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Building Urban Climate Resilience in South-Eastern Africa

~ Malawi ~



Baseline Review Report

Oxfam in Malawi

May 2021

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Acronyms

AF	Adaptation Fund
CBO	Community based organization
DoDMA	Department of Disaster Management Affairs
DRR	Disaster Risk Reduction
EWS	Early warning system
FGD	Focus group discussion
FRIM	Forest Research Institute of Malawi
KII	Key informant interviews
LEAD	Leadership for environment and management
NHGB	National Herbarium and Botanic Garden
NGO	Non-governmental organization
SEA	South-Eastern Africa
UR	Urban Resilience
ZCC	Zomba City Council

Executive summary

The Building Urban Climate Resilience in South-Eastern Africa project is a four-year project which started in June 2020 and will run up to June 2024 funded by the Adaptation fund (AF). In alignment with the AF Results Framework, the project has two objectives: to develop capacities and establish conditions to adapt to the adverse effects of climate change in vulnerable cities of Madagascar, Malawi, Mozambique and the Union of the Comoros; and to promote inter-country experience sharing and cross-fertilization regarding the adaptation to transboundary climate-related natural hazards and disseminate lessons learned for progressively building urban climate resilience in south-eastern Africa (SEA).

In Malawi, the project consists of seven different urban climate resilience interventions in Zomba in the south-eastern region implemented by Oxfam in partnership with UN-Habitat and Zomba City Council (ZCC). The interventions include: establishment of a city-wide early warning system for floods; construction of multi-purpose evacuation centres; rehabilitation of existing drainage channels and construction of new drainage channels; improving solid waste management; river-focused interventions to prevent erosion and flooding; construction and rehabilitation of bridges and dams on Likangala River; and sustainable urban forest management.

The baseline review for the SEA Building Urban Climate Resilience project was conducted from 12 March to 28 April 2021 to establish benchmarks which will be used to guide implementation and assess performance. Through qualitative and quantitative research approaches, the baseline review included research of documents, interviews with key informants and experts, and focus group discussions (FGDs). Apart from Oxfam, UN-Habitat and ZCC as the main stakeholders, the various individuals and groups consulted suggested that the project should also consider the following as key players for its successful implementation: community-based committees/organizations; the Zomba Forest Department; the Forest Research Institute of Malawi; the National Herbarium and Botanic Gardens of Malawi; Chancellor College; and the Leadership for Environment and Development (LEAD).

The baseline review has established benchmarks which will be used to guide implementation and assess performance of the project interventions. The review has also shown that the geographical context of Zomba is still relevant to the proposed interventions. The city remains exposed to numerous natural hazards such as floods and other weather/climate related shocks which are causing severe damage to housing, property and assets resulting in cascading disruptive effects such as food insecurity, malnutrition, health/hygienic problems, increased poverty and vulnerability. Communities and key informants indicated that the project is very relevant in urban areas in general and in their respective areas in particular.

The review affirmed the relevance of all seven interventions and a series of recommendations are detailed below under the implementation group to which they are addressed.

Project team

1. Develop a layering and sequencing plan of key interventions:
 - Layering interventions to ensure that project components are implemented seamlessly for maximum integration between the main activity and other complementary activities. Key informant interviews (KIIs) and FGDs revealed that a lack of synergy between interventions in the area is the major limiting factor to significant progress in building resilient households;
 - Sequencing interventions should begin with behaviour change interventions and/or other locally acceptable Oxfam recognized transformational development interventions. KIIs and FGDs reported a lack of a proper sequence of key interventions. The activities include social behaviour change, women economic empowerment; local partnerships; functional committees; and community buy in before introducing other interventions.
2. Strengthening community networks, linkages and coordination:
 - Functioning community networks, linkages and partnerships are essential to enable the effective delivery of activities and services. The review revealed that there is lack of coordination between stakeholders in the implementation area. Strong informal and formal relationships between communities, community actors and other stakeholders enable them to work in complementary and mutually reinforcing ways, maximizing the use of resources. Funding and support are required to build and sustain functioning networks, linkages and partnerships to improve coordination and decision-making to enhance impacts and avoid duplication of activities and services;
 - Develop and maintain coordination mechanisms and agreements or contractual arrangements to enable community actors, community based organizations (CBOs) and non-governmental organizations to collaborate and work together. Develop communication platforms to share community knowledge and experiences and support networks. Local service providers.
3. Strengthening local partnerships and involving local leaders and community members;
4. Develop/co-create and translate into Chichewa step-by-step field guides for local service providers;
5. For all sub-projects, promoting a co-creation of solutions and partnership with the community and other stakeholders (public, private and CBOs). The project should prioritize local ownership and partnerships as a base/foundation for related interventions.

Zomba City Council

1. Strengthen/leverage partnership with private sector in waste management;
2. The city should develop a comprehensive physical and environmental plan.

Oxfam and UN-Habitat

Leverage lessons from similar projects. Share lessons to the project team through exchange visits, scheduled webinars etc. Lessons learned from the urban governance project implemented in Lilongwe funded by Tilitonse will be an asset.

Introduction

The Building Urban Climate Resilience in South-Eastern Africa (SEA) project is a four-year project which started in June 2020 and will run up to June 2024 funded by the Adaptation fund (AF). In alignment with AF Results Framework, the project has two objectives: to develop capacities and establish conditions to adapt to the adverse effects of climate change in vulnerable cities of Madagascar, Malawi, Mozambique and the Union of Comoros; and to promote inter-country experience sharing and cross-fertilization regarding the adaptation to transboundary climate-related natural hazards and disseminate lessons learned for progressively building urban climate resilience in south-eastern Africa.

Specifically, the project seeks to implement seven interventions in Zomba facilitated by Oxfam in partnership with UN-Habitat and Zomba City Council (ZCC): establishment of a city-wide early warning system for floods; construction of multi-purpose evacuation centres; rehabilitation of existing drainage channels and construction of new drainage channels; improving solid waste management; river-focused interventions to prevent erosion and flooding; construction and rehabilitation of bridges and dams on Likangala River; and sustainable urban forest management.

Objectives of the baseline review

The main objective of the baseline review was to establish benchmarks which will be used to guide implementation and assess performance of the project interventions. For each intervention, the baseline review sought:

1. To check the initiatives described in the project document and update the needs and priorities of the communities and city;
2. To identify and justify (with evidence) any adjustments/changes that might be required in the approach and/or in the activities plan;
3. To map all existing/upcoming initiatives (beyond this initiative) that might be complementary; identifying other stakeholders and actors that can be relevant for establishing synergy, collaboration and coordination while avoiding duplication;
4. To define, for each community, the initial conditions so that it is easy to monitor progress in compliance with AF principles, gender strategy and human rights;
5. To establish conditions to make it possible to measure progress and impact of the project interventions;
6. To provide information that will be used by Oxfam and ZCC to review project targets and planning of the project interventions with participation and involvement of all project stakeholders where necessary, and in the long run in comparing pre and post project status against key project indicators;
7. Update the project performance report for use by Oxfam and ZCC to update and report implementation progress of the project; and
8. Identify training needs and propose training requirements/modules targeting different levels of stakeholders and project beneficiaries and propose an action plan for addressing key issues identified from the baseline findings.

Scope of the evaluation

The baseline review was conducted in Zomba, specifically in the eight neighbourhoods of Chambo, Chinamwali, Likangala, Masongola, Mbedza, Mpira, Ntiya and Sadzi. The review targeted members of the community, ZCC officials, local government leaders, key Oxfam staff members, the Department of Geography and Earth Science at Chancellor College, the Leadership for Environment and Development (LEAD), UN-Habitat, the Department of Disaster Management (DoDMA) at national level and non-governmental organizations (NGOs).

Structure of the report

This report is divided into six sections. Section one entails an introduction and background information on the baseline review outlining the background and objectives. Section two illustrates the approach and methodology adopted in executing the review. Section three presents key findings with respect to the baseline objectives and section four outlines conclusions and recommendations of the review. Section five contains the survey demographics, survey tools and section six contains the annexes to the report.

Methodology

Adopted approach

The baseline review adopted both qualitative and quantitative research approaches. The qualitative phase entailed key informant interviews (KIIs) and focus group discussions (FGDs) with various respondents as well as a review of various documents, while the quantitative phase involved household interviews with a representative sample of members of the community in the eight target neighbourhoods using a structured questionnaire. See annex 4. The baseline review tools for the KIIs and FGDs were open-ended, deep probing questions. The purpose for incorporating both qualitative and quantitative research approaches was to enable triangulation of the results.

Adopted methodology

Desk research

Internal and external documents relating and relevant to the project were reviewed. These documents included but were not limited to: AF full proposal SE-Africa, AF UR project brief, baseline guidelines, Results-Tracker-Guidance document, UN-Habitat Monitoring Plan, AF Strategic Results Framework, UN-Habitat Zomba Project Presentation, Project Performance Report (PPR), Population and Housing Census Report (2018), Malawi Demographic and Health Survey (2016) and detailed terms of reference for the SEA Building Urban Climate Resilience project to mention but a few.

Through the desk research, the consultant examined the cohesion of the programme analysing the extent to which the project will support its beneficiaries in establishing mechanisms to ensure ownership and participation; the extent to which committees will coordinate themselves and other stakeholders within the project area to ensure complementary approaches and avoid redundancy; and the extent to which the project and project partners will participate in other networks.

Key informant interviews

The consultant conducted a series of KIIs with relevant stakeholders. From Oxfam and UN-Habitat, the KIIs were conducted with the Head of Programmes; the Monitoring, Evaluation, Accountability and Learning Coordinator and the Project Manager for the SEA Building Urban Climate Resistance project. Implementing partners included officials from DoDMA, ZCC, communities, local NGOs, the Department of Geography and Earth Sciences at Chancellor College under the University of Malawi, and LEAD.

KIIs helped to generate information used to provide the contextual understanding of the project areas and how they can affect the implementation of the outputs and outcomes. They also provided factors that may prevent target groups from benefiting from project interventions, and the presence of any unexpected positive or negative effects on the target group. The review also collected information on the degree to which management, administrative and financial systems for the project will foster or hinder achievements of the project goals. Annex 7 provides details of various groups of people, both internal and external, who were interviewed in this review.

Focus group discussions

Focus group discussions were conducted with youths, women and men in all eight targeted neighbourhoods. The number of respondents per FGD varied from 5–17 depending on the number of representatives for each neighbourhood committee. Each FGD lasted between 1.5 to 2 hours within the community itself, at a usual meeting place, meaning that the chances of having more participants than expected were very high. In total, eight FGDs were conducted in various groups with both male and females including those with disabilities. Annex 7 provides the list of members who participated in FGDs.

Household surveys

To get views from the city dwellers, the review conducted household interviews. The key focus areas under household interviews included all proposed project interventions to establish the understanding of the community in relation to these intervention areas and gauge how they will be involved during project implementation as beneficiaries of the interventions.

The consultant developed structured, coded questionnaires to establish baseline figures for the intervention areas. The questionnaires also captured information in relation to compliance with law; sources of energy; access and equity, and gender/women empowerment; marginalized and vulnerable groups; human rights; gender equality; core labour rights; conserving biodiversity; pollution and resource efficiency; land and soil erosion; and public health. Results of the baseline review were used in updating the PPR, which acts as the benchmark for project monitoring and evaluation. Table 1 provides details of the data collection methodology that was used in the review.

Table 1: Baseline data collection methodology.

#	Baseline data collection methodologies adopted by the consultant
1.	Document and data reviews;
2.	Personal interviews with key informants (leaders, government officials, community leaders);
3.	Focus group discussions;
4.	Baseline criteria and matrix completion by the baseline team;
5.	Baseline questions specifically related to project objectives and results; targeting institutional agencies, community leaders and other key stakeholders.

Sampling

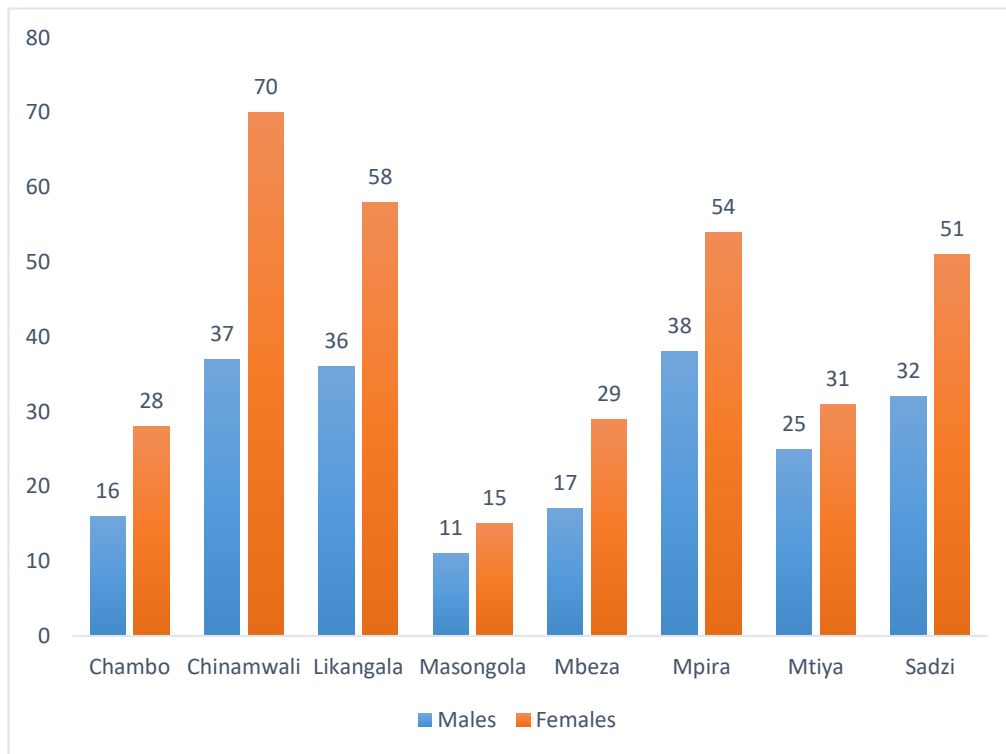
The sample selection employed a mixture of both cluster and random sampling. Samples were selected independently from each neighbourhood within the measurement objectives of the baseline. The following steps were taken to ensure that the sample was representative of the larger population and therefore was able to provide useful and accurate statistics:

- A combination of random and systematic sampling in the selection of households was included in the review ensuring, by extension, that all neighbourhoods were covered so as to guarantee that the sample adequately represents the population;
- Coverage of the various sub-groups to ensure that key segments of the population were represented; and
- The error of non-response was minimized by ensuring maximum participation of survey respondents and therefore a good representation. Household sampling was done by using the Kish Grid which was incorporated in the scripted questionnaire. The Kish Grid selected the sampled respondents whereby the enumerators (including beneficiary communities) would list all the eligible members of the household (in this case, persons residing in the household aged 18 years and above) in a systematic order by age i.e. starting with the oldest person as well as gender for each eligible household member. The detailed sample distribution is available at the annexes.

