







# **MOMBE WARD – NYIMBA DISTRICT**

# PARTICIPATORY LAND USE PLAN (PLUP)



Prepared by: Land Alliance Consortium (TSP) in Collaboration with NYIMBA DMT

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#### **Preface**

This Participatory Land Use Plan (**PLUP**) for Mombe Ward is a document that has been developed with a view to managing and mitigating unsustainable natural resource use. The aim of this document is to help communities in making sound decisions pertaining to land uses. This PLUP process has been supported by the Zambia Integrated Forests and Landscape Project (**ZIFLP**), an initiative of the Government of the Republic of Zambia, with funding support from World Bank through the Bio-Carbon Fund, Global Environmental Facility (**GEF**) and International Development Association (**IDA**).

PLUP activity falls under component 1: **Enabling Environment**. This first component is meant to create conditions that will allow the livelihood investments of Component 2 (**Livelihood and Low-Carbon Investments**) to be successfully implemented and that will prepare Zambia for emission reduction purchases. This component includes support for two sub-components under which PLUP falls. These are:

- a. District and Local Level Planning, which supports Integrated District Development.
- b. Local Planning, including land use and action planning through participatory processes.

The process for the creation of this PLUP was participatory in nature taking into account Social Biodiversity Impact Assessment (SBIA), and various stakeholders such as His Royal Highness Chief Nyalugwe of Nyalugwe Chiefdom, Petauke District Multi-sectoral Teams (DMTs), Department of Physical Planning, Mombe Ward community Members and ZIFLP team were consulted and engaged and were fully involved at every stage of the process. Thus, this PLUP will help guide Mombe Ward residents in implementing sustainable and environmentally friendly land use practices in their ward, and also help in addressing the key issues identified, which have so far led to the unsustainable resource usage. This PLUP will help residents find alternative livelihood sources which will make them refrain from unsustainable land use practices such as unsustainable agriculture expansion, unplanned human settlement, environmental degradation and deforestation. This will help in the realisation of ZIFLP vision, which is to improve rural livelihoods in Eastern Province by reducing Deforestation and Forest Degradation using low emission pathways through local participation by 2030.

It is further hoped that the local people in the community will appreciate the benefits of having the Land Use Plan (LUP), bearing in mind that land is a scarce resource with competing uses which are mutually exclusive. Additionally, population growth, erosion, effects of climate change and other factors have contributed to the increasing scarcity of fertile land in rural areas despite people deriving their livelihoods from there. Thus, this PLUP is a way of balancing up competing and, in some cases, conflicting land uses.

Council Secretary District Commissioner

Nyimba District Council Nyimba District

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HRH Chief Nyalugwe Nyalugwe Chiefdom

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#### **Acronyms and Abbreviations**

CDF - Constituency Development Fund

CSA – Climate Smart Agriculture

DMT - District Multi-Sectoral Team

**EP - Eastern Province** 

**EMP - Environmental Management Plans** 

FPIC - Free Prior Informed Consent

GPS - Global Positioning System

ICT – Information and Communications Technology

IDP – Integrated Development Plan

JICA - Japanese International Corporation Agency

JIDP – Joint Integrated Development Plan

LAP - Local Area Plan

LULC - Land Use Land Cover

LUP - Land Use Planning

NDP - National Development Plan

NRM - Natural Resource Management

OCC - Objection, Correction and Confirmation

ODK - Open Data Kit

PAD - Project Appraisal Document

PLUP - Participatory Land Use Planning

**URP** - Urban and Regional Planning

WDC - Ward Development Committee

ZIFLP - Zambia Integrated Forest Landscape Project

#### 1. INTRODUCTION

Participatory Land Use Planning (PLUP) is an interactive process in which local communities can discuss and determine how to manage the land and other natural resources in their locality. Land Use Planning (LUP) can be defined as a process in which land is allocated for different uses ranging from residential, commercial, agriculture, etc. (PLUP manual, 2019). PLUP is an important decision-making tool for Natural Resource Management because it helps in defining suitable land uses which best balance ecological, economic and social objectives, thereby preventing land use and social conflicts. Thus, PLUP is of great importance if natural resources are to be effectively managed.

