RESILIENCE FRAMEWORK FOR ACTION CHIPATA CITY, ZAMBIA

2019

DiMSUR
Disaster Risk Management, Sustainability and Urban Resilience

CHIPATA CITY COUNCIL
FROM THE SOIL WE THRIVE OUR LIVING

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FOREWORD

The City Resilience Action Planning (CityRAP) Tool is designed to enhance, build and undertake measures to strengthen the resilience of cities. The City of Chipata adopted the tool in collaboration with all relevant stakeholders, to mainstream resilience into its existing and future policies, plans and budget.

Chipata is exposed to a number of hazards such as floods, epidemics, landslides, erosion, environmental degradation, and the impacts of these might be substantial on people's livelihoods. Zambia, through its Seventh National Development Plan (7th NDP)is pioneering a model for integrating three multi-lateral agreements (Sendai Framework for Disaster Risk Reduction, The Sustainable Development Goals and The Paris Agreement on Climate Change) into a resilient and sustainable national development framework.

In order to address these urgent challenges, Chipata City Council, with the support by the United Nations Human Settlement Programme (UN-Habitat), has developed a Resilient Framework for Action (the final output of the City RAP tool process) to act as an entry point for setting the path for resilient and sustainable development in the city while reducing exposure to climate and disaster risks.

Sinoya MwaleMayor, Chipata City

ACKNOWLEDGEMENT

The preparation of the Chipata City Resilience Framework for Action (RFA) has been the result of collaborative efforts by many individuals and institutions within Chipata City.

We wish to convey our profound gratitude to His Worship, The Mayor of Chipata City Mr. Sinoya Mwale and the Town Clerk of Chipata City Council Mrs. Vivian Chiwila Chikoti for their unwavering support and creating an enabling environment for the entire CityRAP process. We further wish to specifically acknowledge the critical role of Mr. Mutakela Kayonde who ensured that transport and other logistics were available to complete the CityRAP tasks.

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Lastly, we wish to thank representatives from Government Institutions, Private Sector, NGOs, CBOs, the community members and other stakeholders for their participation and input in the final drafting of the Resilience Framework for Action.

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I. BACKGROUND

Zambia is a landlocked country in Southern Africa with an estimated population of 17.86 million in 2019. According to Zambia Central Statistics Office (CSO, 2010), Zambias' urban growth rate is currently at 43.5% creating a serious burden and considerable struggle on housing, water, sanitation, healthcare, energy, improved education, employment opportunities and environmental degradation.

These challenges cut across all the cities in Zambia. Some parts of the country face adverse weather patterns, including floods, droughts, extreme temperatures and thunderstorms, which repeatedly damage poorly constructed buildings, like schools, in the flood-prone communities. Worsening impacts of climate change have led to food, water and energy insecurity. Building resilience has emerged as a key goal to protect vulnerable people from climate-related shocks and stresses(Kelman, 2015).

I.I. Zambia'sClimateVulnerability Profile

The country's risk profile provides a comprehensive view of hazards, risks and uncertainties for floods and droughts in a changing climate, with projections for the period 2050-2100.Climate changes are expected to impact a number of Zambia's key sectors, such as agriculture and food security, water resources, health, forests, grasslands, and wildlife.

An increased occurrence of droughts and crop failures may cause malnutrition, while increased flooding may cause water pollution and exacerbate health and sanitation problems. Forests, grasslands, and wildlife have significant ecological, economic, and social value for Zambia, but they are vulnerable to climate changes (Matyas, D and Pelling M (2015). The Government of Zambia has taken a number of steps to determine priority climate impacts and vulnerabilities in the country, as well as identify adaptation strategies.

I.2. Zambia Policy Framework Relating to Disasters

The Sendai Framework for Disaster Risk Reduction 2015 – 2030 emphasizes the need to manage risk rather than disasters (UNISDR, 2015). This Framework calls for institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience" (Kelman, 2015).

Climate change is recognized as a particularly urgent issue due to the major threat it poses to Zambia's sustainable development pathway. For this reason, Zambia's 7th National Development Plan (2017-2021) integrates national goals set through the Agenda 2030 for Sustainable Development, the Sendai Framework for Disaster Risk Reduction, and the Paris Agreement on Climate Change. According to Molony et al., (2016) Zambia has further reflected climate change as a national priority in the 2017 launch of the National Climate Change Policy, which provides a framework for coordinating climate change programmes to advance Zambia's Vision 2030. Zambia's Seventh National

Development Plan is now a pioneering model for integrating the three multi-lateral agreements into a resilient and sustainable national development framework (Matyas, D and Pelling M 2015).