Sample size

Based on a population of 150,000 people living in Zomba according to the 2018 Housing and Population Census, the consultant proposed a sample size of 530 beneficiaries to be interviewed. The actual number of beneficiaries interviewed, however, was 548 – above the target. This coverage was important since it served as a backup in case of errors in some questionnaires. There were more women participants compared to their male counterparts: 336 women and 212 men participated in the survey representing 61.3 per cent and 38.7 per cent respectively. Deliberate effort was made to collect data involving people with disabilities and to maintain adequate gender and age representation. Figures

1 and 2 provide details of the participants by age groups and gender per ward. In particular, 141 youths ranging from 15 to 25 years participated in the review representing 25.73 per cent of the overall participants. Among the youths, 64 per cent were female and 36 per cent male. There were deliberate efforts to target those with physical challenges (disabilities) and the elderly taking into account that these are the most vulnerable groups during evacuation from disaster emergencies.



*Figure 1: Number of people interviewed per ward based on gender.
Note: Target participants also include people with physical challenges and elders.*

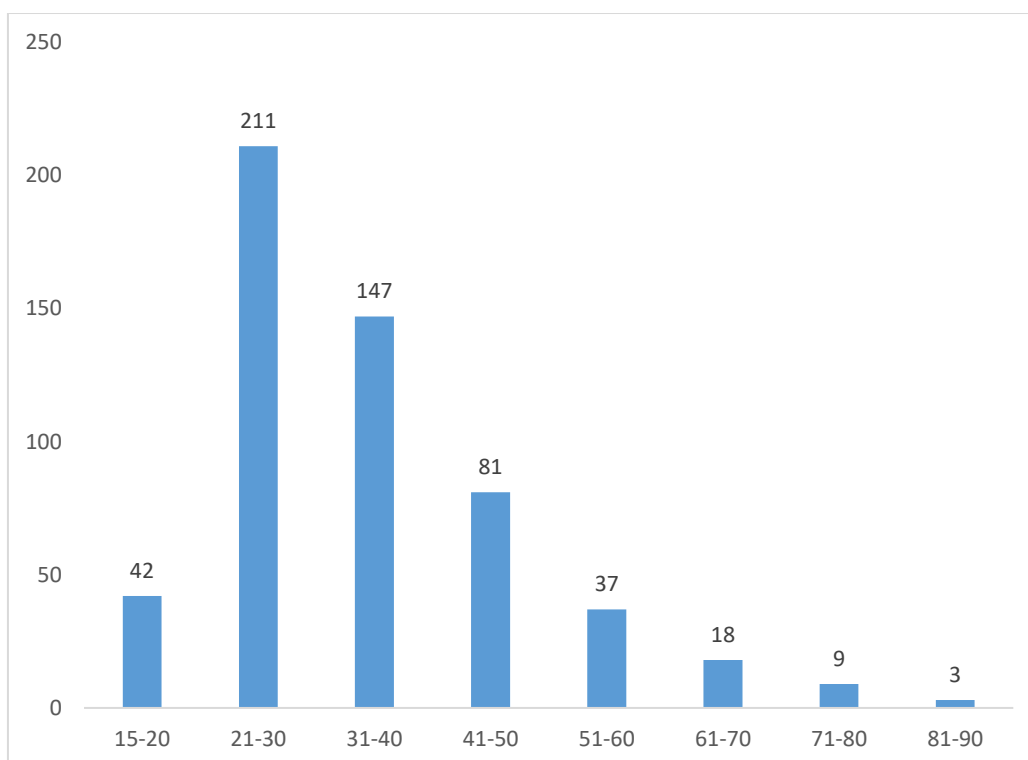


Figure 2: Number of people interviewed by age group.

Data collection instruments

The consultant with Oxfam and partners, designed three different data collection tools: Household Survey; Focus Group Discussion Guide; and Key Informants Interview Guide. The tools were designed to capture all the objectives of the baseline review and are contained in the appendices.

Survey schedule and training

The consultant conducted centralized training for the key project team from 10–11 April 2021. During the training, the data collection team was taken through the survey objectives, tools, household and respondent selection process, and field logistics. The data collection team had the opportunity to provide input on how to improve the data collection tools to ensure that only quality and relevant data was collected. The consultant incorporated relevant feedback into the data collection tools.

Fieldwork

Data collection started on 12 April and ended on 16 April 2021 in all the surveyed wards. FGDs and KIIs were moderated by the consultant's technical team who were well versed with the objectives of the survey. For the household survey, the consultant engaged the services of a blended team of enumerators from within Zomba as well as those beyond the city but with vast experience in data collection of climate change and resilience surveys and already versed with the local terrain, culture and languages.

Data processing and analysis

Qualitative data was transcribed and analysed using the MAXQDA software. Quantitative data was processed and analysed using IBM Statistical Package for the Social Sciences software version 24 and Microsoft Excel. The findings were then triangulated with

qualitative and literature review findings. The report provides a summary of the key findings of the baseline as per the baseline review terms of reference.

Limitations

The review did not experience many challenges that could affect the results. Any challenges were dealt with immediately in the field during data collection.

Baseline review findings

Introduction

Details of the findings from the baseline review are presented in two parts. The first part looks at the findings based on the general issues including project relevance, and approach and methodology used to collect data. This section also covers the list of stakeholders that were mapped for the project; how the city and the community have been in compliance with the law; access and equity and gender/women empowerment indicators; marginalized and vulnerable groups and gender/women empowerment; human rights, core labour law rights; protection of natural habitats; conserving biodiversity pollution and resource efficiency; land and soil erosion; and public health.

The second part presents details of the findings based on household interviews. This covers all the issues as above but also looks at key indicators based on the targeted project activities.

Findings based on Adaptation Fund indicators

Project relevance

The project intends to implement several activities including establishment of city-wide early warning systems for floods; construction of multipurpose evacuation centres; rehabilitation of existing drainage channels and construction of new drainage channels; improving solid waste management; river-focused interventions to prevent erosion and flooding; construction and rehabilitation of bridges and dams on Likangala River; and sustainable urban forest management.

Although the project was designed some four years ago, city dwellers are still of the view that it is relevant in Zomba and should be implemented as outlined and approved in the project document. However, under the establishment of early warning systems intervention, the baseline review noted that there is a need to establish mechanisms on how these systems will be protected to serve the intended purpose over time. Previously gadgets have been vandalised by the community if they are not well protected – for example the LEAD gadgets that were planted in some of the areas were destroyed. The involvement of local leaders and community members from the beginning should help in creating ownership.

Under the rehabilitation of existing drainage channels and construction of new drainage channels intervention, the baseline review noted that the project intended to rehabilitate

and construct a total of 1,400 m of channels in Chinamwali, but about 300 m has already been constructed.

However, the current state of these channels shows that they are not fit for purpose as they were structurally designed using a style that does not work for this area taking into account the topography and other factors. There is therefore still a need for the project to rehabilitate and construct 1,400 m of drainage channels. See figure 3.



Under the construction and rehabilitation of bridges and dams on Likangala River intervention, the review noted that the project had identified two possible sites. Another donor has already funded construction of the bridge at one of the sites, but at the other proposed site, the bridge will play a critical role for the city. Residents in Mpunga and Mpondabwino will be well connected across Likangala River at a place near Mandaakayidi. The community is currently using a very unsafe wooden footbridge. See figures 4 and 5.



*Figure 4: Bridge construction site near the proposed site of an evacuation centre.
Photo taken from Mpunga.*



Figure 5: Wooden foot bridge currently used by communities at the proposed site near Mandaakayidi.

The new bridge is near the proposed site of one of the evacuation centres and will help people to cross the river to easily access the centre. Figure 6 shows one of the proposed evacuation centre sites, close to a graveyard popularly known as *Mandaakayidi* (prisoners graveyard).

Under the improving solid waste management intervention, the project intends to support the city in management of solid waste. As highlighted in the project proposal, inhabitants of the city do not properly manage their waste, and the baseline review noted that this situation has not changed. In addition to poor management of individual household waste, FGDs found that the city has also been facing challenges in managing commercial waste. There have been situations where waste has been piled up in the markets for a period of two to three months before being transported to the official waste site. City authorities and

other local leaders such as councillors, confirmed that there have been cases where waste has remained uncollected for longer due to transport challenges as they currently only have one vehicle serving the whole city.



The consultant came across skips overflowing with solid waste during the survey period at 3 Miyilosi Centre – one of the locations within the city under Sadzi ward. See figure 7. Community members confirmed that they pay rates but questioned why waste management remains so poor. One community member also remarked that the smell from dead dogs thrown onto the waste heaps ‘haunts’ the community for many days.

In some circumstances the solid waste has been dumped in the drainage channels causing blockages that lead to flooding in the city. See figure 3.

The consultant recommends that as the project supports the city in its management of solid waste, it can also help them explore other options such as Lilongwe City where private traders are allowed to manage waste for a fee. ZCC may wish to do the same as a way of improving waste management.

The project intends to support sustained urban forest management knowing that there has been huge deforestation within the city. The review revealed that there have been a few interventions for reforestation but they were not successful. At Ntiya for example, trees were planted along the river but they were not cared for and soon disappeared due to wanton cutting.



Community members noted that ownership of forest management projects does become a reality mostly when communities are promised monetary benefits for their participation. The consultant suggests that sustainable forest management in the area requires co-creation of solutions and partnership with the community and other stakeholders (public, private and community-based organizations). The project should prioritize local ownership and partnerships as a base/foundation for related interventions.

Project approaches and interventions

While community members have indicated that the project is relevant, they requested Oxfam, UN-Habitat and ZCC to consider the following:

a. Sustainability of interventions

This point was mainly raised by professionals who were the key informants as they observed that it is paramount that all seven interventions should focus on sustainability beyond the lifespan of the project if the targeted communities are to enjoy the intended benefits for a long time. One example given was trees. The community suggested that there is need to go beyond forest rehabilitation as trees may be planted today only to disappear tomorrow. Key sustainability issues included: addressing issues related to community ownership by co-creating solutions to management of structures; local partnerships with a number of stakeholders; and focusing on alternative livelihood options (off-farm and on-farm).

b. Local resources

One other observation made was that for cities such as Zomba to sustain their interventions, they need to tap on local resources. These resources would include availability of natural forest cover which would help prevent them from being affected by floods.

c. Alternative/diversified livelihood options

According to KIIs, FGDs and field observations the project should consider diversification of livelihoods as a path to resilience for many poor households in Zomba, and increased income as foundational for transformative change. Ensuring that vulnerable populations have reliable economic pathways amidst unreliable environments will help them not only actively participate in project interventions but be able to bounce back in case of shocks and stresses. The categories would include both on-farm and off-farm complimentary interventions such as production of biogas, briquettes, savings and loans, and entrepreneurship. The review noted that city dwellers are economically challenged. Results showed that 88 per cent reported that they earn less than MK 200,000/month (USD 252).

Stakeholder mapping

The project primarily has Oxfam, UN-Habitat and ZCC as its main stakeholders, however, community members suggested that this project should also consider the following as key players for its successful implementation:

a. Skilled community members

Community members indicated that for this project to be successful, they need to be key partners and not just recipients of the project. Their involvement in the whole cycle of planning, implementation, monitoring and evaluation should be valued. Cultivating strong informal and formal relationships between communities, community actors and other stakeholders will enable them to work in complementary and mutually reinforcing ways, maximizing the use of resources.

b. Zomba District Forestry Office

Though the forestry department exists to ensure that Zomba's forests are well managed, community members clearly indicated that it is the forestry department's officials who perpetuate the cutting down of trees. For example, residents in Ntiya and Mbedza indicated that there is poor coordination with forestry department officials to enforce laws that protect trees. Likewise, residents in Masongola indicated that much to their frustration the forest they cared for and managed was allocated to people for house construction by the forestry department and ZCC officials without consulting them as custodians.

Community members in Mpira ward expressed similar sentiments and want to be involved in managing their forests. Nkholonje mountain, for example, has many trees but there are no methods of enforcing the laws that protect the trees. On Sadzi mountain, some small animals and snakes have returned as the forest is growing back due to a successful regeneration programme. Communities are optimistic and understand that regeneration itself is important to restore biodiversity and in the long run, manage flooding and other related hazards.

c. Forestry Research Institute of Malawi

The Forestry Research Institute of Malawi (FRIM) is the research branch of the institute. FRIM's mandate was initially to conduct basic research on the management of forest plantations to support government afforestation programmes. FRIM will be key in the implementation of the forest management component of this project as a source of new technologies and evidence-based solutions that can be adapted to the local circumstances.

d. National Herbarium and Botanic Gardens of Malawi

The National Herbarium and Botanic Gardens of Malawi (NHBG) is a parastatal botanical institution. It is the principal authority on botanical and related matters in Malawi. Just like FRIM, NHBG will be a very useful partner in the implementation of the forest management component as well as conservation, botanical research, education and technical services.

e. University of Malawi – Chancellor College

Chancellor College is an academic and research institution that has vast knowledge on climate change and resilience which would be very useful for the successful implementation of this project. The college brings expertise in developing and implementing policy solutions to upscale ecosystem-based driven agriculture and its value chains to combat food insecurity, climate change, ecosystem degradation and poverty in Africa. It was also noted that the college runs an early warning system. The only challenge is that it has old equipment, according to staff.

f. Leadership for Environment and Development

LEAD should be one of the key strategic partners taking into account the role it has played from the beginning of the project. It has been noted that in addition to being a key partner, LEAD will also benefit from some of the interventions such as the early warning system. Being the authority in terms of environmental management, the project will support LEAD with some facilities that will help the city.

LEAD has a digital early warning system which is ideal for this project, and they also have a drone LEAD advised that a multispectral drone would be needed to accurately detect physiological stress in forest trees caused by biotic or abiotic factors as this is vital for ensuring productive forest systems that can meet the demands of the population. The emergence of new sensors and platforms presents opportunities to augment traditional practices by combining remotely-sensed data products to provide enhanced information on forest condition.

Community's views on the three key stakeholders

Oxfam

The majority of the people interviewed during FGDs as well as the key informants were positive about Oxfam. One comment which came out from Ntiya, Masongola and Mbedza was that the three communities were asked to source tree seedlings for the project to kick-start tree planting in the first year. The project has obviously been accepted by these communities and they acknowledge that Oxfam is one of the key partners.

UN-Habitat

UN-Habitat's work in urban resilience, including the work on resilience assessment and planning through the CityRAP tool will be of added value to the project. It was noted that UN-Habitat had no footprint in the city which explains why, except for a few professionals, most individuals are not familiar with UN-Habitat.

Zomba City Council

ZCC is mandated to implement by-laws and legally binding policies and decisions with support from central government departments, statutory institutions and other private and civil society organizations. Environmental management is led by ZCC. ZCC's engineering department manages environmental issues and the Public Health Department manages environmental pollution and waste management. Solid and liquid waste management in the city is a shared responsibility between the central government, ZCC and the private sector. These offer opportunities for success in addressing the shortcomings identified in the situation analysis. ZCC is the partner that the community deal with on a daily-basis and therefore know well.

