials (tents, personal protection equipment such as gumboots, gloves, raincoats, work suits), Android phones, first aid kits, mobile toilets, pots, plates, bicycles, rakes, shovels, Stretchers, megaphones, torches, ropes, whistles, hoes, *mosquito nets, plates, cups, blankets, basins, plastic pails, soap, chlorine/water guard, dignity kits*
- All the five wards came up with community disaster risk management plans and there is need to support the DRM plans as follows
  1. Planting of trees along rivers and planting of fruit trees around their homes
  2. Establishing communal forests

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3. Constructing new drains, repair existing ones and clear rubbish and soil from existing drains and widening them
4. sensitizing people on proper waste management,
5. Encouraging re-enforcement of city bylaws,
6. Promoting use of refuse dustbins, refuse banks
7. Promoting recycling of refuse especially manure making.
8. Promoting resettlement/relocation of people that have constructed houses and are farming in flood and landslide prone areas
9. Learning new skills to introduce cleaner and energy saving technologies such as making of briquets and energy stoves.
10. promoting village savings and loans groups for people to construct safer houses
11. Educating people on safer house construction.



## CHAPTER 5: ANNECES

### ANNEX 1: Prioritization of Hazards

A. Masasa ward priority hazards						
	STRONG WINDS	FLOODS	S LANDSLIDES	SCORE	RANK	
STRONG WINDS				0	3	
FLOODS	FLOODS			1	2	
LANDSLIDES	LANDSLIDES	LANDSLIDES		2	1	
B. Chibanja ward priority hazards						
	FLOODS	STRONG WINDS	DISEASE OUTBREAK	SCORES	RANK	
FLOODS				2	1	
STRONG WINDS	FLOODS			1	2	
DISEASE OUTBREAK	FLOODS	STRONG WINDS		0	3	
C. Mzilawaingwe ward priority hazards						
	FLOODS	STONG WIND	DRY SPELL	SCORES	RANK	
FLOODS				2	1	
STRONG WINDS	FLOODS			0	3	
DRY SPELL	FLOODS	DRY SPELL		1	2	
D. Chibavi ward priority hazards						
	FLOODS	STRONG WINDS	FIRE	A ROAD ACCIDENTS	SCORES	RANK
FLOODS					3	1
STRONG WINDS	FLOODS				2	2
FIRE	FLOODS	STRONG WINDS			0	4
ROAD ACCIDENTS	FLOODS	STRONG WINDS	ROAD ACCIDENTS		1	3
E. Chiputula ward priority hazards						
	FLOODS	STONG WIND	DRY SPELL	SCORES	RANK	
FLOODS				2	1	
STRONG WINDS	FLOODS			0	3	
DRY SPELL	FLOODS	DRY SPELL		1	2	

**ANNEX 2: Historical profile**

<b>A. History of Masasa ward</b>		
<b>EVENT</b>	<b>YEARS</b>	<b>DESCRIPTION</b>
<b>HAZARDS</b>		
Landslides	2012, 2016, 2018	Landslides and floods take place at the same time. In 2016 a lot of houses almost 90% of the houses were affected and 5 people died due to landslides. People were camped in two camps
Floods	2012, 2016, 2018	The main cause of floods is inadequate drainage system and over flowing of rivers. Floods were worse in 2016 causing landslides
Strong winds	2018, 2019	Strong winds occur every year blowing off the roofs of houses. Due to unorganized construction trees fall on houses of neighbors
SOS established in the area	2004	Brought services such as CBOs and social services including vocational skills
First settler Mr Kenani Nyirenda GVH Chipundula settled in the area	1950	Many people followed his example in settling in the area they call Masasa (new and unestablished homes)
Taonga CBO formed	2008	CBOs are involved in VSL
Chidetso CBO formed	2007	CBOs are involved in VSL
St John of God school of the elderly established	2016	
Special need classes started by SOS	2106	
<b>B. History of Chibanja ward</b>		
<b>EVENT</b>	<b>YEARS</b>	<b>DESCRIPTION</b>
Floods	1976,1987,1991,2016	In 2016, many houses were destroyed and crops and animals were swept away by water. A number of people got injured from houses falling on to them. A total of 44 households were displaced and relocated at a camp. Road networks was affected too.
Strong winds	1991,2016,2017,2019	Roof for Chibanja school was blown off and school properties destroyed. A number of houses roofs