Furthermore, Zambia has developed the Disaster Management Policy, Disaster Management Act and Disaster Management Operations Manual (DMMU, 2013); it has also developed a national Disaster Risk Management Framework which is in line with the African Union and the Southern African Development Community (SADC) frameworks.

I.3. Understanding Resilience

According UN-Habitat, urban Reslience is defined as "the ability of any urban system, with its inhabitants, to maintain continuity through all shocks and stresses, while positively adapting and transforming toward sustainability. It is therefore imperative that the City of Chipata should understand its disaster risk issues and vulnerabilty, and plan on how the various consequential adverse impacts can be reduced, mitigated and prevented.

While resilience thinking and practice has a long history, it has emerged in the past decade to become a widely adopted concept underpinning policies and projects, including goals on climate change, disasters, humanitarian and development assistance, all contained significant reference to and framing around resilience (Peters et al., 2016). As such, resilience has gone beyond a conceptually informed approach. Operational approaches to building resilience are also growing, expanding beyond their initial bases in areas such as social-ecological systems (SES), disaster risk reduction (DRR) and psychology (Lovell et al., 2016). Communities of practice are growing to share lessons and challenges that are emerging globally (Gregorowski et al., 2017).

Given that most of the disasters experienced today in Africa are related to natural hazards intensified by climate change and poor land use practices, integrating and mainstreaming climate action (Paris Agreement) in development planning is indeed a sure way of advancing implementation of the Sendai Framework for Disaster Risk Reduction in the context of SDGs in an integrated manner.

Chipata is one of the cities in Zambia struggling with the issue of deforestation, construction of buildings in high risk areas such as swamps, hills, indiscriminate disposal of solid waste, poor road network, floods and other activities that can lead to adverse effects. People living in informal settlements are particularly at high risk from the impacts of climate change and natural hazards. They live in high risk areas within Chipata, typically areas deemed undesirable by others and thus affordable.

2. RESILIENCE PROFILE OF CHIPATA

The beauty of Chipata city lies in its hills, thus giving it a unique identity. The name “Chipata” is derived from a Ngoni term “Chimpata” meaning “a space between hills”. Chipata District is located in the Eastern

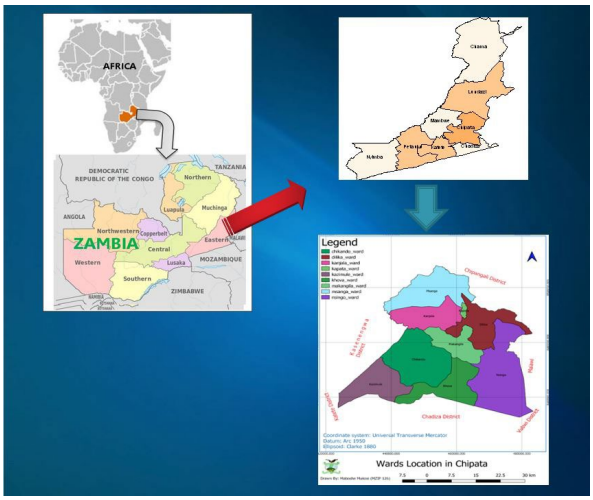
Province of Zambia, at geographic co-ordinates 13°45'2.34"S and 32°47'45.22"E and covers a land area of about 1,811Km^2. It is about 600km away from Lusaka, the Capital City of Zambia and 110km from Lilongwe, the Capital City of Malawi. The district boundaries include Chadiza and Katete in the south-west, Kasenengwa in the northwest and Chipangali in the north.

The predominating topography of the city is a mixture of high plateau and rugged hills with an altitude of approximately 1000 m to 1500 m above sea level and mostly low lying with altitudes of up to 1000 m above sea level. The plateau is generally fringed by the Eastern ridge by a number of hills including Walela, Kalungusi and Mukunguyembe hills.

According to the 2010 national census, the population of Chipata city is at 234,750 with 2 constituencies and 12 wards. However, the population has continued to increase at 2.2% annual growth. It is estimated that by 2030 the population of Chipata will exponentially grow to 354,473 which will lead to increased demand for sanitation facilities, schools, medical facilities and housing. The population increase carries with it an increased number of children on the street, unemployment, and high demand for land on which to settle resulting in people constructing in the hills, deforestation and many other problems.