Community

The community is eager to make this project succeed – they welcome as many interventions as possible as this is a way of changing people's lives for the better. The community indicated that:

- They do monitor project interventions, for example, they successfully monitored the moulding of concrete blocks at Matiya School;
- There are skilled men, women, boys and girls in the communities and these can be engaged in various projects in the city;
- They are willing to pay city rates; and

- They want projects implemented in the city to succeed and as such whenever they notice any substandard work being undertaken, they quickly report it to the relevant authorities.

Compliance in law

Over 64 per cent of the people the consultant interacted with indicated that they were aware of some of the laws applicable to the implementation of projects in the city. They pointed out, however, that what is used most are the by-laws that are set in their communities. The consultant noted that different wards are at different stages on the formulation of by-laws. Mpira has by-laws that they use to safeguard the forest on Sadzi Mountain, but most other wards are still formulating by-laws which are yet to be adopted. The review noted that there were weak enforcement mechanisms of policies and statutes, and a lack of formal and functional committees. ZCC lacks the financial, technical and human resources capacity to meet the demands for waste management and other key services. FGDs highlighted examples of enforcement challenges such as:

- Construction of residential houses along river banks;
- Unstructured developments; and
- Poor governance in existing committees.

Access and equity, and gender/women empowerment indicators

There is a general feeling in almost all the areas visited that men, women and youth have an equal opportunity in development in the city, and both women and youth are not sidelined. Starting at committee level men, women and youth have an equal chance of representation. This point was validated from a good representation of both men and women attending FGDs. For example:

- a. Mpira Ward Committee consists of three men and seven women;
- b. Ntiya Forest Management Committee has six women and four men;
- c. Masongola Ward Committee has three women, two female youths, three men and two male youths;
- d. Mbedza Ward Committee has four women, two female youths, two men and two male youths.

Some challenges appear at leadership level as women are often overlooked for leadership positions. This issue is different at Chinamwali where both men and women are given equal opportunities.

Marginalized and vulnerable groups, and gender/women empowerment

It was observed that people in different parts of Zomba engage both the disabled and the elderly differently when it comes to development. Key observations were:

- a. All communities visited have no dedicated forum which the disabled can use as avenues for discussing their day-to-day challenges; and

- b. FGD in Mbedza included people with different forms of disabilities. FGD acted as an avenue for the people with disabilities to air their concerns which were also echoed in a number of other wards:
- People with a disability are often excluded from projects for example Mtukula Pakhomo and fertiliser subsidy. One woman with a disability stated that on several occasions her name has been missing from the beneficiary list with the authorities blaming the computer system;
 - A good number of buildings are not disability friendly and most people with a disability, especially those on wheelchairs, find it difficult to gain access;
 - Some form of marginalization does take place and often affects people that are not originally from Zomba but have settled there. These people are denied opportunities for benefits.

Human rights

In all areas visited, people were not very conversant with human rights. This is validated by the survey results which showed that 56.6 per cent of households said they don't have much knowledge about human rights, and 20.3 per cent who said they were partially knowledgeable. Only 20.1 per cent indicated that they were aware of the violations of some human rights.

One of the violations against human rights was caused by confusion in the community of Masongola. When the community was initially contacted about this project three years ago, they were told that one of the seven components would be solid waste management and their understanding of the intervention was that ZCC wanted to make Masongola the solid waste collection site for the whole of the city.

Masongola therefore vehemently opposed the intervention as they did not want their village to be a solid waste dumping site. However, based on feedback from Oxfam members it was made clear that the proposal to make Masongola a solid waste site might be a plan for the city but definitely not for this project. It was later reported that the project will also be helping ZCC in managing the current site and that waste generated per particular ward will be processed right away in that ward. If Masongola is to become a solid waste collection area for Zomba's waste, thorough consultations will be needed with very clear and straightforward plans on how waste management will be carried out. These concerns of the community might jeopardize implementation of the solid waste management intervention.

Residents of Ntiya understand that the project will help to identify a waste management site for all their solid waste, and that this site is for solid waste from Ntiya only. It will be recycled on site, however, they did not know exactly what types of recycling could be done.

Poor people in the city face serious challenges accessing good land for house construction and therefore settle on land that is not ideal. Some of the community members interviewed also indicated that access to employment opportunities is a big challenge for youth in the city.

Professionals interviewed proposed that the evacuation centres should be designed in such a way that human rights are not violated and issues of privacy are paramount. They proposed that the evacuation centres should contain dormitories with provision of potable water as key human rights. The centre could violate human rights if the building does not have separate rooms for men, women, boys and girls – the original design did not consider these issues.

People with disabilities also often have their human rights violated. In Mbedza, a community member with one leg amputated was told that anyone with only one leg could not be a beneficiary of fertilizer subsidy coupons – a clear violation of his right. Another community member observed that while the poor do have access to the fertilizer subsidy coupons, they sell them which only perpetuates their poverty and they violate their own right to food.

Youths have been seen carrying wood planks off Zomba mountain to sell. While most youth are sent by their parents, some do this on their own. These youths are exposed to child labour and at the same time denied an opportunity to education. Some of the girls and women who collect tree bark from the mountain are sexually abused by the men sawing the trees. During implementation, this project should endeavour to deal with these challenges. One key informant summed up this complex issue saying: “All seven interventions have a bearing on human rights; if not properly implemented, they can infringe on their rights.”

Core labour law rights

A good number of community members are not particularly conversant with core labour law rights. Over 48.5 per cent felt that there was a culture of labour rights in the city. However, 33.6 per cent of households felt that a culture of labour rights does not exist, 14.6 per cent were partially aware and 3.3 per cent knew nothing about it. Among those who were knowledgeable, they also commented that while at the national level there are labour laws, the Zomba Labour Office falls short in enforcement of the same. Some further observed that most labourers are neither given good pay nor paid on time. On this issue of labour law, the community of Chambo advised that no under-aged person should be engaged in any form of employment under this project.

Protection of natural habitats; conserving biodiversity, pollution and resource efficiency, and land and soil erosion

NHBG has made good progress with regards to biodiversity in Zomba but human needs, however unfavourably, compete with the need to conserve biodiversity. Efforts are made but they seem to be fruitless. The public works programme (cash for work) initiative needs to be integrated into forest management as a solution to the challenges currently facing biodiversity. And a similar approach could apply to construction projects. There are also instances where biodiversity is being destroyed by wildfires.

Efforts to conserve forests are mostly not community led and this is a big challenge. The project therefore should put great emphasis on raising community awareness to create

better understanding that if people are not careful in their agricultural and farming activities, they will be destroying the natural environment and the biodiversity that is unique to Zomba.

Public health

Some of the professionals interviewed as key informants expressed serious doubts as to if ZCC assesses public health risks. One of the indicators the review used to understand if public health issues were adhered to by ZCC was to see if any environment impact assessments had been carried out, for example, when the council allocates housing plots to residents. The review noted that assessments are only done if requested by donors.

This project, therefore, should advocate for health assessments to avoid situations where people are allocated plots for house construction in areas that could contain health hazards. An existing example is that some people have been allocated housing plots along Likangala River but waste is usually dumped along the rivers. In Likangala there have been situations where waste from the sewerage pipes has ended up being discharged into the rivers as seen in figure 8.



Figure 8: Water contaminated by liquid waste from the sewerage system.

General comments

This section contains comments that were made by various community members that need some serious consideration for the successful implementation of this project.

- a. ZCC has a weak working relationship with various relevant stakeholders. There is therefore a need to work on this area for successful implementation of this project. There is a tendency in Zomba to implement projects without properly consulting the local communities. One example is the newly constructed Chinamwali market which is being shunned by locals who would have preferred a better location. ZCC officials state that they work with council leaders on developmental interventions and they are the representatives of the community;
- b. Zomba is a very good platform for making this project a great success. For example, residents in Mpira take part in the Clean Week programme and residents in Chikowi are cleaning their area on their own as it is overgrown. This is an opportune platform which can be capitalized on to make this project a great success. Community members still feel that ZCC disregards local structures. They also said that in most instances, communication is top-down from ZCC to the community, and the community is rarely given a platform to have their views or concerns acknowledged;
- c. While much blame is on the city authorities in waste management, the community also plays a role in generating waste. Mothers are no longer using washable napkins on babies but disposable nappies. Unfortunately, most of these nappies are not disposed of as required and end up in the wrong places;

- d. Local leaders need very strong by-laws that should be followed by all. For example, in Chinamwali, some of the trees that community members planted along the M3 road have been cut down by people who claim that the trees were planted on their plots;
- e. One of the key areas that needs great attention is consultation. The perception that ZCC does not consult its local members as it bypasses local structures results in poor and unsustainable development initiatives being implemented. These initiatives usually end up being a waste of resources as the projects don't benefit the intended beneficiaries. Fortunately local leaders in most areas of Zomba do consult the community when it comes to development initiatives;
- f. People with disabilities should deliberately be elected into various committees at both local and city level. This is very important as it is the only way that views of people with a disability can easily be channelled to relevant authorities;
- g. Local NGOs and field-based organizations that are implementing similar projects should deliberately be engaged at the implementation stage in one way or another;
- h. In most cases the community only sees a contractor on site at the start as the community is not involved in the environmental impact assessment. It is always good to be introduced to the community through existing structures. Sometimes prioritized projects take a long time to get off the ground and this makes the community lose trust in the implementing authority – often ZCC.
- i. The community has noted that some of the projects in the city are never completed and yet ZCC fails to provide concrete explanations;
- j. Whenever the community wants to monitor progress of project interventions, ZCC generally view this as intrusion into something that is none of their business. One community member stated that whenever people visit the council offices to report on poor work being undertaken they are scorned. It embarrasses them that sub-standard projects are being implemented under their watch;
- k. The project implementation plan has to be very clear to all concerned partners for the successful implementation of this project;
- l. Zomba experiences flash floods hence the need for evacuation centres is reaffirmed. It was observed that houses have been built in flood prone areas and there is therefore a need to educate communities in evacuation procedures;
- m. This project should deliberately safeguard green infrastructure such as grass which is very good at preventing soil erosion;
- n. The project has to pay great attention to quality control on any construction project.

Household survey results

The review collected quantitative data using structured questionnaires. This section provides details of the key findings based on a household survey.

Household demographic data

Demographic characteristics were collected to determine which factors might influence a respondent's answers, interests and opinions. Collecting demographic information enabled

the researcher to cross-tabulate and compare sub-groups to see how responses vary between these groups with an analysis based on marital status, household size, age distribution and level of education completed. Figure 9 shows the percentage of households interviewed per ward.

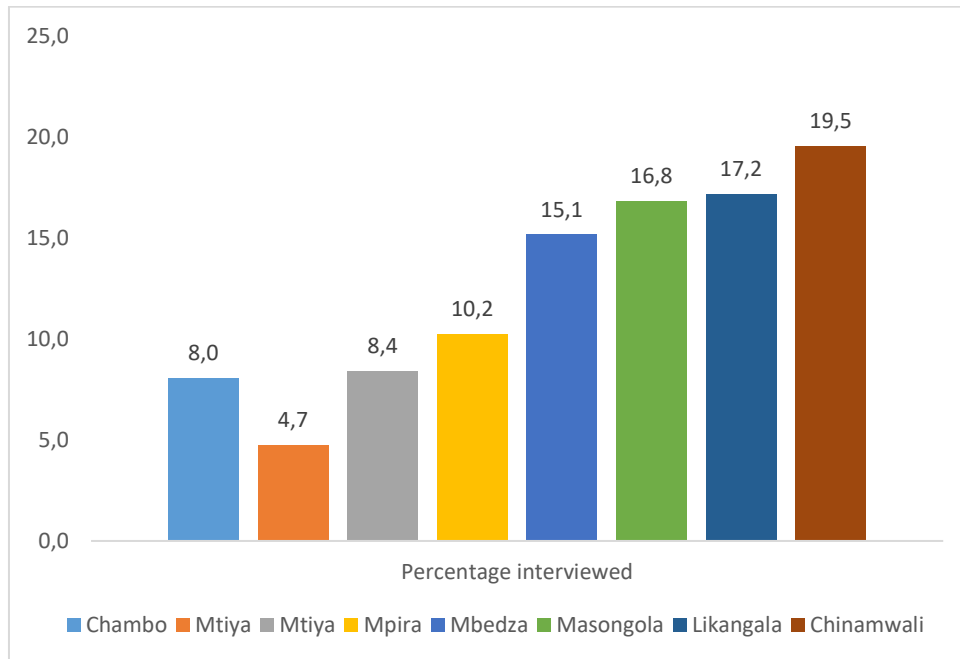


Figure 9: Percentage of households interviewed per ward.

Marital status of head of household

Overall, female-headed households totalled 336 (61.3 per cent) and male-headed households totalled 212 (38.7 per cent). A total of 65.3 per cent of the households were married, 21 per cent were single and 13.7 per cent were either separated, divorced or widowed. The minimum age of the respondent was 15 years old while the maximum was 89 years old. The sampled household heads averaged 48 years old. It was also noted that 88.8 per cent of the population in Zomba are less than 50 years old which means that Oxfam and ZCC will be working with a youthful community. Project implementers should be cognizant of the fact that they will be working with a higher percentage of females which will help the project achieve high gender inclusivity if properly done.

Education of the respondents and their occupation

In terms of education levels, 44 per cent of respondents have attended secondary education, while 40 per cent attended only primary education. A total of 6 per cent had received no formal education while 10 per cent had attended post-secondary education level (tertiary). In terms of occupation of the household heads, 43 per cent were small scale business persons, 28 per cent were wage labourers, 22 per cent were in formal employment and 7 per cent were farmers. With about 54 per cent of households having attended secondary and post-secondary school is a very good starting point for this project as over 50 per cent of the community are able to read and write.

Compliance with law

The purpose of this section was to analyse the level, extent and quality of citizens compliance with the law particularly in relation to environmental conservation. In responding to a question on whether the city has legislation which it follows when executing its activities, it was noted that 64.6 per cent of the surveyed participants were aware that the city has laws that it follows when implementing its activities, while 19.5 per cent were not aware of the laws and 15.9 per cent were unsure of whether legislation exists or not. These findings resonate with outcomes of FGDs where most participants indicated that they were aware of some laws governing implementation of various projects in the city.

With regards to the clarity of legislation provisions, out of the 64.6 per cent who indicated that they were aware of the legislation's existence, 44 per cent responded that the provisions were not clear, 40 per cent said that the provisions were clear and 16 per cent responded that they were partially clear.

When it was checked if the community is aware of the necessity to be compliant with national/provincial and municipal standards, it was noted that 64.6 per cent of the surveyed respondents indicated that they are aware of the necessity, 22.1 per cent were not aware, 11.5 per cent were partially aware and 1.8 per cent did not know.

When respondents were asked whether their communities had ever been consulted prior to implementation of a development project, 54.9 per cent indicated that they had. About 27.2 per cent said they have never been consulted while 16.3 per cent reported a partial consultation and 1.6 per cent did not know whether they had ever been consulted or not.