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		were blown off and a number of trees fell on houses and roads hindering movement.
Disease outbreak	2002,2006,2016,2017,2019	Malaria cases were high in 2018/2019 season. In 2016 a number of cholera cases were registered and one died.
Construction and clearing of a drain	2016, 2018-2019	A drain was constructed by Red Cross to prevent floods in 2016.  Drain clearing was done with help of MASAF V project. In 2018-2019, DODMA supported the area with construction of a drain and the project continues where it stopped.
Distribution of mosquito nets	2016, 2018	Malawi government through World Vision distributed nets to all households in the area.
Household assessment by DODMA and CICODE	2019	Assessments of HHs and community resilience to disasters conducted by DODMA and CICODE in the area. DODMA is to implement a five year project in the area.
CICODE slum upgrading project	2015-2016	CICODE in collaboration with Mzuzu University, Women Federation and Mzuzu City Council implemented a slum upgrading project at Chibanja South neighborhood of the Ward

**C. Mzilawaingwe ward Historical profile**

EVENT	YEAR	DESCRIPTION
Floods	2016, 2017, 2018	<ol style="list-style-type: none"> <li>1. The people in the area lost their crops and livestock.</li> <li>2. Over 100 houses were washed away during the floods in all these years.</li> <li>3. Loss of properties.</li> <li>4. Damaged roads.</li> <li>5. Power cut out for days due to poles being washed out.</li> </ol>
Strong winds	2017,	Roofs from over 60 houses were blown away due to strong winds. The strong winds also affected schools in the area.
Dry spell	2005, 2000, 2017, 2009	The participants stated that over 6000 people in the area were at risk of being without food. Most houses spent some nights hungry due to food scarcity during this drought.
<b>DEVELOPMENT ACTIVITIES THAT IMPROVE CAPACITY</b>		
Sports court	2002	The youth and others adult spend time there.

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Roads	2000, 2017, 1997	Easy access of other areas due to the construction of roads in the community.
Street lights	2017 2006	The street lights help in the reduction of crimes since there is lighting
Maize mills	2005	Milling has become very easy since the maize mills are within the community.
Admarc	2017	It has helped the community to buy seedlings as well as food closer.
Water taps	2016	Access to water is much easier.

**D. Chibavi ward historical profile**

Hazard	Year	Remarks
Floods	2009, 2015, 2016, 2017, 2018	Occurrence of disaster has increased in frequency & magnitude over the years
Strong Winds	2009, 2015, 2016, 2017, 2018, 2019	Though strong winds have been an occurrence over the years, however only weak structures have been affected.
Fire break out	2009, 2015, 2016, 2017, 2018, 2019	Fire breakouts have been a problem in the area. So far 10 incidences of fire breakout have been registered/recorded. However, the degree of damage is catastrophic due no readily availability of fire extinguisher.
Road Accidents	No time span	Can occur anytime without warning. Occurrence of road accident however is on the increase of late compared to a decade ago.

**E. Chiputula ward historical profile**

Hazard	Year	Remarks
DRY SPELL	2010, 2014,	Scarcity of water even Lunyangwa river
FLOODS	2009, 2015,2016,2017,2018	Poor drainage
STRONG WINDS	2009, 2015, 2016, 2017, 2018, 2019	Deforestation

ANNEX 3: Hazard assessment matrix

A. Masasa ward hazard assessment matrix						
Hazard	History	Severity	Frequency	Duration	Trends	Warning signs
Landslides	2012 2016 2018	5 people lost their lives Many households were affected Occurs every year Affects 90% of population	Occurs every year Affects a large population	February to April	Increasing	Radio messages
Floods	2012 2016 2018	5 people lost their lives Many households were affected Occurs every year Affects 90% of population	Every year	December-April	Increasing In 2016 affected households were displaced and camped at Heaven is here church, Kauwa Primary School, and Chidetso CBO	Radio messages
Strong winds	2018 2019	Roof of the houses being blown off Walls of the houses collapsing	Every year	November to April	Increasing	Radio messages
B. Chibanja ward hazard assessment matrix						
Hazard	History	Severity	Frequency	Duration	Trends	Warning signs
Floods	1976,1987,1991,2016	High	Once in a while	Feb – April	Increasing	Messages from radio/TV
Strong winds	1991,2016,2017,2019	High	Every year	Aug – Dec	Increasing	-Messages from radio/TV Swaying/movement of trees
C. Mzilawaingwe ward hazard assessment matrix						
Hazard	History	Severity	Frequency	Duration	Trends	Warning signs
Floods	20-16, 17, 18	Common in the areas along the nearby river  Also occurs in houses along the water drains	4 months	4 months	Increasing	Radio, The community members warning each other when it rains.
	2017	Affects the entire ward	Rainy Season	Dec- Jan	Increasing	Radio