Chipata is one of most vulnerable districts in Eastern province due to high exposure to shocks and stresses. The city is surrounded by 15 informal settlements and among others Mchini, Nabvutika, Magazine and Aslot Highlands are highly exposed to hazards such as flash floods, environmental degradation, high crime rate, and poor road and drainage network. In addition, Chipata city is prone to landslides and heavy erosion by virtue of it being surrounded by hills.

Due to its close proximity with countries that were hit by cyclone Idai, the likelihood of Chipata city being hit by a cyclone is very high. It does not have the capacity to withstand natural disasters due to inadequate preparedness. Policies governing construction in protected areas are there but their enforcement is very weak due to lack of resources (human and financial) and political interference. Most of the plans being used by public offices are old and do not take into account issues relating to climate change. Policies and plans formulated before 2000 have little or no focus on climate change.



3. CITYRAP PROCESS OF CHIPATA

Phase 1: CityRAP Crash Course (May 20-24, 2019)

UN-Habitat introduced a tool for reducing vulnerability and building the resilience of communities to natural and other hazards called City Resilience Action Plan (CityRAP). It is a step-by-step participatory resilience planning methodology that includes a set of training exercises and activities targeting municipal authorities, communities and local stakeholders. Chipata was one of the cities selected to implementation of the tool.

In the first phase of the CityRAP process, various staff from Chipata City Council and other organizations including political leaders and community representatives were trained for four days (from May 20-23, 2019) on urban resilience concepts. Further, 7 municipal focal points who were selected from 5 departments were then trained for a day (May 2019) to spearhead the rest of the process. The municipal focal points were then given two tasks; to carry out a municipal self- assessment and community participatory mapping.

Figure 1: Participants during the CityRAP Crash Course session

Phase 2: Municipal Self- assessment and participatory mapping process - May 27-June 14, 2019.

The process involved administering a self-assessment questionnaire to the seven (7) departments under Chipata City Council to understand their perception on the status of the city's resilience and identify capacity gaps. The questionnaire was centered on the five (5) urban resilience pillars covered in phase 1. A color-coded matrix of results was developed to identify the most urgent issues that need to be addressed to enhance resilience of Chipata City.

The focal points went on to carry out the participatory mapping process with the community members in vulnerable settlements which were selected during the Crash Course in order to collect and map information on the potential hazards affecting their settlements. 194 (89 Females, 105 Males) residents from Nabvutika, Magazine, Mchini, Damview, Aslot Highlands and Hillsview were selected to represent their settlements in the process. During the process, the community members identified the main hazards and vulnerabilities and indicated where they mostly occur on each settlement's satellite image where they mostly occur. The findings from the participatory discussions showed that the settlements were vulnerable to natural or manmade calamities as they lacked capacity to cope with shocks and stresses that may

arise. The settlements lack basic services and face inadequate water supply, poor sanitation and deplorable road infrastructure.

Figure 2: Participatory Risk Mapping - Magazine Settlement

Phase 3: Data Analysis and Prioritization - June 24 – 28, 2019

Three days of focus group (FGD) discussions were organized with representation of members from the community, Council, Civil Society Organization, government institutions and the Private Sector. They deliberated on the issues that emerged from the municipal self-assessment exercise under each thematic pillar. A list of hazards and vulnerabilities identified during the risk mapping were discussed in depth. The fourth day was a prioritization workshop which involved key stakeholders and experts to examine the results from the FGDs and decided upon the most critical issues to address in order to enhance the resilience of Chipata City. Six priority issues selected were ***Roads and Drainages; Solid Waste Management; Water and Sanitation; Natural Resource Management; Health and Education Facilities; and Localized Early Warning System.***

The municipal focal points were then tasked to conduct a baseline study on each of the priority issues which emerged from the prioritization workshop. This was to determine the current position of Chipata City in addressing these issues.

Phase 4: Development of the City Resilience Framework for Action (RFA) – July 8– August 8, 2019

The City Resilience Framework for Action (RFA) is a document that is produced at the end of the CityRAP process. It offers an opportunity for the local authority to build a City's resilience in which existing and future policies, plans, financial and institutional arrangements and concrete interventions fit in. It also outlines priority actions to be implemented.