Access and equity, and gender/women empowerment indicators

According to the Malawi Population and Housing Census (2018), Malawi's population constitutes at least 52 per cent women. Although this is the case, women continue to be underrepresented in various forums including where there is an effect on their welfare. The purpose of this section was to analyse access and participation in environment conservation forums.

When asked whether women organizations or associations are in place or not, the majority (81 per cent) of respondents answered yes while 8.2 per cent indicated there are no women organizations, 10.2 per cent indicated partial availability and 0.6 per cent said they didn't know. The review also sought to establish gender sensitivity in the implementation of council activities. Over 71.7 per cent of respondents indicated that people are gender sensitive while only 15.7 per cent said there was no gender sensitivity. About 12.2 per cent indicated partial sensitivity while 0.4 per cent did not know. Additionally, 39.1 per cent of the surveyed respondents indicated that women have access to jobs and skills development opportunities, while 32.8 per cent indicated they did not. About 27.6 per cent reported partial access and 0.5 per cent did not know. See figure 10.

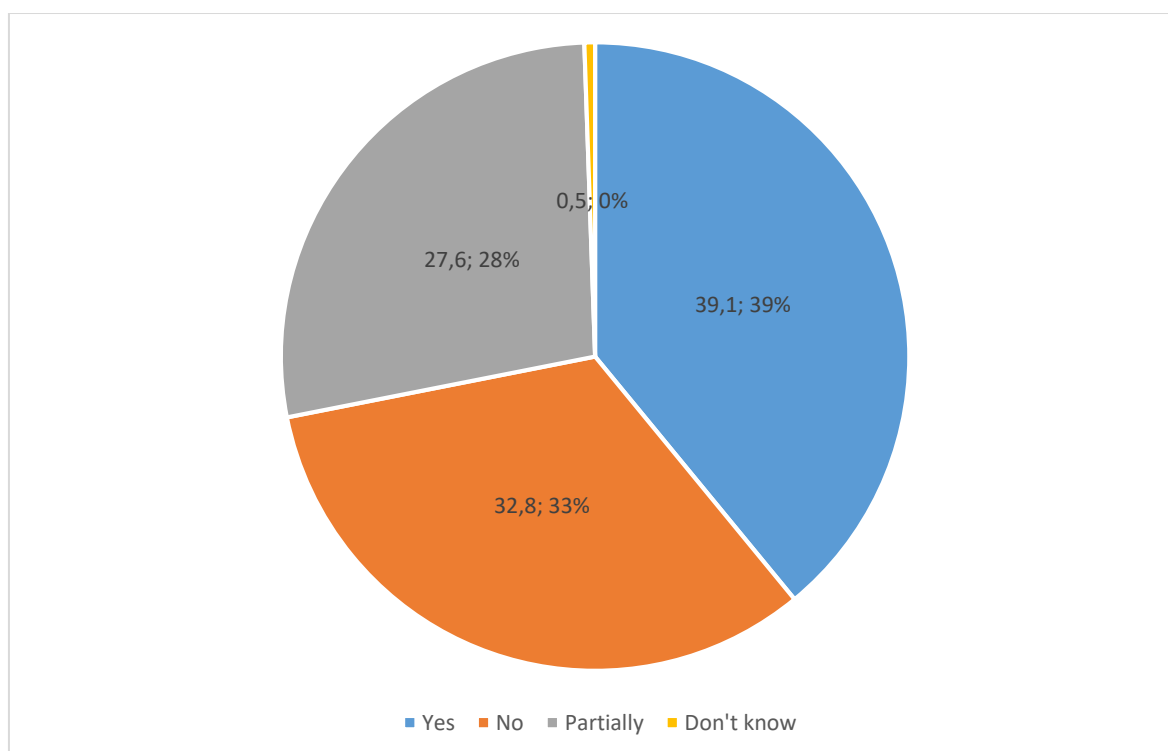


Figure 10: Women's access to job and skills development opportunities.

About 74.5 per cent of the surveyed respondents reported that women and youth participate in city activities like Disaster Risk Reduction (DRR) campaigns and decision making while 10 per cent responded that there is no women and youth participation. About 14.4 per cent indicated that there is partial participation while 1.1 per cent said they did not know. The survey also sought to find out about the existence of accountability mechanisms that promote access, equity and gender empowerment. In this regard, 42.9 per cent responded that there were accountability mechanisms between the city and communities, 36.3 per cent said there were no accountability mechanisms, 17 per cent reported partial accountability mechanisms and 3.8 per cent didn't know.

Respondents were also asked about communities' level of interaction with ZCC as well as communities' involvement in covering the city's needs. More than half of the respondents (54 per cent) indicated that community groups were either interacting with the city or involved in covering the city's needs while 24 per cent responded that community groups did neither. Over 17 per cent responded that there was partial interaction between the city and the community, and the rest of the respondents (5 per cent) had no knowledge in regards to any interactions or community involvement. See figure 11.

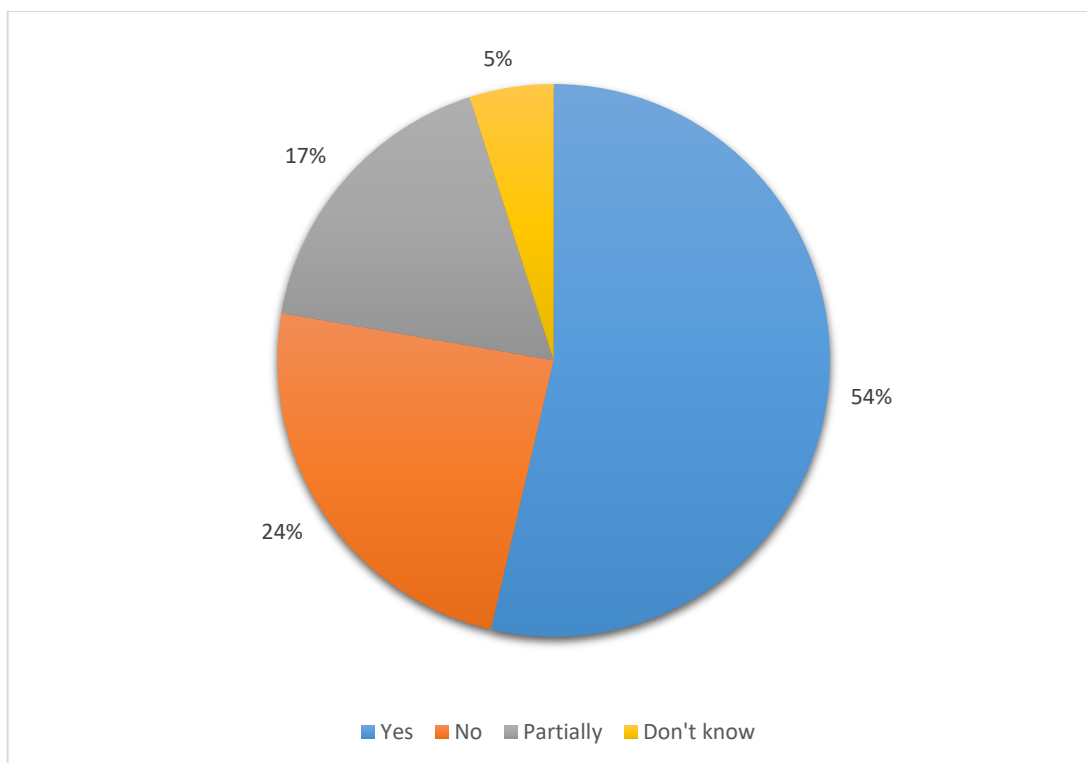


Figure 11: Community interaction with ZCC.

The survey also asked if community members have platforms where they can raise concerns. Results showed the majority (41.1 per cent) believe that there are no platforms where women's views can be heard. About 36.3 per cent believe that the platforms exist, 20.6 per cent believe there is partial existence and 2.0 per cent did not know. See figure 12.

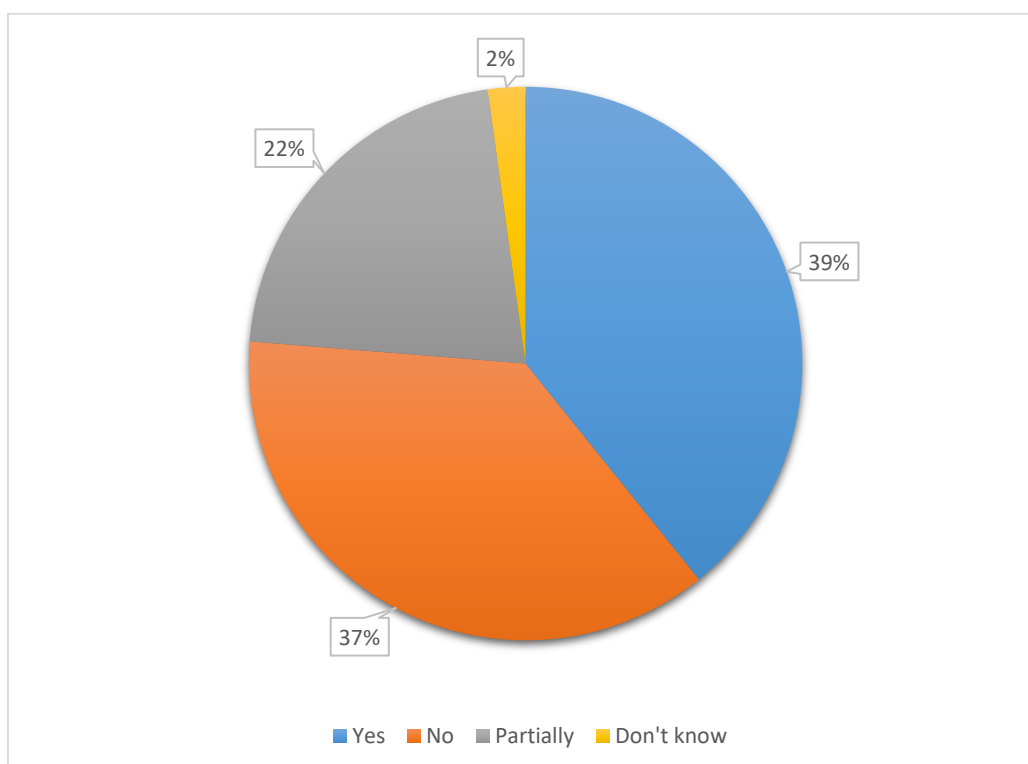


Figure 12: Platforms for raising concerns.

Marginalized and vulnerable groups indicators

Of the surveyed respondents, 77.4 per cent, 9.5 per cent and 13.1 per cent indicated that the marginalized and vulnerable groups were involved, not involved and partially involved in the life of the community respectively. In order to understand how the marginalized groups were organized in their communities, it was noted that 76.1 per cent of the respondents indicated that there were less than 10 vulnerable groups in their community, 19.5 per cent indicated that there were between 11 and 20 vulnerable groups in their community, 13 per cent indicated that their communities have at least 20 vulnerable groups and 1.5 per cent indicated that they did not have any knowledge of the number of vulnerable groups in their respective communities.

Additionally, respondents were asked for their knowledge in regard to the residence status of vulnerable people. A total of 60 per cent indicated that vulnerable people have their own houses, 2.4 per cent indicated that vulnerable people live in orphanages and 0.7 per cent responded that vulnerable people live together with their families/relatives within the communities. The rest of respondents (36.9 per cent) expressed a lack knowledge in regards to where vulnerable people live. Figure 13 provides details of the residence status of vulnerable groups in the community and figure 14 provides details.

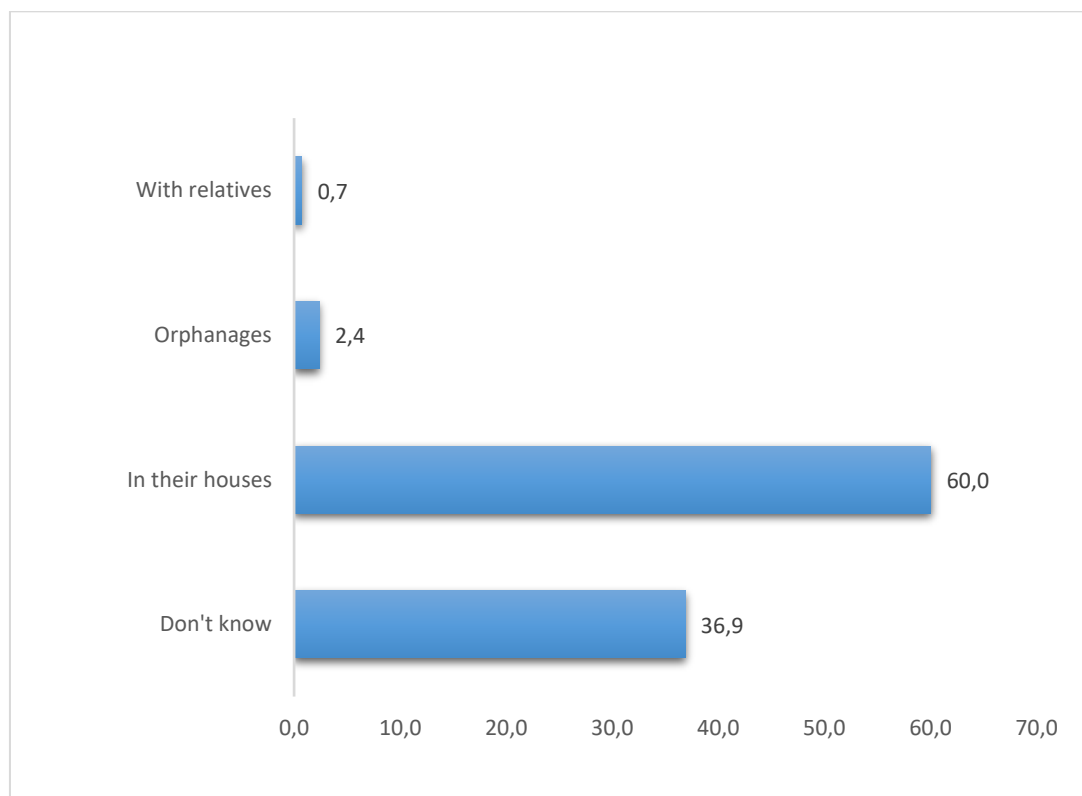


Figure 13: Residence status of vulnerable groups.

When asked if children from vulnerable groups go to school, results showed that a total of 416 of the respondents (75.9 per cent) said they do go to school, 4.2 per cent reported that they don't go to school and 19.9 per cent indicated that children sometimes go to school.

The review further inquired to check if the city has taken any deliberate measures to hear the needs of vulnerable people or spreading awareness and including them in the different developmental interventions. The majority, 85 per cent of the respondents indicated that nothing that was done for vulnerable groups. Only 6.6 per cent said the vulnerable participate in youth clubs and other activities but at a low level. See figure 14.