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Strong winds						
<b>D. Chibavi ward hazard assessment matrix</b>						
<b>Hazard</b>	<b>History</b>	<b>Severity</b>	<b>Frequency</b>	<b>Duration</b>	<b>Trends</b>	<b>Warning signs</b>
Floods	2009, 2015, 2016, 2017, 2018	A bigger number of HHs affected due wanton cutting down of trees, river bank cultivation, building houses along the river, water drainage blockage	Annually	2 months April-March	The problem is increasing	Indigenous knowledge when ridges have submerged and daily weather updates through radios
Strong Winds	2009, 2015, 2016, 2017, 2018, 2019	It disrupts learners and people's settlement when roofs have been blown off. This has exacerbated by removal of tree cover and weak building structures	Annually	3 months Oct-Dec	It's a yearly problem though it affects few households	Vigorous shaking of trees, Radios
<b>E. Chiputula ward hazard assessment matrix</b>						
<b>Hazard</b>	<b>History</b>	<b>Severity</b>	<b>Frequency</b>	<b>Duration</b>	<b>Trends</b>	<b>Warning signs</b>
FLOODS	2009, 2015, 2016, 2017, 2018	Affects 50% of the population	Yearly	March to April	Increasing	None
STRONG WINDS	2009, 2015, 2016, 2017, 2018, 2019	Affects 50% of the population	Yearly		Increasing	None

## ANNEX 4: Seasonal calendar for Mzuzu City

### A. Masasa seasonal Calendar

[illegible]

### B. Chibanja ward seasonal calendar

[illegible]

### C. Mzilawaingwe ward seasonal calendar

[illegible]

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Drought												
Strong Winds												
<b>Farming and Livelihood activities</b>												
Land preparation												
Nursery												
Transplanting												
Watering												
Business												
Piece work												
Betting												
VSL												
<b>CULTURAL EVENTS</b>												
Weddings												
Birthday Parties												
Bawo												
Fellowships												
Condolences												
<b>D Chibavi ward seasonal calendar</b>												
<b>HAZARDS</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
Floods												
Strong winds												

## ANNEX 5: Focus group discussion transcript

### Local Authority & Coverage

#### 1. Who has highest level of authority in the community in disaster related

*The person of highest authority in relation to disaster management differs from ward to ward in Masasa and Mzilawaingwe wards councilor has the highest authority where as in some communities such as Chibanja the WCPC chair has delegated authority. The ward Councilor delegate the authority to WCPC chair. In Chibavi Ward Development Committee has highest authority and in Chiputula block leaders have highest authority.*

#### 2. What NGOs and local community based organizations exist in this community? What are the areas of their programming and expertise?

	<b>Name of NGO or CBO in Masasa ward</b>	<b>Area of expertize</b>
1	SOS	Established and manages CBOs (Chidetso and Taonga CBO) Organizes social services such as schools and vocation skills such as welding and tailoring.



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2	St John of God (CADECOM) in Masasa, Chibanja and Mzilawaingwe wards	Established school of the elderly, school of children of special need at Masasa primary school Vocational skills
3	Taonga and Chidetso CBOs in Masasa ward	Established and supports Village savings and loans (VSL) groups Link community and other NGOs and lobbying for support
4	CICODE in Chibanja ward	CICODE is implementing disaster project at Salisbury. CICODE is working in collaboration with Women Federation. CICODE is also working with Mzuzu University to implement WASH project
5	ASCOD in Chibanja ward PACE	ASCOD is constructing a school block at Chibanja school PACE implementing youth empowerment programs
6	COMSIP in Masasa and Chibanja	COMSIP implementing livelihood programs
9	Wanzako ndi wako yemwe and Walisungu CBO in Mzilawaingwe	HIV and AIDS support groups including orphans care support
10	Church and Society in Mzilawaingwe and Chibavi	<i>Governance and sanitation and school fees payment to students</i>
12	Find your feet	Governance and sanitation
13	Hope for persons with disability in Mzilawaingwe ward	Economic empowerment of the elderly
14	Tilipo widows	Economic empowerment of widows
15	Gift of givers	<i>sanitation and school fees payment to students</i>
16	Plan Malawi in Chiputula	Support youth centered programs and activities i.e education , water and sanitation (health and education programs)
17	DODMA in Chiputula	Management of disaster program and activities include drainage construction
18	World vision-	Support child related programs and activities like health , education and environment in Chiputula