To come up with RFA, the focal points conducted a baseline assessment by thoroughly reviewing available data for each priority issue using five components: policies, urban plans, institutional setup, finance and interventions. The findings from the assessment were further analyzed to come up with priority actions as illustrated in figure 3 below. A validation workshop was later organized to review the proposed priority actions for the RFA. Local stakeholders were in attendance and provided valuable input in drafting the RFA.

Priority Actions

RFA COMPONENTS: PRIORITY ISSUES:	POLICIES AND LEGISLATION	URBAN PLANS	INSTITUTIONAL SET-UP	FINANCE	INTERVENTIONS
ROADS AND DRAINAGE	1	1	2	1	1
SOLID WASTE	2	1	2	1	2
HEALTH AND EDUCATION FACILITIES	3	3	2	2	2
EARLY WARNING AND DISASTER RESPONSE	2	1	1	1	2
PROTECTION OF NATURAL RESOURCES	2	1	2	1	1
WATER AND SANITATION	2	1	2	3	2

Figure 3: Priority Actions Matrix

PRIORITY ACTION N1: Elaborate and implement urban plans, paying special attention to roads and drainage, solid waste management, early warning systems, protection of natural resources, and water and sanitation.

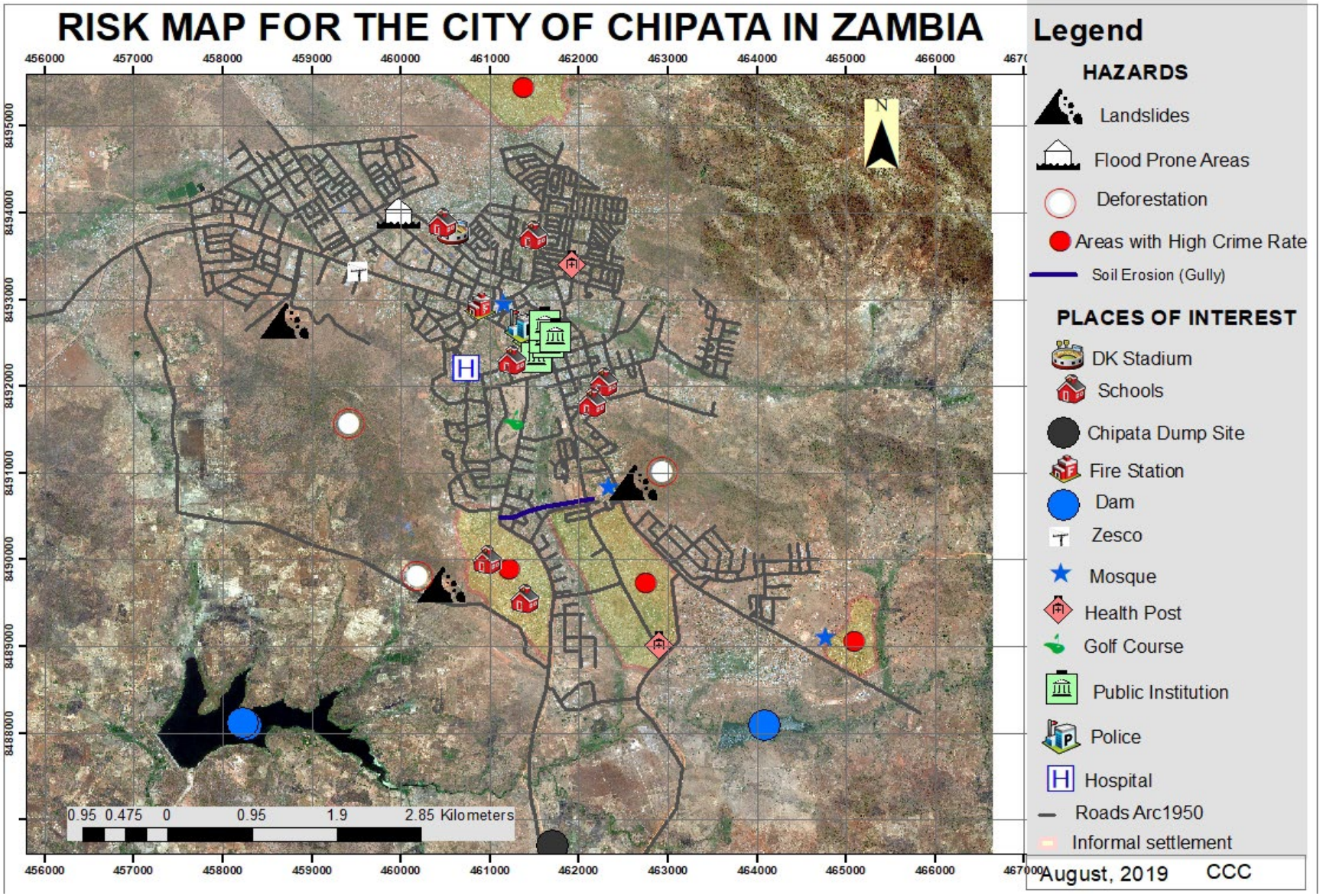
PRIORITY ACTION N2: Identify and operationalize effective financing mechanisms for roads and drainage, solid waste management, early warning systems, and protection of natural resources.