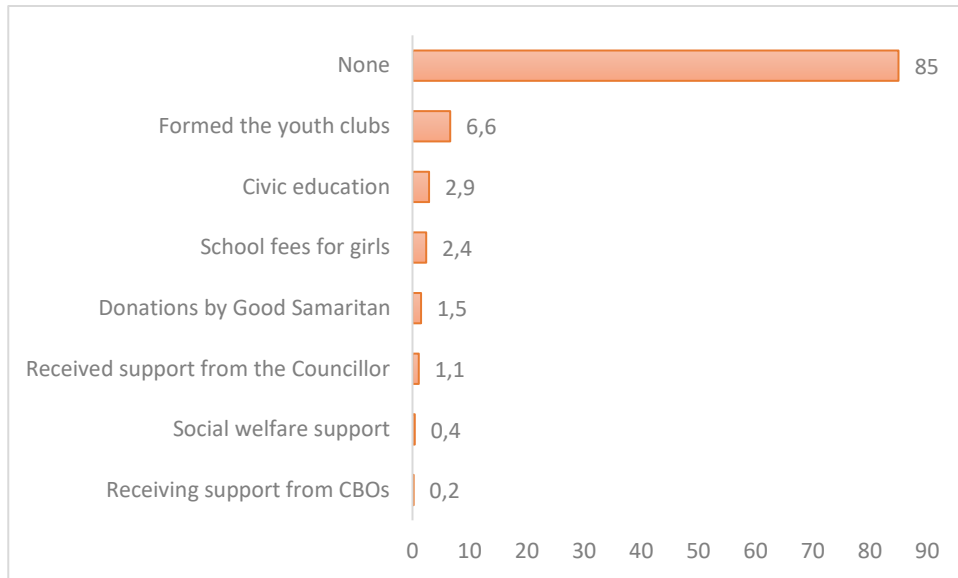


Figure 14: Measures taken for vulnerable people.

Participants were asked whether community buildings and services are easily accessible to vulnerable groups. A total of 60.6 per cent of the respondents said that they were, 12.4 per cent indicated that they are partially accessible, 25.5 per cent reported that there was no easy accessibility and 1.5 per cent indicated they did not know.

Generally, the majority (41.6 per cent) believe that the needs of the vulnerable are not taken into consideration by the community, 22.8 per cent indicated that there is partial consideration, 34.5 per cent believe that the needs of the vulnerable are taken into consideration and 1.1 per cent expressed a lack of knowledge on the question. When asked about inclusion, 65 per cent of the participants answered that there are no community groups where marginalized and vulnerable groups can express themselves, 21 per cent said there were, 11 per cent indicated a partial existence and 3 per cent didn't know.

A slight difference was noted in response to the question of accessibility to jobs and skills development opportunities for vulnerable groups with 35.4 per cent saying there were none and 35.0 per cent saying there some. A total of 27.6 per cent responded that there was partial accessibility while 2.0 per cent said they did not know. The majority (56 per cent) of respondents believed that marginalized and vulnerable groups autonomously adopted coping mechanisms, 27.4 per cent indicated they have not adopted coping mechanisms, 15 per cent indicated a partial adoption and 1.6 per cent did not know.

Core labour rights

In regard to labour rights and labour laws, the survey asked respondents whether they knew if ZCC monitors compliance of rights and laws. A total of 14.9 per cent indicated that ZCC does monitor compliance, 70.8 per cent indicated that the city does not monitor compliance, 8.6 per cent responded with partial compliance and 5.7 per cent did not know.

Respondents who indicated that the council does not monitor compliance and those that indicated that compliance monitoring is partial were further asked what they think the reason is. About 37.4 per cent cited lack of interest by ZCC, 15.5 per cent believed the council lacks resources to monitor labour laws and the rest of the respondents (47.1 per cent) indicated that they were not aware of the reasons.

Survey respondents were also asked whether there are social protection schemes at community and city level. The majority (63.1 per cent) of the respondents agreed that there were social protection schemes, 17.3 per cent said that protection schemes exist partially and 19.6 per cent indicated there were not aware of any social protection schemes. The respondents were also asked to identify the social protection schemes that were common in their communities. These included social cash transfer (38.9 per cent), COVID-19 funds (17.2 per cent), village savings groups (15.1 per cent) and support from various organizations (28.8 per cent). Figure 15 provides details of social protection schemes at community level.

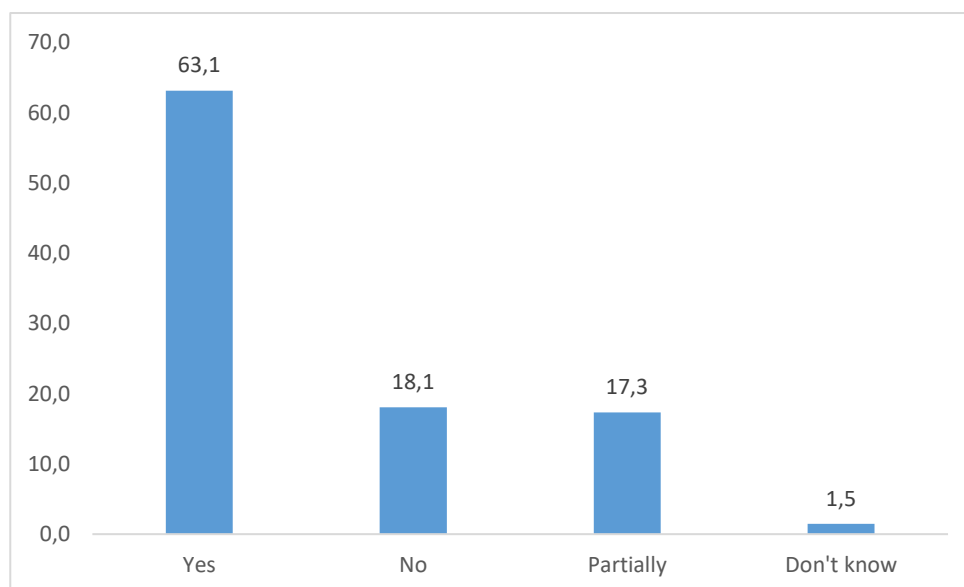


Figure 15: Social protection schemes at community and city level.

With regard to benefiting from social protection mechanisms, the survey sought to find out if informal labourers benefit from any sort of scheme. About 43 per cent thought they do not benefit, 27.9 per cent indicated that they do benefit while 26.3 per cent reported a partial benefit. The survey also revealed that the majority (61.5 per cent) are not in any formal employment.

Protection of natural habitats; conserving biodiversity; pollution and resource efficiency; and land and soil erosion

The survey sought to check whether community members are sensitive to environmental protection and conservation measures. In simple terms, the survey wanted to establish if people are making deliberate efforts to avoiding pollution, reduction of soil erosion and deforestation. The majority (488) of households, representing 89.1 per cent, indicated that they were sensitive to protection and conservation of natural habitat while 60 households, representing 10.9 per cent, indicated they were not sensitive. In addition, 87.2 per cent indicated that they were fully aware of climate change effects on their natural habitat, 7.7 per cent indicated a partial awareness and 4.1 per cent indicated a lack of awareness.

The survey further asked about the participation of communities in environmental conservation and protection activities such as afforestation, proper waste disposal sensitization meetings and tree planting. Over 49.8 per cent of household respondents indicated that the community organizes activities for conserving and protecting the environment, 4.7 per cent indicated there were some activities whereas 45.3 per cent reported that the communities do not organize any environmental conservation and protection activities. Furthermore, 59.5 per cent indicated they do not engage in any voluntary or reattribution jobs for protecting the environment, 31 per cent reported that they engage in voluntary environmental protection activities, 8.9 per cent indicated that the community partially participated and 0.5 per cent indicated that they were not aware whether the community participates in any activities. See figure 16.

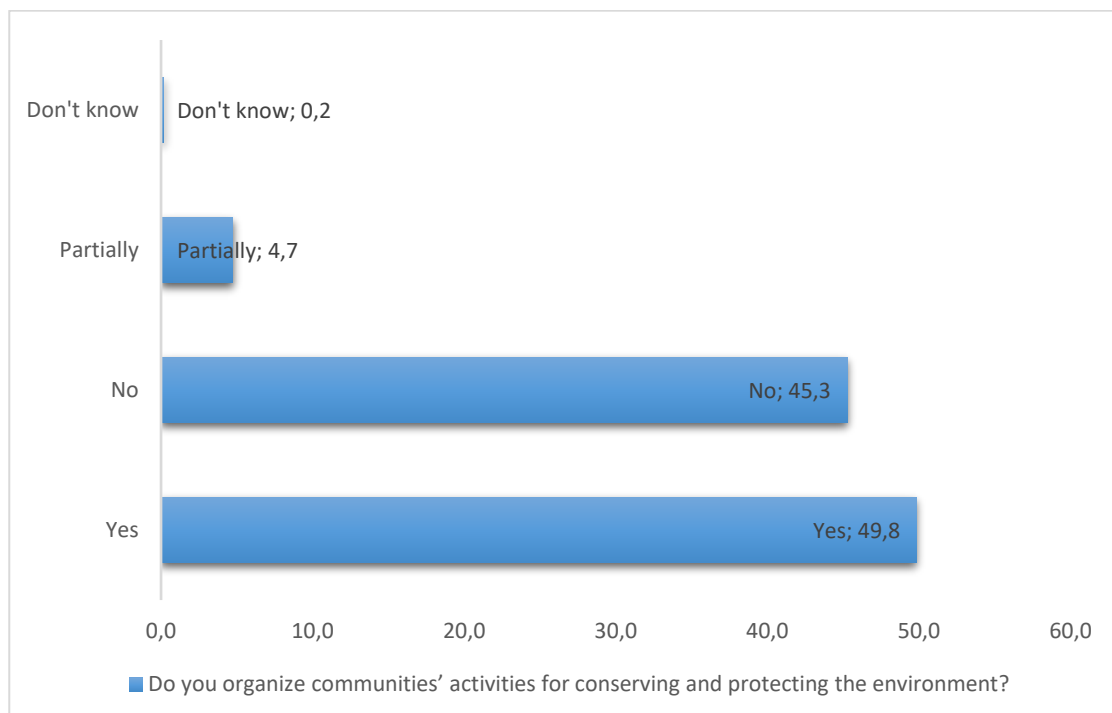


Figure 16: Community activities for conserving and protecting the environment.

Respondents were also interviewed on their awareness of activities that have negative impact on their environment. A total of 467 respondents (85.2 per cent) indicated that they were aware of activities while only 8 per cent indicated they were no awareness of any

activities that could have a negative impact. In terms of gender and youth participation, the respondents indicated that 82.7 per cent women and youth actively participate in environmental conservation activities while about 8 per cent indicated they do not participate.

Half the respondents indicated that at community level there are environmental protection community groups. A total of 37 per cent reported that community groups do not exist, 11 per cent that there are some and 2 per cent did not know either way. See figure 17.

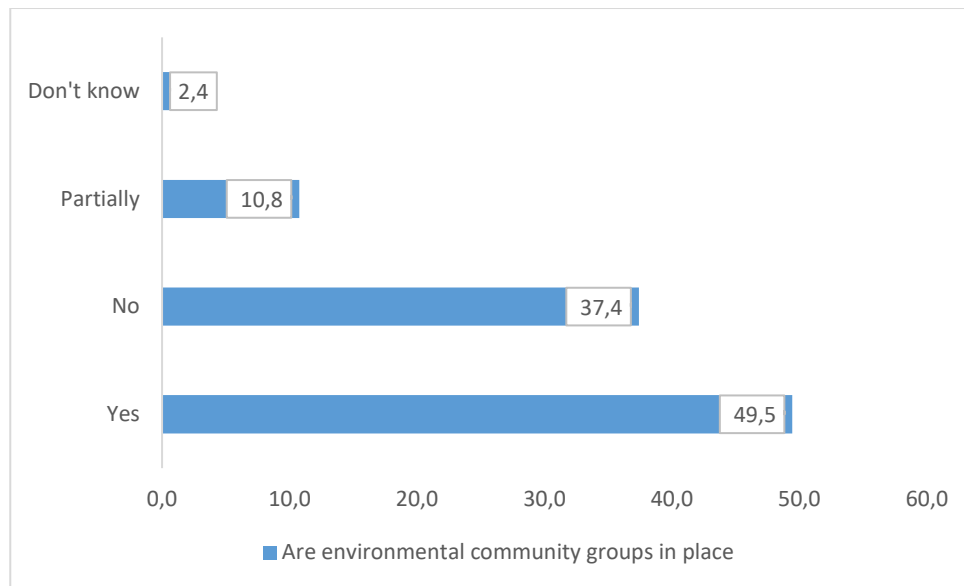


Figure 17: Existence of environmental community groups.

Of those who indicated that their community has an environmental conservation group, they were asked if these groups are implementing any environmental conservation activities. In response, 46.9 per cent reported that they are, 31 per cent indicated that they are not and 19.5 per cent reported that activities of this nature are partially implemented.

Participants were asked if ZCC is uses an environmentally friendly and sustainable approach in its construction activities i.e. drainage system, community development infrastructures or activities such as waste or water/river management. Over 56.9 per cent of the survey participants believed that ZCC is not adopting sustainable approaches in its construction activities while 43.1 per cent said it was.

When asked if the city has legislation with clear provisions for the protection/conservation of the natural environment and biodiversity, over 47.6 per cent of the respondents agreed that the city has clear provisions in place, 34.3 per cent said there are no clear provisions and 18.1 per cent said they are not sure. Additionally, 38 per cent emphatically indicated that despite having legal provisions there is no enforcement of them, 26 per cent reported that there was partial enforcement, 30 per cent indicated that the laws are generally enforced and 6 per cent did not know if legislative provisions are ever enforced. See figure 18.

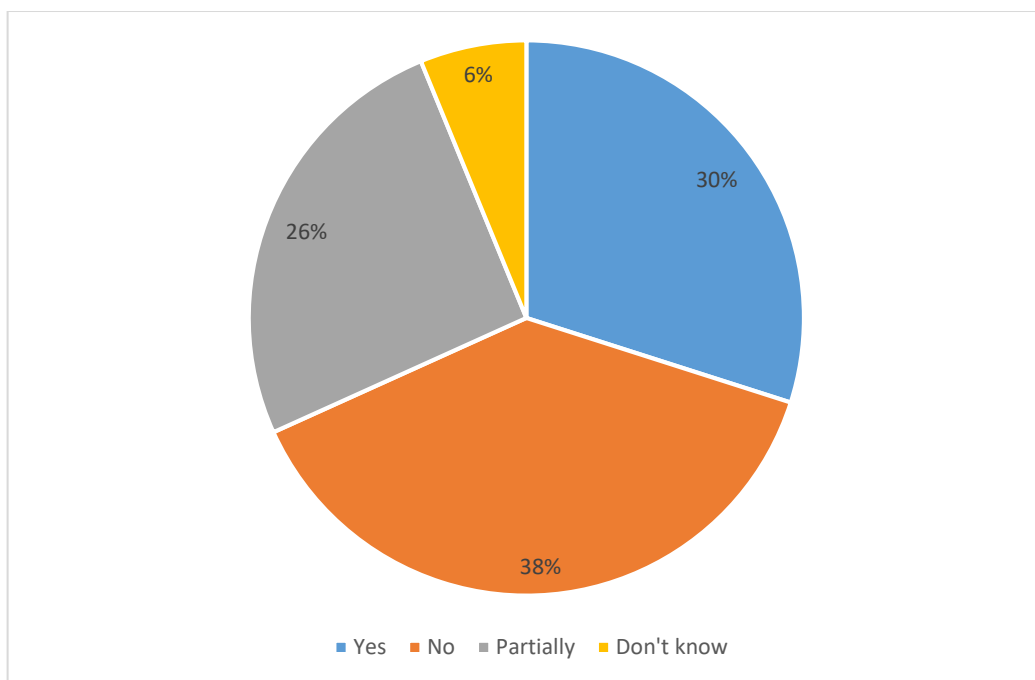


Figure 18: Application of environmental protection legislations.