## **Housing**

### **1. Basic house construction type**

*Although house types differs per location the majority of houses in the five wards are dominated by iron roof houses with unburnt bricks. In Masasa the soil is not good for burning bricks because if properly burnt the bricks loses their strength (soil becomes loose). Therefore even the burnt bricks are not properly burnt so that to maintain soil cohesion. In locations such as Salisbury line in Chibanja houses are mostly constructed with mud or unburnt bricks while other areas have a combination of temporary and permanent houses.*

### **2. Other prominent construction types in the community**

*The focus group discussion found out that only 25% of houses are well constructed permanent iron roofed with burnt brick. However, in Masasa, the soil type limits people from constructing with well burnt bricks because bricks loses their soil strength and texture when properly burnt*

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### 3. Average house size (per family in sq m)

*Many houses are two bedroomed houses with a sitting room. Each of the two bedroomed houses is estimated at 12 sq m.*

### 4. Location of community settlement (whether safe or risky)

*It was found out that many houses are constructed in areas that are risky to disasters. For example in Masasa ward houses are built on slopes and are risky to landslides because the dug soil during landscaping is most of the times not compacted well for the next home on the slope. In Chibanja, Chibavi and Mzilawaingwe wards many houses are constructed in a low lying dambo areas.*

## **human Vulnerability to disasters**

### 1. Who are people are most at risk during disasters (age, gender, occupation)?

*In Mzuzu city, the people most at risk are the elderly, people with disabilities orphans more especially child headed households, widowed women and low income people.*

### 2. In what specific ways are they vulnerable

*The causes of vulnerability for the above groups includes poverty especially due to limited skills in Livelihoods and illiteracy. The low income are mostly affected as they have poorly constructed houses and likely to reside in disaster prone area. The elderly and people with disability are additionally vulnerable due to their inability to run and evacuate during disasters*

### 3. What are common public health emergencies

### 4. Has area experienced any climate changes in the past decade

*The area has experienced climate changes in the past decade as evidenced by the landslides, floods, strong winds, heat wave and erratic rainfall.*

### 5. Ease and ability to access this community during floods

*Largely, many wards can be accessed during any disaster including floods or landslides. However, Chibavi, Chiputula and other areas access is affected during floods by presence of drains and wells/pits*

## **Trees**

### 1. Describe the tree cover of your area? Why is your area like that

*The five Mzuzu city wards have mainly open areas with occasional trees here and there. However, some communities such as Masasa ward has a community forest about 7 hectares*

*Mzuzu city is situated in Mzimba district and lies in a gap in the Viphya Mountains, and the Viphya Plantation south of the city is the largest man-made forest in Africa, and the Lunyangwa and Kaning'ina forest reserves lie east of the city*

## **Water Resources**

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### 1. What are the main types of water sources

*Main water sources are piped water which they accessed in their homes and communal water kiosks. The proportion of people that access water from their homes and kiosks differs from ward to ward. For example in Chibanja and Mzilawaingwe wards many people access water from communal taps to supplement water they get from open shallow well. This exposes them to disease outbreaks. Open shallow wells is a second most common source of water in Mzuzu*

### 2. Whether these water sources are vulnerable to flooding?

*Open wells are largely vulnerable to disasters such as floods and landslides. However, pipe water is sometimes affected by floods and lands*

*Pipes break and bust.*

### 3. Are water sources accessible during flooding?

*Despite that some pipe burst, water is still accessible from piped water sources during landslides and floods. However, open shallow wells are affected*

### 4. Are the water sources polluted by floods

*The major water source, which are piped water sources are not polluted during landslides or floods but the shallow well are polluted by the landslides and floods which result in collapse of toilets and shallow well. Landslides and floods also increases flooding of toilets and septic tanks. For example Katoto housing septic tanks which are close to Salisbury lines in Chibanja ward mostly leaks in rainy season.*

## **Information, Education and Communication on DRR**

### 1. Have you heard any message on DRR in the past 1 year?

*Many people in Mzuzu city have heard messages on DRR the past one year*

### 2. What type of messages did you receive?

*The main message has been not to settle or construct home in disaster prone areas such as landslide prone areas in Masasa and flood prone dambo areas in Chibanja and Mzilawaingwe wards. Messages on how to prevent disease outbreaks such Cholera including handwashing with soap were also disseminated. Messages on relocating from disaster risk settlements were also provided.*

### 3. You received the messages through which channel?

*The main channel was community awareness meetings by City council and SOS*

*Radios,*

*Television*

*Social media including WhatsApp*

*IEC materials,*

*Newspapers*

*Door to door visits by extension workers and volunteers.*

### 4. Of those channels which ones do you prefer most ,

*Preference of channel of communication differs from ward to ward for example people of Masasa and Mzilawaingwe wards people prefer Radios to other channels whereas people of Chibanja ward prefers door to door visits. This means MRCS should support both Radio programs and volunteer door to do visit such as PASSA group visits.*

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5. Did you participate in any DRR activities?