PRIORITY ACTION N3: Design and implement measures to improve the state of roads and drainage, with specific focus on plans, finance, and physical interventions.

PRIORITY ACTION N4: Design and implement measures to improve the state of early warning systems and disaster response, with a specific focus on plans, finance and physical interventions

PRIORITY ACTION N5: Design and implement measures to ensure protection of natural resources, with a specific focus on plans, finance and physical interventions

Risk Map


RISK MAP FOR THE CITY OF CHIPATA IN ZAMBIA
Legend
HAZARDS
Landslides
Flood Prone Areas
Deforestation
Areas with High Crime Rate
Soil Erosion (Gully)
PLACES OF INTEREST
DK Stadium
Schools
Chipata Dump Site
Fire Station
Dam
Zesco
Mosque
Health Post
Golf Course
Public Institution
Police
Hospital
Roads Arc1950
Informal settlement
August, 2019
CCC
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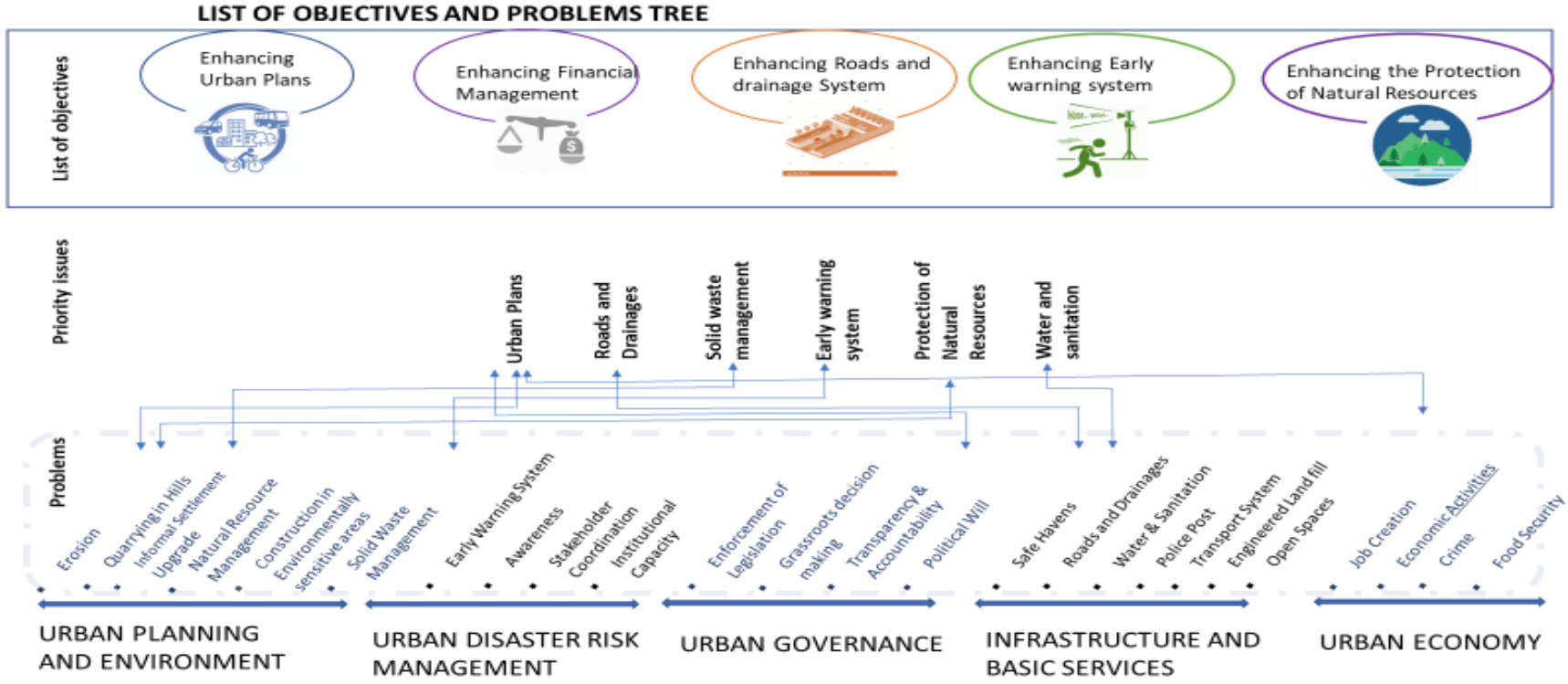
4. RESILIENCE FRAMEWORK FOR ACTION OF CHIPATA