Currently, rural areas in Zambia are faced with challenges ranging from food insecurity, land conflicts, biodiversity protection while initiating economic growth, adapting to climate change as well as protecting people from natural disasters (JICA, 2011). Hence, PLUP is envisioned to be a great tool capable of mitigating the above challenges by focusing on conducting discussions with relevant stakeholders on future land and resource use as well as management by allocating specific areas for different human activities.

Thus land use allocation is important, owing to the fact that land is a scarce resource with a fixed supply despite demand increasing on a daily basis (thereby bringing about land-related conflicts). Therefore, this PLUP aims at guiding and helping in tackling land-related conflicts as well as other natural resource issues in their early stages by facilitating consensual negotiations and eventual regulations on land uses by all interested parties.

The rationale and overall objective of conducting Participatory Land Use Planning on customary land is to consolidate information on the current status of land uses and land information within an area. The information gathered will subsequently inform land use options that are sustainable, environmentally compatible, socially desirable and economically sound. Further, the exercise helps in bringing out social and environmental issues affecting the communities in the project areas so as to design appropriate interventions to mitigate those effects.

#### 1.1 Background

The Zambia Integrated Forest Landscape Project (ZIFLP) embarked on supporting the implementation of Participatory Land Use Planning (PLUP) in districts of Eastern Province (EP), focusing on community land use mapping and planning. This was the basis for the identification of primary Sub-District level activities, including issues of identification, prioritisation and sub-project identification (PLUP Manual, 2019).

ZIFLP took into consideration and followed the present government direction on land use aimed at optimising the use of land, helping with resolution of conflicts which arise between competing land uses and needs of various interest groups, choosing sustainable options that best meet identified needs, rehabilitating and conserving natural resources, supporting the general development process and raising awareness concerning environmental problems among the populations and authorities (ZIFLP- PAD).

Additionally, this PLUP consolidated information on the current status of land use and land information within a project area, which provided information on land use options that are sustainable, socially and environmentally compatible, socially desirable and economically sound. The PLUP initiative is based on the current social, economic and environmental challenges and opportunities facing Zambia's customary areas.

Besides, Chiefs have a high level of autonomy in terms of land management in their chiefdoms, while at the same time depend on government for a range of services such as schools, clinics, etc. The PLUP development process recognizes the fact that Zambia's rural landscape is vast and viable for various investments. Thus, rural landscapes have the potential to provide multiple revenue sources ranging from small-scale farming, wildlife management and game ranching, forest timber extraction, tourism, and mining. It is important to note that there are a number of land uses competing with each other hence the need for a land use plan to serve as a guide for the use and management of land.

#### 1.3 Legal Context

The Mombe Ward PLUP has been developed in accordance with the provisions of the Urban and Regional Planning (URP) Act No. 3 of 2015 of the Laws of Zambia. The URP Act is the main legislation that guides planning and related activities in the country. The Act not only provides for the preparation of Integrated Development Plans (IDPs) for the development of each district but also provides for the preparation of Local Area Plans (LAPs) which are actually Land Use Plans for sections of a settlement, sub-areas, sub-districts or wards within a Local Authority's area. Areas under Traditional Authorities are governed by Section 25 of the Urban and Regional Planning Act No. 3 of 2015 of the Laws of Zambia.