*Masasa ward has been involved in tree planting and DRR Awareness. Chibavi ward community members are involved in drain clearing*

### **Preparedness planning**

1. Does your community have a contingency plan?

*None of the five wards has a contingency plan*

2. When was it written and who is the primary contact?

3. When was it reviewed last time?

4. If Yes, is this plan linked with the District Contingency plan

5. Is there a DRM plan in the community

*None of the five wards has a DRM plan*

6. Are there committees in the communities that respond to disasters (VCPC, WCPC)?

*In 2017 Mzuzu City Council established Ward Civil Protection Committees and Block City protection committees.*

*Only Masasa, Chiputula were trained Sensitization and identification and formation was done all the five wards but only two WCPC were trained.*

7. What are the linkages between the community and other actors? (local authority, NGOs, Community based organization, etc)

*The community links with Mzuzu City Council especially during disaster assessment by conducting joint assessments. The also do joint DRR awareness n activities with all the NGOs and CBOs in the five wards*

8. How many people in the district, community structures and schools have been trained in disaster interventions?

*There are very few people in the Ward Civil Protection Committees who were oriented in their work for example Masasa ward civil protection committee has 10 members and all were oriented in in disaster assessment. However, some WCPC such as Chibanja members were neither trained nor oriented.*

9. What activities have they been engaged on?

*Similarly when other wards have been engaged in some activities, other have not been involved in any. For example Masasa ward civil protection committee has been engaged in disaster assessment and beneficiary identification when Chibanja ward has not engaged in any activity. The WCPC are involved in community disaster awareness meetings.*

### **Early Warning**

1. Are there an early warning systems in this community?

*The five wards has no early warning system*

2. What type of early warning systems in place?

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3. Are community members familiar with this system and what it means?
4. What indigenous early warning systems they have in place?

*The five wards have no indigenous early warning system*

5. If yes, do community members consider it to be reliable system
6. Describe modes in which alerts are disseminated to people;

*In Masasa ward alerts are disseminated through radios*

7. Do they receive alerts from early warning system?
8. How do they act on the alerts

## **Evacuation**

1. Are there designated evacuation centres?

*Most wards such as Masasa has no designated evacuation centre*

2. What could be the alternative evacuation sites?

*However, there are alternative evacuation sites which are mostly churches, schools, CBO and stadium. For example, Masasa ward uses Heaven is here church, Chidetso CBO and Kauwa Primary school as alternative evacuation centers and Chibavi ward uses Moroviana Church. Mzilawaingwe uses a stadium as an evacuation center. Chibavi ward uses Chibavi Seventh Day Church, Chibavi Baptist Church. Chiputula ward uses schools mosques and churches such as Chiputula School and Chiputula Lutheran church.*

3. What is the best way to communicate on evacuation routes?

*Most wards have not put sign post nor mapped routes to evacuation centers because the sites are not designated as evacuation centers.*

4. Does the community understand these evacuation procedures and evacuation routes
5. Does the community recognize and respect those with the authority to announce an evacuation?
6. Have these evacuation procedures been used successfully in the last five years?
7. Type of sanitation and Sanitation arrangements at the evacuation sites

*There are toilets at the three alternative sites. However, the toilets are overwhelmed during disasters. Therefore temporary toilets are constructed.*

8. Type of water source and Water availability

*There are piped water at the alternative evacuation sites. However, in order to supplement water Northern Region Water Board sometimes uses water bowsers*

## **Response skills and resources**

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1. Have you ever heard about Response teams? If yes do you have one in this area? Does your ward have a contingency plan? Does your contingency plan contains early warning message alerts?

*All the five wards have Ward Civil Protection Committees that act as a response team. They have no community contingency plans*

2. What emergency response skills exist in the community (First aid, search and rescue, public health)?

*The ward civil protection committees have some rudimentary disaster assessment, first aid and reporting skills. They need a refresher*

3. What resources exist in the community?

*The wards have no material resources to respond to disaster apart from human resources with limited equipment. For example Chibanja WCPC have two pairs of gumboots, one phone and 2 work suits*

4. What equipment does the response team need to respond?

*Tents, personal protection equipment such as gumboots, gloves , raincoats, work suits) , first aid kits, mobile toilets, pots, plates, bicycles, rakes, shovels, Stretchers, mega phones, torches, ropes, whistles, hoes, pails, medicines including dignity kits*

5. Have community members participated in emergency response or emergency response or evacuation drills and simulations?

*None of the five wards have ever participated in emergency drills or simulations.*

6. Damage assessment and needs Assessment skills

*The five ward civil protection committees have some rudimentary assessment and reporting skills. They have done joint assessments with city council. However, they need training*

9. Existence and capacities of the teams ready for deployment and do assessments in times of disasters). how long does it take to start the assessment after disaster

*The community reported that all the five WCPC can start disaster assessment within 24 hours and City Civil Protection Committee with 72 hours.*

### **Emergency response resources**

- a. Is there a stockpile of emergency items?