Public health

In terms of public health, the survey asked if ZCC assesses public health risks when designing city interventions and activities. Over 48.2 per cent reported that the city does assess public health risks, 35 per cent indicated that assessments are not conducted and 15.3 per cent indicated that assessments are partially made. Figure 19 provides details on how communities perceive ZCC evaluations for public health issues.

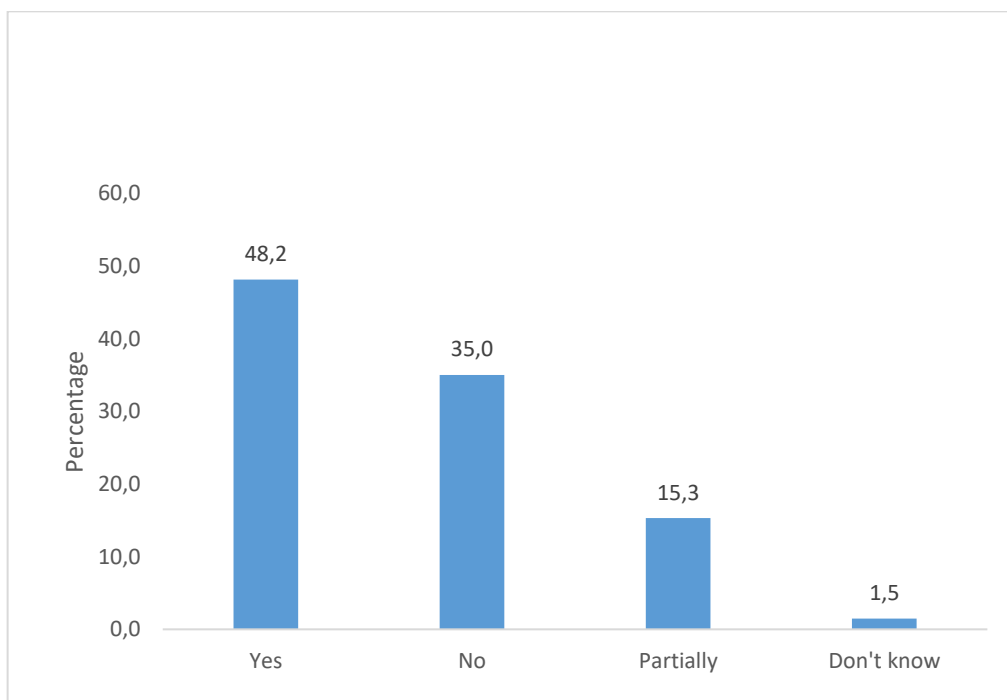


Figure 19: Are public health risks evaluated during project design?

When it was checked if the council monitors public health over 53.8 per cent reported that there were no procedures in place, 25 per cent indicated there were procedures and 18.1 per cent said they were partially available. For those who indicated availability of procedures, 37.6 per cent reported that these procedures are not being applied, 13.5 per cent reported partial application, 21.2 per cent reported that the procedures were being applied and 27.7 per cent indicated they did not know whether they are applied or not.

In determining whether respondents felt their communities are at risk or have been victims of public health hazards, 48.7 per cent indicated the community is at risk, 14.4 per cent said partially at risk while 35.5 per cent felt there were no risks.

Baseline objectives

The review confirmed the relevance and coherence of the project with the needs and priorities of the city and communities as the geographical context and exposure to numerous natural hazards such as floods and other weather-related shocks still necessitate these interventions.

Due to the considerable time lapse from project identification to implementation, however, some of the proposed interventions and sub-projects have been taken on by other stakeholders. They include the Two Million Bridge proposed to be constructed at Namalaka linking Chambo and Sadzi. This is being constructed by the Roads Authority (RA) and Mpondabwino bridge rehabilitation with funds from the Road Fund Administration and is nearing completion. Similarly, the Likangala bridge along the M5 road has been taken over for rehabilitation by the government through RA.

The review also revealed changes regarding the sites under consideration for rehabilitation and construction of drainage channels particularly in Chinamwali and Mtiya. And the proposed hectareage for afforestation may have been affected by massive encroachment with other sites subjected to substantial changes of use. In general, however, all the interventions as originally conceptualized remain valid.

The review identified and has justified (with evidence) some adjustments/changes that might be required in the approach and/or in the activities plan of the initiative. These include:

Establishment of a city-wide early warning system for floods

As LEAD already has an automated weather station in its offices and taking into consideration the proximity of the University of Malawi (Chancellor College) which also stands to benefit from installation of an automated weather station, the proposal is to relocate the installation of one of the automated weather stations meant for LEAD to the Ku Chawe Forestry Plantation Office to replace existing but obsolete weather station equipment (also being managed by LEAD).

The project intends to use lessons learned on implementation of riverine gauges and sirens under a project being piloted by DoDMA. Since the Likangala River is earmarked for installation of gauges and sirens, efforts are being made by the project to work

collaboratively leveraging on the project under implementation to establish synergies in order to improve the sub-project in the second half of the implementation period.

The construction of multi-purpose evacuation centres

With the escalation of costs for construction work following the impact of the COVID-19 pandemic and the long period between the project formulation and its roll out, the need to maintain standards may mean that not all of the three multipurpose evacuation centres will be constructed. In the event that this is not feasible, the consultation process has shown that the project may need to prioritize construction of the centres starting with Chambo and then Likangala. Sadzi evacuation centre will be considered dependent on availability of resources.

Rehabilitation of existing drainage channels and construction of new drainage channels

Approximately 300 m of the proposed construction of drainage channels in Chinamwali has been completed from a project funded by DoDMA. Following consultations in the ward, the proposal now is to identify an alternative critical site to benefit from this intervention.

Due to the delay in rolling out implementation, other more critical sites have been suggested and communities are demanding some sites changed in favour of newly identified ones. This has been observed in Chinamwali and Mtiya who may require a reassessment. The extent of the rehabilitation and construction of drainage channels is likely to be affected by escalating costs of construction materials.

Improvement of solid waste management

Nothing substantive has been observed from the review and surveillance so far. However, implementation is likely to be affected by rising costs of construction materials.

River-focused interventions to prevent erosion and flooding

Nothing substantive has been observed from the review and surveillance so far. However, implementation is likely to be affected by rising costs of construction materials which have also affected the materials needed for gabion baskets.

Construction and rehabilitation of bridges and dams on Likangala River

The construction and rehabilitation of bridges and dams on Likangala River have also been affected by the delays in implementing the project and escalating costs of construction materials and contractors. Construction and rehabilitation of Namalaka (Two Million) and Mpondabwino Bridges have already been taken over by the Road Fund Administration. The former has been completed and the latter is in its final stages of completion and contractor demobilization. Similarly, the rehabilitation of the Likangala Bridge along the M5 road has been taken over by RA. The proposal is to consolidate all efforts and resources towards the construction of an alternative bridge at St Marys Cemetery to connect to Chambo multi-purpose evacuation centre. The bridge will serve as an evacuation route linking Chambo, Sadzi and surrounding areas to the evacuation centre.

Sustainable urban forest management

Several locations have been affected by encroachment and change of use by the authorities which may have significantly affected coverage of the areas meant for afforestation. From consultations in the beneficiary wards, it has been noted that Chinamwali, Masongola and Mpira in part have had their sites affected by either encroachment or allocation of plots for residential purposes.

The review noted that most of the earmarked sites may not be favourable for fruit trees but could best be nurtured for natural regeneration or planting of indigenous trees if the project is to realise the benefit of the afforestation programme.

If all these are considered in the sustainable urban forest management intervention, the targets may be significantly reduced. The alternative is to distribute some of the seedlings being raised by the forest management committees to households for use at home.

Current city practices in disaster risk management

Solid waste management, threats and hazards

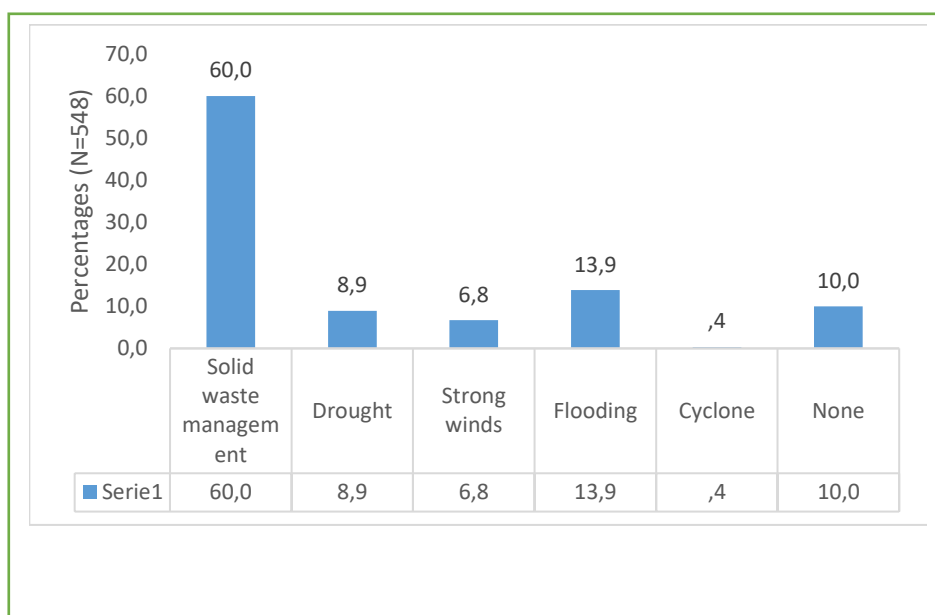
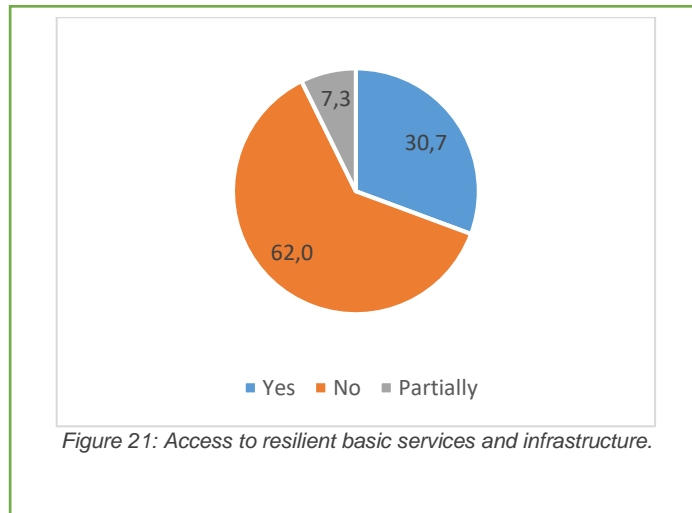


Figure 20: Information received on solid waste management, threats and hazards.

ZCC generates and disseminates information relating to solid waste management, hazards and threats. The review revealed that the majority (60 per cent) of the respondents access timely information on solid waste management, followed by information on flooding (13 per cent), drought (8 per cent), strong winds (6.8 per cent) and cyclones (0.4 per cent). See figure 20. Nearly half of respondents reported that the information disseminated was effective (48.9 per cent) and 3.5 per cent said it was very effective. However, consultants observed that indiscriminate solid waste disposal in rivers and along roads remains a huge

problem. Many rivers in the city are heavily polluted by industrial and domestic effluent.¹ Key informants reported a limited capacity of ZCC in terms of human resources and equipment to offer waste management services to targeted areas. This was affirmed by review findings that revealed that the majority (62 per cent) do not have access to basic services and infrastructure. See figure 21.

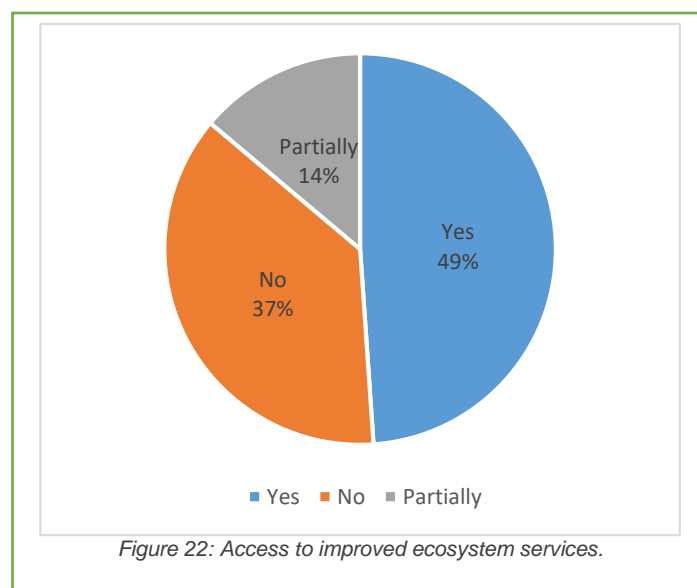


Access to improved ecosystems services

Cities are a key nexus of the relationship between people and nature and are huge centres of demand for ecosystem services with a large environmental impact. Current projections of rapid expansion of urban areas (including Zomba) present fundamental challenges but also opportunities to design more liveable, healthy and resilient cities (e.g. adaptation to climate change effects).² On ecosystem services, the review revealed that more than 50 per cent (no 37 per cent and partially 14 per cent) do not have access to improved ecosystem services. See figure 22.

¹ UN-Habitat: <https://www.zaragoza.es/contenidos/medioambiente/onu/issue06/1139-eng.pdf>

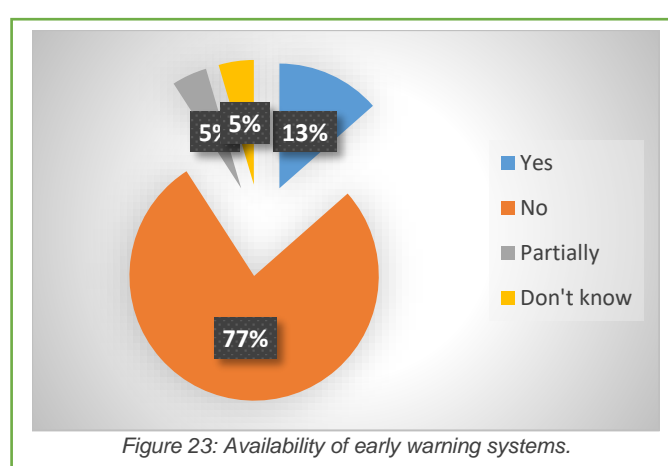
² <https://www.sciencedirect.com/science/article/pii/S1877343515000433>



Interventions to prevent erosion and flooding, construction and rehabilitation of bridges and dams on Likangala River and sustainable urban forest management interventions will bring about restoration of ecosystems in Zomba.