The RFA is the final product of the City RAP process, it is the framework for action that will guide and support in building a resilient Chipata. It is developed from a participatory process which involved Chipata City Council, community members and other key stakeholders.

The RFA is made up of the following components: Objectives, actions, activities, timeline and action map.

List of Objectives and problem treeThrough the City RAP process different problems affecting Chipata City were identified and priority issues were arrived at from the problems. This led to setting of objectives to address the identified problems. Therefore, the problem tree below illustrates the linkages of the five (5) resilient pillars to problems, priority issues and the objectives.



Objectives

The tables 1 - 5 show the 5 objectives identified for Chipata City, with the corresponding actions broken down into activities and responsible departments respectively.

Table 1

OBJECTIVE : ENHANCING URBAN PLANS		
ACTION N1:	**ACTIVITY:**	**RESPONSIBLE:**
Elaborate and implement urban plans, paying special attention to roads and drainage, solid waste management, early warning system, protection of natural resources, and water and sanitation	**ACTIVITY 1.1** Consultation with local stakeholders, i.e. traditional authorities residents, Road Development Agency (RDA), Zambia National Service (ZNS), Non-Governmental Organizations (NGOs) and other government departments on the design of roads and drainage regarding development upgrading and maintenance.	Planning Department Engineering Department
	ACTIVITY 1.2 Integrating risk maps into planning	Planning Department
	ACTIVITY 1.3 **D**evelop plans to conform with the requirements of existing legislation such as the MA and EPPCA	Planning Department

Table 2

OBJECTIVE : ENHANCING FINANCIAL MANAGEMENT		
ACTION N2:	**ACTIVITY:**	**RESPONSIBLE:**
Identify and operationalize effective financing mechanisms for roads and drainage, solid waste, early warning and protection of natural resources	**ACTIVITY 2.1** Lobby for increased budget allocation from the central Government.	Finance Department Office of the town Clerk office of the Mayor
	ACTIVITY 2.2 Increase capacity of service delivery by the local authority in terms of solid waste collection and hiring of equipment.	Finance Department Public Health Department Engineering Department
	ACTIVITY 2.3 Introduce local toll fees, parking fees, bicycle levies and carbon taxes	All heads of departments
	ACTIVITY 2.4 Introduce penalties for non-compliance to building plans and disposal of solid waste in order to effectively enforce the laws and regulations.	Finance Department Public Health Department Planning Department
	ACTITVITY 2.5 Improve the market and bus station structures to increase the revenue base	Engineering Department
	ACTIVITY 2.6 Improve the capturing of properties to increase the revenue base from property rates	Finance Department

Table 3

OBJECTIVE : ENHANCING ROADS AND DRAINAGE SYSTEMS		
ACTION N3:	**ACTIVITY:**	**RESPONSIBLE:**
Design and implement measures to improve the state of roads and drainage with specific focus on plans, finance and physical interventions	**ACTIVITY 3.1** Conduct road condition survey in the district and mark roads and drainages to be improved/constructed	Engineering Department
	Activity 3.2 Design resilient roads and drainage	
	ACTIVITY 3.3 Construct resilient roads and drainage, while channeling the water to identified green areas in the city with special attention to informal settlements so as to keep the City green.	Engineering Department Road Development Agency National Road Fund Agency