*None of the wards as a stockpile of emergency items*

- b. What NFIs would the people need?

*All the wards would like to have the following NFIs Tents, Plastic papers, mobile toilets, pots, , plates, cups, blankets, basins, plastic pails, soap, chlorine/water guard, and ropes, pails, chlorine, mosquito nets, medicines including dignity*

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**ANNEX 6: Mzuzu City Ward DRM Plans**

**A. Masasa ward DRM Plan**

Hazard	Issues/problem being addressed	Activity and place	Target	Time frame	Resources	Community Resources	Other Sources	Responsible person	Monitoring indicator
<b>1. LANDSLIDES</b>	Deforestation	Planting fruit trees	10,000 trees	December	Labour, Land, Wheelbarrows, picks, seedlings Shovels, Seeds	Labour, Land, hoes	Red Cross Society Mzuzu City Council , Plan International, Beautify Malawi	WCPC Chair 0999291555	No. trees surviving
		Skills in alternative sources of fire (Brickets)	200hh	July to December	Sawdust, soil, labour, mould, facilitation	Sawdust, soil, labour,	Red Cross Society Mzuzu City Council , Plan International, Beautify Malawi	WCPC Chair 0999291555	# of households

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	Poverty	Village savings and loans(VSL) group	500 Households	January to December	Training, Passbook, safe box, Interested people, meeting place	Meeting place, Interested people	SOS, St John of God, COMSIP, Community development	Taonga and Chidetso CBO	# people in VSL Size of shares
	Constructing houses on weak soils	Education on safer house construction	15,000	June to December	Facilitators, Education materials, photos of safe houses and unsafe houses, Megaphone, WCPC, BCPC	WCPC, BCPC	Red Cross, MCC, SOS	WCPC BCPC	# people reached
<b>2. FLOODS</b>	Deforestation	Planting fruit trees	10,000 trees	December	Labour, Land, Wheelbarrows, picks,	Labour, Land, hoes	Red Cross Society Mzuzu City Council , Plan	WCPC Chair 0999291555	No. trees surviving



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					seedlings Shovels, Seeds		International, Beautify Malawi		
	Poor drainage system	Construction of drains	2kilomete rs of drainage	May to July	Bricks, stones, labour, cement, sand, water	Sand, Labour, water	Red Cross Society Mzuzu City Council , Constituency Development Fund	Ward Councillor Block Leaders	Distance of drainage constructe d
	Poor waste management	Manure Making Promotion of refuse disposal bins/pits	5,000 househol ds	Jan to Decemb er	Wheelbarro ws, dustbins, extension workers, Brooms, hoes, rakes	Hoes, dustbins, brooms	Red Cross Society Mzuzu City Council , Ministry of Health, Ministry of Agriculture, Beautify Malawi	GVH, BCPC	# household s with dustbin

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<b>STRONG WINDS</b>	Deforestation	Planting fruit trees	10,000 trees	December	Labour, Land, Wheelbarrows, picks, seedlings Shovels, Seeds	Labour, Land, hoes	Red Cross Society Mzuzu City Council , Plan International, Beautify Malawi	WCPC Chair 0999291555	No. trees surviving
	Lack of knowledge on safe house construction	Teaching people Safe house construction skills	15,000	June to December	Facilitators, Education materials, photos of safe houses and unsafe houses, Megaphone, WCPC, BCPC	WCPC, BCPC	Red Cross, MCC, SOS	WCPC BCPC	# people reached
<b>B. Chibanja Ward DRM Plan</b>									
<b>Hazard</b>	<b>Issues/problem being addressed</b>	<b>Activity and place</b>	<b>Target</b>	<b>Time frame</b>	<b>Resources</b>	<b>Community Resources</b>	<b>Other Sources</b>	<b>Responsible person</b>	<b>Monitoring indicator</b>