Early warning system

Early warning system (EWS) is an adaptive measure for climate change using integrated communication systems to help communities prepare for hazardous climate-related events. A successful EWS saves lives and jobs, land and infrastructure and supports long-term sustainability.³ The majority of respondents (77 per cent) reported that they do not have an early warning system in their project area. See figure 23. Interventions aimed at establishing a city-wide early warning system are therefore relevant in building the resilience of residents in Zomba.



³ <https://www.un.org/en/climatechange/climate-solutions/early-warning-systems>

For the communities that reported the availability of EWS, the review further assessed if any EWS interventions were on-going. The majority of the respondents (62.2 per cent) reported that there are no interventions currently being implemented in their area. See figure 24.

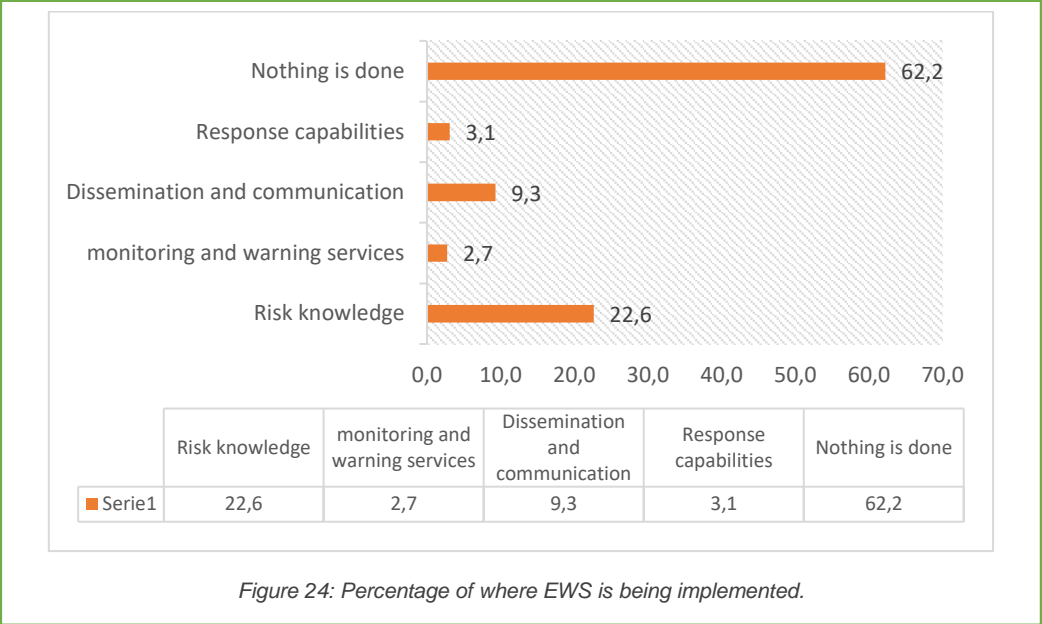
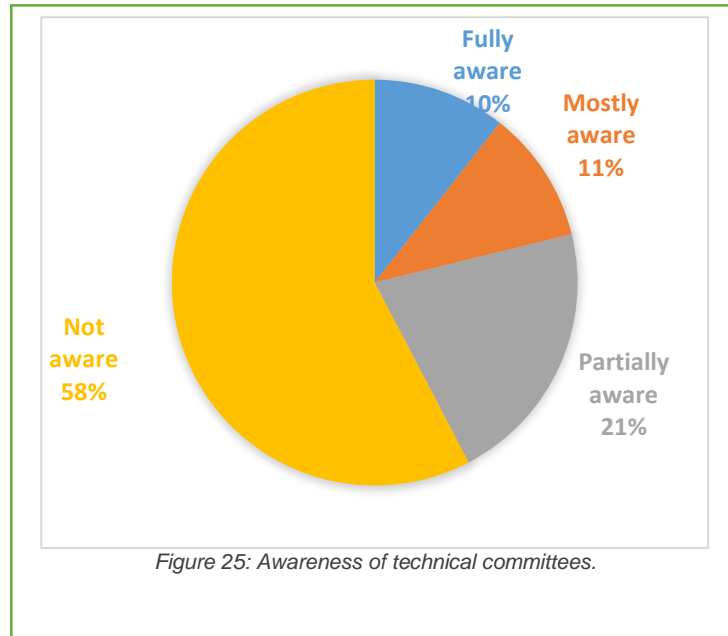


Figure 24: Percentage of where EWS is being implemented.

Technical committees disseminating knowledge and learning

The majority of respondents (96.4 per cent) are not members of technical committees or associations responsible for disseminating knowledge and learning regarding solid waste management or implementation of early warning messages. And over half (58 per cent) of the respondents were not aware of the committees to support project interventions in the project area. See figure 25. This has implications on community participation/contribution and the sustainability of interventions.



Secure alternative livelihoods sources

Alternative livelihoods often encapsulate various broad categories and approaches including: pursuing multiple, diversified income streams; moving from cultivating illicit or harmful crops to legal sources of income; and replacing agriculture-based income with other sources. The review revealed that the majority of households (22.8 per cent) are involved in different forms of agribusinesses, followed by agriculture (22.1 per cent). See figure 26.

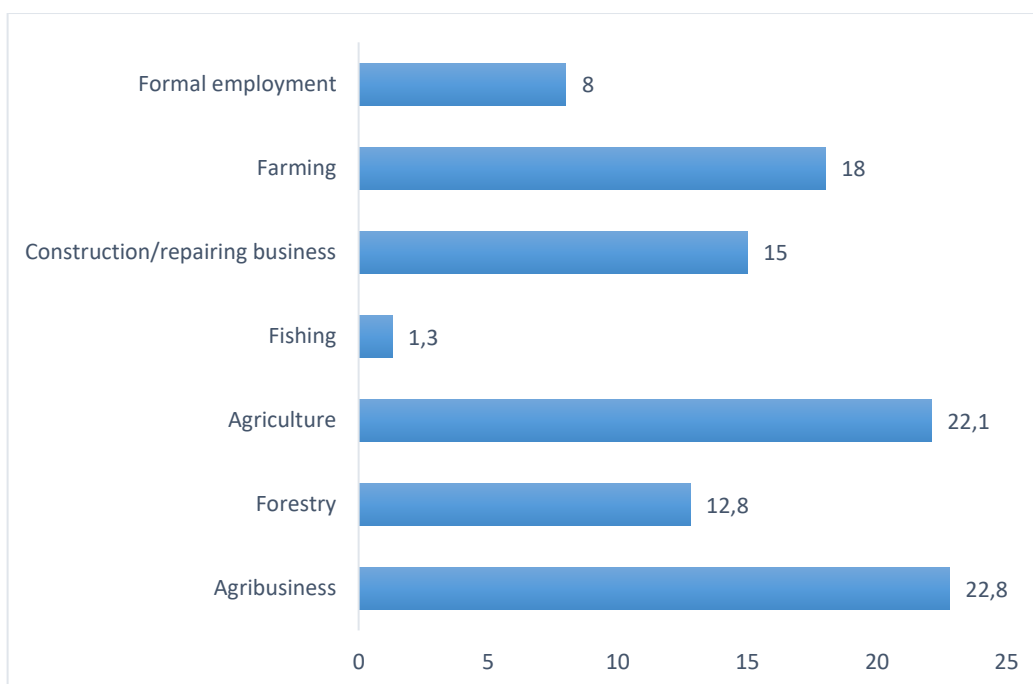


Figure 26: Alternative livelihood options.

Income categories of respondents

Low-income households around the world are particularly vulnerable to shocks and also the least prepared when a shock hits. The effects of climate change including floods, droughts and other weather-related disasters are adding another layer of risk for already vulnerable households.⁴ The review revealed that the majority of respondents earn less than USD 8 per day. See figure 27.

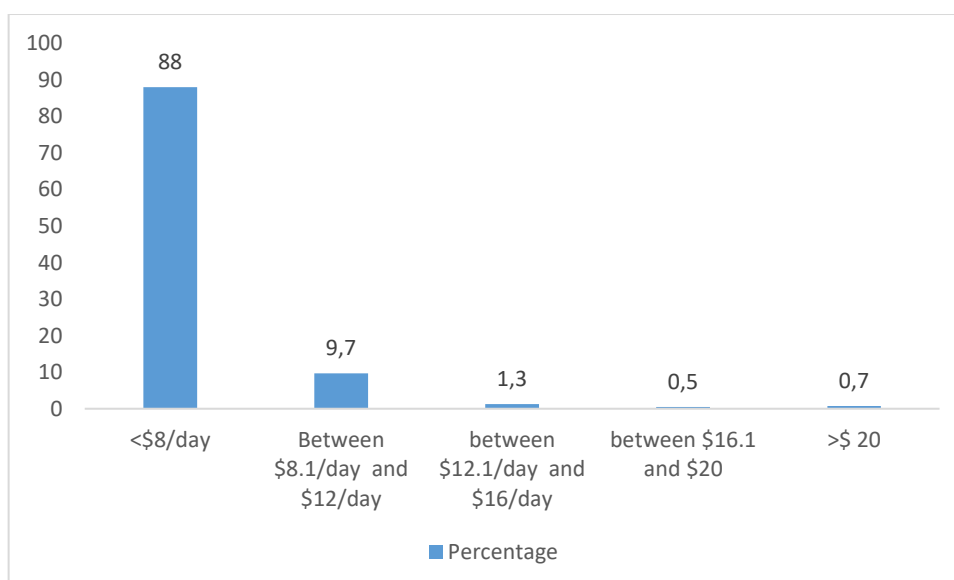


Figure 27: Household income levels in USD.

⁴ <https://www.poverty-action.org/sites/default/files/publications/Building-Resilience-Through-Financial-Inclusion-January-2019.pdf>

Climate change related policies

The review revealed that more than 75 per cent of households (not aware 49.5 per cent and partially aware 25.5 per cent) were not totally aware of climate related policies in Zomba. And most residents (95.6 per cent) have not participated in climate change related policies. See figure 28.

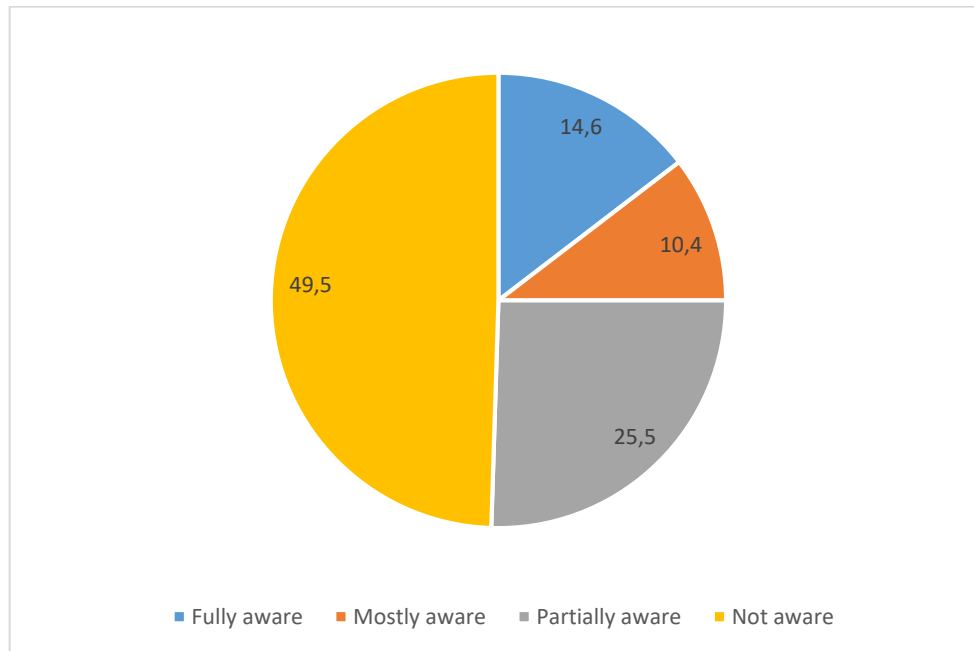


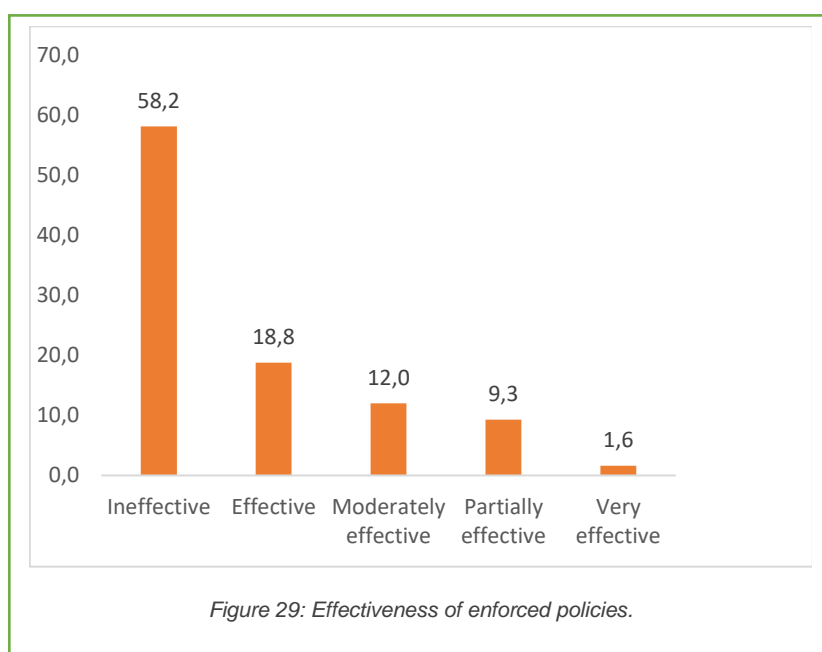
Figure 28: Level of climate change awareness.

Effectiveness of the regulations enforced

The review revealed that the majority (58.2 per cent) of respondents reported that most of the policies enforced in the city are not effective. See figure 29. This was evident in the review by the bad management of solid waste and illegal settlements.

Adaptation practices, products and technologies generated

The threats posed by climate change to agriculture and livelihoods are now well known. Climate change has already resulted in a negative trend in mean crop yield and livelihoods per decade, and this is likely to continue as the century unfolds. In order that livelihoods, food production and food security are not adversely affected by climate change, adaptation is imperative. A proactive approach to building adaptive capacity is thus necessary, embedded in more robust food production and distribution systems that are designed to be sustainable in the context of a changing climate. The review evaluated what type of effective and efficient adaptation practices, products and technologies are being generated. Over 58 per cent of the respondents thought that the practices were ineffective while only 1.6 per cent indicated that they were very effective.