Table 4

OBJECTIVE : ENHANCE EARLY WARNING AND DISASTER RESPONSE SYSTEM		
ACTION N4:	**ACTIVITY:**	**RESPONSIBLE:**
Design and implement measures to improve the state of the early warning systems and disaster response with specific focus on plans, finance and physical interventions	**ACTIVITY 4.1** Consultations with the technocrats to establish disaster response and early warning system	All Departmental heads District Health Office District Agriculture Office Chief Fire Officer
	ACTIVITY 4.2 Establish a committee in the communities on early warning system	All heads of department District Health Office District Agriculture Office Chief fire Officer
	ACTIVITY 4.3 develop a section under the existing departments in the local authority to deal with early warning and disaster response issues	All Departmental heads Chief fire Officer
	ACTIVITY 4.4 Include early warning and disaster response in the local budget	All Departmental heads Chief fire Officer
	ACTIVITY 4.5 Carry out sensitization and training on disaster risk and response	Engineering Department (fire section)
	ACTIVITY 4.6 Identify and establish safe havens	Engineering Department (fire section)

Table 5

OBJECTIVE: ENHANCING THE PROTECTION OF NATURAL RESOURCES		
ACTION N5:	**ACTIVITY:**	**RESPONSIBLE:**
Design and implement measures to ensure protection of natural resources with specific focus on plans, finance and physical intervention	**ACTIVITY 5.1** Sensitize communities on the importance of natural resources and the need to conserve and promote ecosystems by encouraging practices such as conservation agriculture and agroforestry	Department of Engineering (Environmental Planning) Department of Engineering (Parks and Gardens section) Forest Department
	ACTIVITY 5.2 Strengthen the existing policies by involving all the stakeholders i.e. traditional leaders, political leaders, communities and responsible government departments.	Forest Department Planning Department Engineering Department
	ACTIVITY 5.3 Empower communities with sustainable economic activities such as fish farming and bee keeping to reduce the stress on natural resources	Forest Department Planning Department
	ACTIVITY 5.4 Implement reforestation and afforestation programs with the communities, schools and churches	Forest Department Planning Department Engineering Department
	ACTIVITY 5.5 Invest in alternative sources of energy such as solar and bio energy	Engineering Department Energy Regulation Board