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<b>1. FLOODS</b>	Poor drainage system	Construction of storm water drains at 4 places -Salisbury to Makongono -St John of God to Manda a agalu -Katoto to Chithira bridge -Mchenga to Mayiza culvert	7 Km	2019-2024	Stones, cement, quarry & sand	labour	NGOs Govt.	WDC WCPC	Kms of drain constructed
		Conduct sensitization meetings on proper house construction i.e not to construct on natural water ways and provide proper drainage for residential compounds	6 meetings every quarter	2019-2024	PA system Drama group	labour	NGOs Govt.	Councillor WDC WCPC	NO. of meetings. NO. of people reached
		Drain clearing before rain season	All drains	Oct-Nov	Shovels, rakes, gumboots, work suits, gloves	Labour Some materials	NGOs Govt.	WDC WCPC Block leaders	NO. of drains cleared Kms of drains cleared
	Poor waste management	Sensitization of people on proper waste disposal in all 6	6 meetings every quarter	2019-2024	PA system, Drama group, Expert speakers	Labour	NGOs Govt	WDC Block leaders	NO. of meetings NO. of people reached

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		neighbourhoods of the Ward							
		Establish and construct communal places where waste should be disposed (refuse banks)	6	2019-2020	Land , cement, sand, iron sheets, iron rods	Land, labour	NGOs Govt.	Block leaders WDC WCPC	NO. of refuse banks established
	Deforestation	Deforestation	Planting trees along 3 natural water ways-streams	3	2019-2024	Seedlings Land	Land, labour	NGOs Govt.	Block leaders WDC WCPC
	Poor housing structures and places	Sensitization on dangers of illegal developments and settlements	6 meetings every quarter	2019-2024	PA system, Drama group, Expert speakers	Labour	NGOs Govt	WDC Block leaders	NO. of meetings NO. of people reached
<b>2. STRONG WINDS</b>	Deforestation	Tree planting around dwellings and other areas	20,000 trees	2019-2021	Seedlings Land	Land, labour	NGOs Govt.	Block leaders WDC WCPC	NO.of trees planted
	Poor housing construction	Sensitization on proper construction of houses	6 meetings every quarter	2019-2024	PA system, Drama group, Expert speakers	Labour	NGOs Govt	WDC Block leaders	NO. of meetings NO. of people reached
	Poor waste management	Sensitization of people on proper	6 meetings	2019-2024	PA system,	Labour	NGOs Govt	WDC	NO. of meetings

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<b>3. DISEASE OUTBREAKS</b>		waste disposal in all 6 Neighbourhood of the Ward	every quarter		Drama group, Expert speakers			Block leaders	NO. of people reached
	Poor hygiene	Conduct community hygiene promotion activities in all neighbourhoods	6	2019-2014	IEC materials expert speakers PA system	labour other materials	NGOs Govt	WDC Block leaders WCPC	NO. of promotions NO. of people reached
		Door to door/ household visits on hygiene promotion by HAS in all neighbourhoods especially Chibanja South and central	all HHs	2019-2024	IEC materials Expert speakers-public health officials	their presence	NGOs Govt.	HSAs Block leaders	NO. of HHS reached
		Door to door/ household visits on hygiene promotion by HAS in all neighbourhoods especially Chibanja South and central	all HHs	2019-2024	IEC materials Expert speakers-public health officials	their presence	NGOs Govt.	HSAs Block leaders	NO. of HHS reached
		Conduct community clean-up day or campaign	whole Ward	Oct- Nov	brooms shovels wheelbarrow gumboots	labour	NGOs Govt	Councillor WDC WCPC	No. of people participating

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**C. Mzilawaingwe ward DRM Plan**

<b>Hazard</b>	<b>Issues/problem being addressed</b>	<b>Activity and place</b>	<b>Target</b>	<b>Time frame</b>	<b>Resources</b>	<b>Community Resources</b>	<b>Other Sources</b>	<b>Responsible person</b>	<b>Monitoring indicator</b>
<b>1.FLOODS</b>	Deforestation	<ul style="list-style-type: none"> <li>Replanting</li> <li>Planting trees along</li> </ul>	10,000 seedlings	Jan- April	Shovels Manure Water	Hoes manure Shovels Pnga	Forestry Research City Council Red cross	Community development Ward development Block leaders	Trees planted
	Farming along rivers	Civic education Enforceforceement of bylaw	10,000 people	Nov- Nov 20	Megaphone Venues	Whistles Venues Human resource	Information department City council Hiring	Ward development Block leaders Councillors	Reduction of dambo farming
	Buiding along rivers	Civic education Enforceforceement of bylaw	10,000 people	Nov- Nov 20	Megaphone Venues	Whistles Venues Human resource	City Council Lands Red cross	Ward development Block leaders Councillors	Reduction of farming in Dambos
	Poor waste disposal	Purchasing of bins Reinforcing bylaws	10,000 people	Nov- Nov 20		Whistles Venues Human resource	Red cross City council	Ward development Block leaders Councillors	Improveme nt in waste managemen
	Narrow drains	Widen the drains Increase the number of drains	10,000 people	Jun-oct	Cement Sand Labour hoes	Sand Labour hoes	City council Red cross	Ward development Block leaders Councillors	Increase the size and number of drains
<b>2, DRY SPELL</b>	Deforestation Climate change	Tree planting Dissemination of information	10,000 people	Jun-oct	reforestation	reforestatio n	City council Red cross		