Innovative adaptation practices

The review examined which innovative adaptation practices have been rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level. Results showed that 24 per cent reported that gender equality had been advanced in the community. Over 8.1 per cent indicated that advancement of gender equity was scaled up, 28 per cent felt that the gender quality was accelerated and 37.1 per cent felt that no advances had been made. See figure 30.

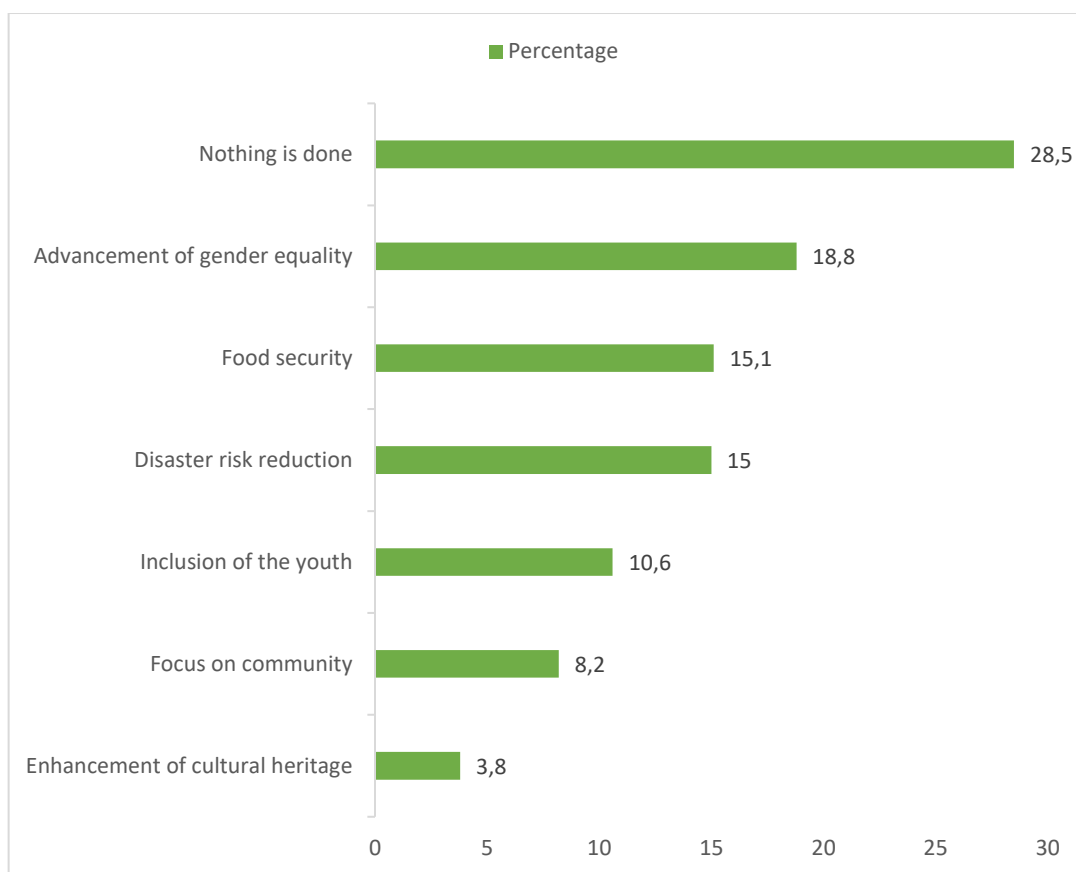


Figure 30: Innovative adaptation practices.

Newly introduced practices

KIIs, FGDs and household interviews revealed that there are a number of new practices. The most common practice reported by 40.3 per cent of households was advancement of gender equality with disaster risk reduction having also been introduced. Figure 31 shows the percentage of practices that have been adopted with more detail shown in table 2.

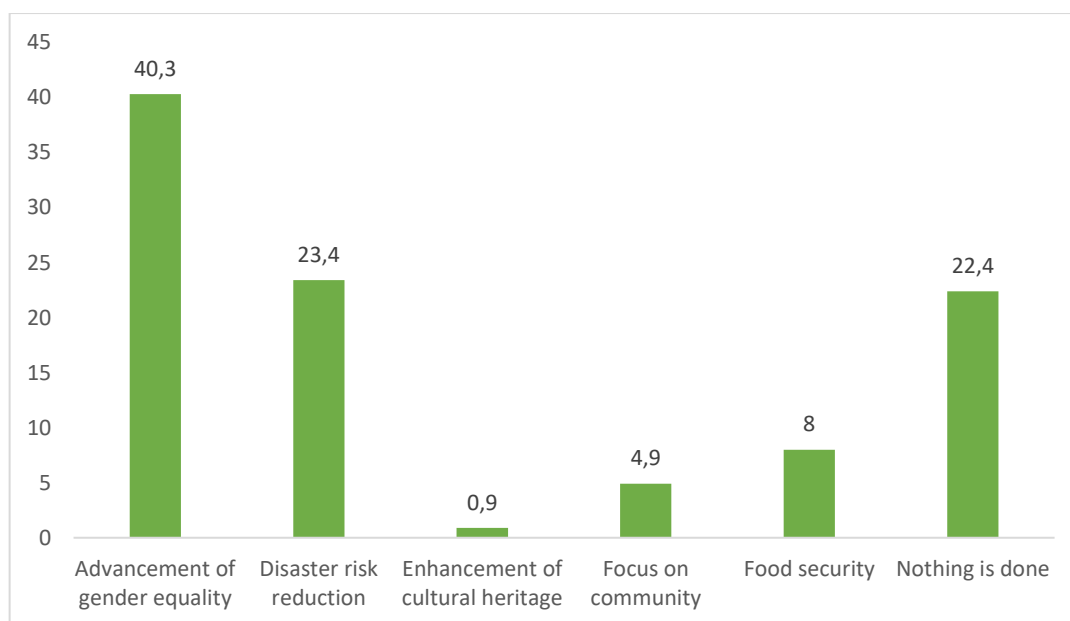


Figure 31: Newly introduced practices.

Table 2: Innovative adaptation practices.

Which innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level? How many are newly introduced?								
Count		How many are newly introduced?						Total
		Advancement of gender equality	Disaster risk reduction	Enhancement of cultural heritage	Focus on community	Food security	Nothing done	
Which innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level?	Rolled out	53	29	1	17	18	18	136
	Scaled up	18	18	2	2	12	2	54
	Accelerated	62	53	1	5	9	3	133
	Replicated	1	1	0	2	4	1	9
	Nothing is done	87	27	1	1	1	99	216
Total		221	128	5	27	44	123	548

Conclusion and recommendations

Conclusion

The baseline review has established benchmarks which will be used to guide implementation and assess performance of the project interventions. This section summarizes the conclusions based on key themes as defined by the baseline terms of reference.

Project relevance

The geographical context of Zomba remains relevant to proposed interventions. The city is still exposed to numerous natural hazards such as floods and other climate change-related shocks such as cyclones as referenced in the LEAD report. The review established these hazards are still causing severe damage to housing, property and assets resulting in cascading disruptive effects such as food insecurity, malnutrition, health/hygiene problems, increased poverty and vulnerability.

Proposed adjustments/changes in approaches and interventions

- Sustainability of interventions. Intention to redefine implementation of the seven interventions to focus on sustainability beyond the lifespan of the project if the targeted communities are to enjoy the intended benefits for a long time;
- Local partnering/community contribution. The project strives to empower local stakeholders to lead the development process from the beginning bringing groups and organizations together to collaborate in this way can change the local power dynamics;

- c. Alternative livelihood options, diversification of income pathways including financial inclusion and natural resource-based enterprises e.g. solid waste management especially recycling to go beyond manure production to target high value products such as biogas.

Complimentary initiatives and stakeholder mapping

The review mapped the existing/upcoming initiatives that might be complementary, and identified other stakeholders and actors that can be relevant for establishing synergy, collaboration and coordination while avoiding duplication.

Conditions for monitoring progress and evaluating the final impact

- a. Compliance with law. The review revealed that by-laws exist somewhat at community and neighbourhood level but the challenge is enforcement. The review revealed that the majority (64.6 per cent) of the surveyed participants said they were aware that the city has laws that it follows when implementing activities. Around 54.9 per cent of the respondents indicated that they have previously been consulted about developmental initiatives;
- b. Access and equity, and gender/women empowerment indicators. More than 74 per cent of the surveyed respondents reported that there is women and youth participation in city activities like DRR campaigns and decision making. But the majority (85 per cent) insisted that there were no measures in place to hear the concerns of the most vulnerable people;
- c. Human and labour rights: About 70.8 per cent of the respondents indicated that the city does not monitor compliance of labour laws rights.

Key benchmarks for comparing pre and post project status against key project indicators

Key project performance indicators have been documented and summarized in the attached project performance report. Of particular significance, the following have been highlighted:

- a. Access to jobs and skills development opportunities for women, only 39.1 per cent of the respondents indicated that women have access to jobs and skills development opportunities;
- b. Protection of natural habitats. The majority, 89.1 per cent, indicated that they were sensitive to protection and conservation of the natural habitat while 87.2 per cent indicated that they were aware of climate change effects.

Recommendations

The following recommendations are proposed based on the findings of the review

Project team

- 1. Develop a layering and sequencing plan of key interventions that follow a logic
 - Layering of interventions to ensure that project components are implemented seamlessly for maximum integration between the main activity and other

complementary activities. KIs and FGDs revealed that a lack of synergy between interventions in the area is the major limiting factor to significant progress in building resilient households. Recommendations are:

- Early warning interventions must be continuously layered and embedded with all early action interventions throughout the project cycle;
 - Sustainable urban forest management must be layered with alternative livelihood options and other financial inclusion initiatives such as savings groups for income diversification. It was revealed that wanton cutting down of trees was largely for income and a source of energy. Alternative livelihood options (on-farm and off-farm) are essential in building household resilience;
 - Solid waste management must be layered with social behaviour change initiatives; high value recycling products such as biogas and briquettes; and partnerships. The review revealed that reactive solutions have ended up worsening the situation in Zomba;
 - Infrastructure development such as evacuation centres, bridges and drainage must be continuously be layered with initiatives on governance, local partnerships and local ownership. This will enhance community contribution (including spaces where these will be constructed) and safety of the structures.
 - Sequencing interventions should begin with behaviour change interventions and/or other locally acceptable Oxfam recognized transformational development interventions. KIs and FGDs reported a lack of a proper sequence of key interventions. The activities include social behaviour change, women economic empowerment; local partnerships; functional committees; and community buy in before introducing other intervention sequences as follows:
 - Social behaviour change communication starts before all other interventions and should involve high intensity upfront, with low intensity support in final phase(s) of implementation;
 - For sustainable urban forest management, alternative livelihood options and/or financial inclusion high intensity programming follows immediately or in conjunction with the introduction of social behaviour change communication;
 - Infrastructure related activities should begin after local partnership, local ownership and responsible committees have been established and the pilots initiated. High intensity programming starts after the local partnerships (evident by memorandums of understanding) and relevant committees have been established.
2. Strengthen community networks, linkages and coordination
- Functioning community networks, linkages and partnerships are essential to enable the effective delivery of activities and services. The review revealed that there is lack of coordination between stakeholders in the implementation area. Strong informal and formal relationships between communities, community actors and other stakeholders enable them to work in complementary and mutually reinforcing ways, maximizing the use of resources. Funding and support are required to build and sustain functioning networks, linkages and partnerships to

improve coordination and decision-making, to enhance impacts and to avoid duplication of activities and services.

- Develop and maintain coordination mechanisms and agreements or contractual arrangements to enable community actors, community-based organizations (CBOs) and NGOs to collaborate and work together. Develop communication platforms to share community knowledge and experiences and support networks. Local service providers.
3. Strengthening local partnerships
Develop multi-stakeholder and cross-sector working groups/functional committees for implemented interventions. There was no evidence of joint planning and supervision of related interventions. Identify community champions (at neighbourhood level) for sustained motivation, resources and service delivery of project interventions.
 4. Develop/co-create and translate into Chichewa step-by-step field guides for local service providers. These must include field-monitoring books, a protocol for demonstration plots/sites and key programme approaches. Previous materials developed by the city have not been effective.
 5. The project should support the city in the management of solid waste such as helping them explore other approaches in other cities like Lilongwe where private traders are allowed to manage the waste for a fee. ZCC may wish to do the same as a way of improving waste management.
 6. For sustainability and protection of the early warning systems that will be placed along the rivers, local leaders and community members should be involved from the beginning which will help instil ownership.
 7. To support urban forest management it is recommended there should be a co-creation of solutions and partnership with the community and other stakeholders (public, private and CBOs). The project should prioritize local ownership and partnerships as a base/foundation for related interventions.
 8. For general conservation of forests in the city, the project should put emphasis on raising community awareness to create good understanding that if people are not careful in their agricultural and farming activities, they will be destroying the natural environment and biodiversity that is unique to Zomba.
 9. Under public health it was noted there is high encouragement for protected areas such as along river banks and areas near sewerage. The project should advocate for public assessment to avoid situations where people are allocated areas for housing construction that would create health hazards to themselves and their family.

Zomba City Council

- a. Strengthen/leverage partnership with private sector in waste management. There is inadequate coordination between the city council and the private transporters who would be collecting waste at the household level. KIIs and interviews revealed that there is potential for improved services in solid waste management. Lessons can be drawn from Lilongwe City Council where similar initiatives are being implemented at scale;

- b. The city should develop a comprehensive physical and environmental plan. The lack of a comprehensive physical, economic or environmental plan affects the ability of the city council to collect and generate revenue, to efficiently deliver services and to maintain orderly development and an attractive environment for economic growth. In the absence of proper planning, unstructured settlements will continuously pose a challenge to infrastructure planned in the project: drainage construction will likely end at residents' houses. In addition, identifying spaces for construction will be a challenge.

OXFAM and UN-Habitat

Leverage lessons from similar projects. Share lessons to the project team through exchange visits, scheduled webinars etc. Lessons from the urban governance project implemented in Lilongwe funded by Tilitonse will be an asset.

Annexes

Annex 1: Training needs analysis

Annex 2: Updated project performance report

Annex 3: Summary of project indicators

Annex 4: Household data collection questionnaire

Annex 5: Key informant interview baseline questions and data collection instruments for project staff and stakeholders

Annex 6: Focus group discussion guide

Annex 7: Participants involved in key informant interviews and focus group discussions

Annex 8: Baseline review in photographs

Available at <https://oxfam.box.com/s/5qc98vp1lgdp44lys3rcx74s7dlg8mrq>

Acknowledgements

Julats Consulting would like to thank Oxfam, UN-Habitat, Zomba City Council, the communities and stakeholders for the opportunity to undertake this baseline review. We further thank the Oxfam team for the great cooperation thus far in the planning stage, which we believe was essential in the baseline review undertaking.