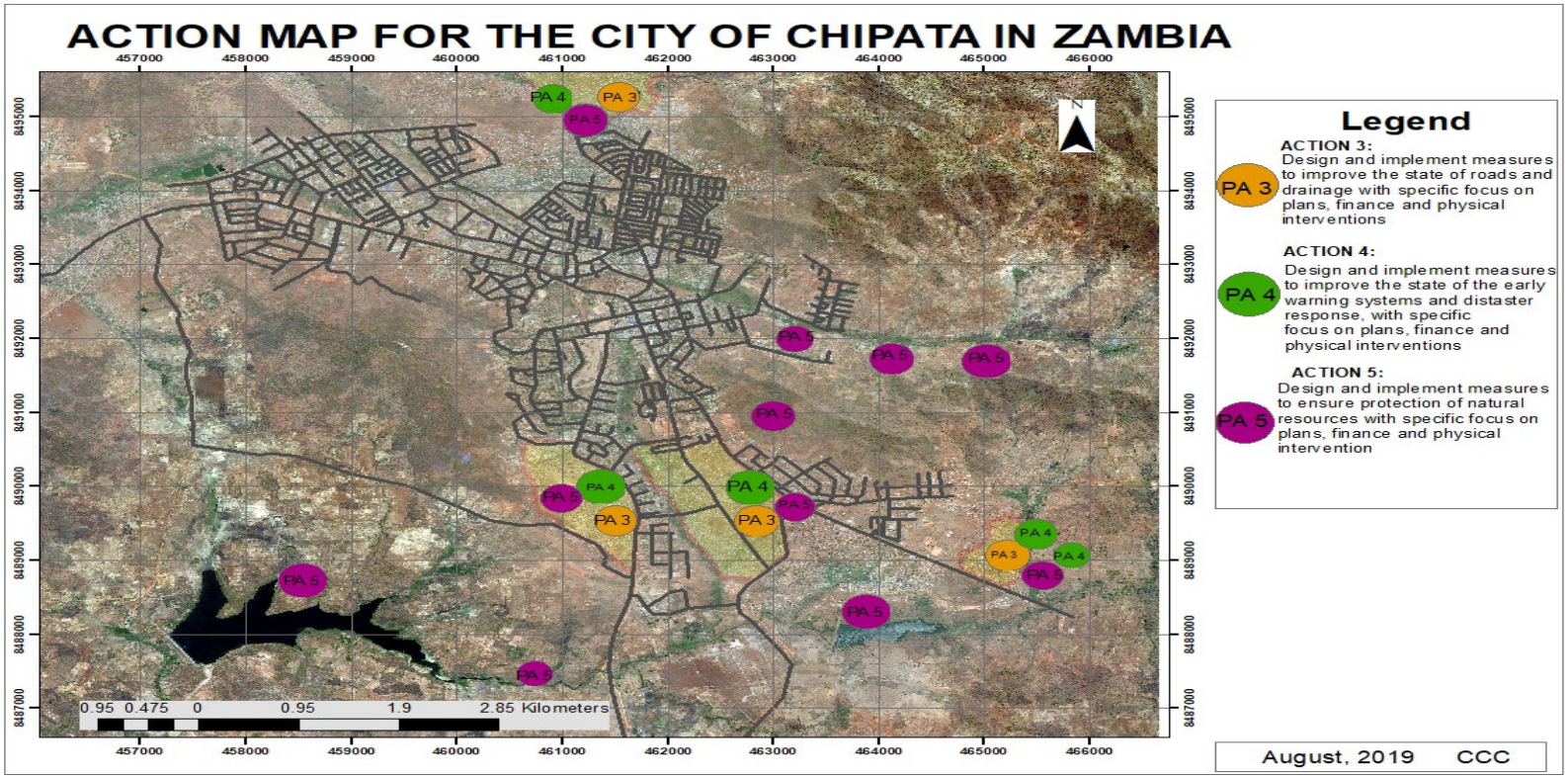
Timeline

OBJECTIVE	ACTIONS	0-2 YEARS	2-5 YEARS	5-10 YEARS
ENHANCING URBAN PLANS	Elaborate and implement urban plans, paying special attention to roads and drainages, solid waste management, early warning system, water and sanitation and protection of natural resources			
ENHANCING FINANCIAL MANAMENT	Identify and operationalise effective financing mechanisms for roads and drainages, solid waste management, early warning system water and sanitaion and protection of natural resources			
ENHANCING ROADS AND DRAINAGE SYSTEMS	Design and implement measuresto improve the state of roads and drainages with specific focus on plans, finance and physical intervation			
ENHANCE EARLY WARNING AND DISASTER RESPONSE SYSTEM	Design and implement measures to improve the state of the early warning systems and disaster response, with specific focus on plans, finance and physical interventions			
ENHANCING THE PROTECTION OF NATURAL RESOURCES	Design and implement measures to ensure protection of natural resources, with specific focus onplans, finance and physical interventions			

The timeline illustrated above presents the five objectives of the RFA for Chipata, and related actions organized by priority and time needed for implementation. The priority actions were determined though the baseline assessment (Fig. 3): the lowest the score from the baseline assessment for that specific priority issue and component represents the highest priority. Priority is expressed in a scale from 1 to 3.

Action Map

The action map shows locations where particular actions are to be implemented. The actions maybe in terms of plans and physical intervention. The map below shows areas to be considered when



implementing action 1, 3, 4 and 5

5. Conclusions and Way Forward

Chipata city is facing enormous challenges regarding issues to do with urban resilience. It is impossible to substantively deal with every element that shapes the resilience of an urban system without focusing on improving the adaptive capacity of our governance systems.

To this effect, the City RFA is centered around building resilience to climate change, reduce exposure to natural and manmade disasters and build Chipata City's capacity to cope with shocks and stresses. The RFA is a toolkit targeted to provide a streamlined process that is simple and yet rigorous, and which can be implemented by the city managers. It will enable the local authority to formulate and implement corresponding disaster risk reduction and resilience strategies.

During the City RAP process, knowledge was transferred through training and sharing of local knowledge by the community members. The communities' and local authority's knowledge on urban resilience was enhanced. The RFA will, therefore, guide the local authority to implement the necessary actions towards improving Chipata's resilience and enable the mobilization of necessary resources.

Therefore, the vision of the RFA is to build resilience to climate change across all urban systems and groups, in particular the poorest and most marginalized in the city. To achieve this, six priority issues were identified which included Roads and Drainage, Urban Planning, Water and Sanitation, Early Warning Systems, Solid Waste Management and Protection of natural resources. Further, five priority actions were identified which will have to be implemented vigorously, as these actions will serve as entry points for the Chipata City to progressively build its resilience. Of course, the attainment of the shared vision will require concerted efforts to mobilize resources from various donors and local stakeholders. The Chipata City Council will take a leading role in the process and ensure that part of the financial obligations are met using its annual budgets to effectively implement the planned activities.

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