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D. Chibavi ward DRM Plan									
Hazard	Issues/problem being addressed	Activity and place	Target	Time frame	Resources	Community Resources	Other Sources	Responsible person	Monitoring indicator
1. FLOODS	Inadequate drains	Construction of new drains	2 km new	Dec 2019 to Mar 2020	Hoes, Shovels, Peacks, Wheelbarrows, Slashers, Personal Protective Wear	Labour, Hoes, Land	Churches Mzuzu CC Plan Intern Malawi Red Cross	WDC Community	# kilometres constructed
	Presence of blocked drains	Clearing of mud and garbage from the drains	8 km clearing	Dec 2019 to Mar 2020	Shovels Peaks Wheelbarrows Slashers Personal Protective Wear	Labour, Hoes, Land	Churches Mzuzu CC Plan Intern Malawi Red Cross	WDC Community	# kilometres desilted

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<b>1.FLOODS</b>	Constructions of houses in dambo areas	Evacuating families	100 families	Dec 2019 to Dec 2020	Land House construction materials	House construction materials	Mzuzu CC NGOs	Councillor MP Community	# families evacuated
		Social mobilisation/Training in strong house construction	1700 families. 50 Builders.	Dec 2019 to Mar 2020	Refreshments, Stationery, Lunch Construction materials	Land Labour Construction tools Construction materials	Department of Lands Mzuzu CC Plan Intern Malawi Red Cross UN Habitat	Councillor MP Community Malawi Red Cross	# families and builders trained
	Farming activities in dambo areas	Social mobilisation on effects of doing farming activities in dambos	200 farmers	May to Aug 2020	Refreshments, Stationery, Lunch	Meeting venue	Ministry of Agriculture Malawi Red Cross	Councillor WDC Malawi Red Cross Ministry of Agriculture	# farmers trained
<b>2. STRONG WINDS</b>	Periodic blowing off of	Engaged in tree planting	3000 trees	Jan to Apr 2020	Tree seedlings	Labour Land Hoes	Mzuzu CC Malawi Red Cross	Councillor WDC Forest Dept	# trees survived



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	dwelling house roofs	Social mobilisation/Training in strong house construction	1700 families. 50 Builders.	Dec 2019 to Mar 2020	Refreshments, Stationery, Lunch Construction materials	Land Labour Construction tools Construction materials	Forest Dept  Department of Lands Mzuzu CC Plan Intern Malawi Red Cross UN Habitat	Councillor MP Community Malawi Red Cross	# families and builders trained
<b>3. FIRE</b>	Damage and loss of property	Social mobilisation in prevention of fire break outs	2953 households	Jan 2020 to Dec 2020	Refreshments, Stationery, Lunch	Meeting venue	Mzuzu CC Malawi Red Cross ESCOM	Councillor ESCOM Community	# HH sensitised
<b>4. ROAD ACCIDENTS</b>	An increase in the number of road accidents	Social mobilisation in proper road use	5000 people	Jan to Dec 2020	Refreshments, Stationery, Lunch	Meeting venue	Depart of road traffic Malawi Red Cross	Councillor Depart of road traffic Community	# people sensitised
<b>E. Chiputula ward DRM Plan</b>									

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Hazard	Issues/problem being addressed	Activity and place	Target	Time frame	Resources	Community Resources	Other Sources	Responsible person	Monitoring indicator
1. FLOODS	Poor drainage system	Drainage system maintenance	10 drainage systems	Aug-Dec 2020	Cement Bricks	labour	City council, plan, MRCS SOS	Ward development, committee	# of drainage systems maintained
		Drainage system cleaning	10 drainage systems	Aug-Dec 2020	Hoes, shovels, gloves, wheel barrow, gam boots, rakes, masks	Labour	City council, plan, MRCS SOS	Block leaders, VDC,CBO	# of drainage systems cleared
	Deforestation	Tree planting	3000 seedlings	Jan-March	Seedlings, hoes, shovels, plastic bags, canes,	Labour	CBOS,MRCS, SOS,	Ward civil protection committee	