Further, it provides guidance on the development of areas within land falling under customary tenure with the provision of developing planning agreements between traditional authority and relevant government authorities. However, there are other laws and policies that govern Land Use Planning in Zambia which were adhered to during the preparation of Mombe Ward PLUP such as the Mines and Minerals Act No. 11 of 2015, Villages Act of 1972, Chiefs Act, Cap. 287, Agriculture Act, National Decentralisation Policy (NDP) of 2013, Forest Act No. 4 of 2015 and Zambia Wildlife Act No. 14 of 2015

#### 2. APPROACH AND METHODOLOGY

The Participatory Land Use Planning in Mombe Ward adopted the USAID Land Use Planning approach, which is a combination of primary and secondary data collection. The secondary data collection method involved reviewing various documents on land use planning and land uses held by various government departments and other cooperating partners. The primary data was collected through village meetings and field activities, through the involvement of traditional leaders, community members and key informants across a range of government institutions and non-state actors. Facilitation of this PLUP was done in the local language in order to contextualise the PLUP to the locality. The whole process was participatory as it involved all stakeholders who were either affected or had interest in the landscape of the project site.

The participatory approach was used in the development of the Mombe Ward PLUP, where various relevant stakeholders were fully involved in the process. Planning was done with the community stakeholders together with their leaders (indunas and headpersons) in consultation with Chief Nyalugwe. PLUP sensitization meetings were held with the Indunas, Headpersons, Mombe Ward Development Committee and community members in order to collect socio-economic and environmental data on livelihood sources and security. These PLUP sensitization meetings were held in three (3) clustered focus group village meetings, namely: **Kacholola**, **Siwalya** and **Mchimazi**. **28** villages were represented at the clustered village meeting. Community members in all the three clustered meetings took a leading role in developing sketch maps, problem analysis through pair-wise ranking, identifying shared resources and validation of the maps.

The spatial and attribute data used were collected using mobile-based **Open Data Kit (ODK)** Collect forms, Android tablets and **GLO Garmins** while **QGIS 3.8.1**, **Google Earth Engine** and ArcGIS 10.5 were used for data analysis.

The data captured is uploaded to the cloud-based server using any wireless connectivity so that data can be uploaded anywhere without necessarily coming to the office, especially when the field teams are camping.

The tablets have stored MB tiles (orthophoto images) with base maps for each district and the Community Facilitators whilst in the field can map any village including all shared communal resources and using the ODK application they can gather data on number of attendees disaggregated as male and female of any village or ward. Any hand-drawn land use maps by the communities are captured and uploaded to the cloud server so that the GIS team at the office can digitise the maps and produce land use maps. Each tablet in order to accurately pick the polygon points is connected to a handheld Garmin Glo Geographical Positioning System (GPS). Each community facilitator ensures that the polygon points are repeatedly captured/deleted until the point recorded is shown to be reasonably in the right location relative to the orthophoto image.

Although there is capability to manually record the polygon points against the image, or to move captured GPS points, the GIS team may not do so until they meet the community facilitator who was in the field to clarify any captured polygon points issues.

## 2.1 Stages of PLUP Activity

No.	Activity	Objective	Strategy	Output	Target	Indicator
1	Village Identification	Know the total number of	Physical Data Collection in	<b>64</b> Villages were identified	All Villages within	Villages falling within
	(Rapid Village	villages in the ward by	all villages		Mombe Ward boundary	the ward boundaries
	Assessments)	picking points of interest				were captured
2	Sensitization to	Sensitise Indunas and Head	Indunas and Head Persons	29 Indunas from Nyalugwe	All the Indunas in the	Number of Indunas and
	Indunas and Head	Persons to fully accept PLUP	meeting	Chiefdom were sensitised	Ward	Head Persons sensitised
	Persons			comprising 24 males and 5		in the chiefdom of
				females.		Nyalugwe.
3	Community	Sensitise communities on	Community meetings	One Community Meeting for each	Community members in	<b>166</b> Total Number of
	Sensitization	PLUP		of the 3 Village Clusters.	all the 3 Village Clusters	community
						representatives
						sensitised across the
						ward disaggregated as
						88 men and 78 women
4	Shared Resource	Collect geographical	Physical Spatial data	37 Shared Resource Maps were	Mombe Ward	Shared Resource
	Mapping	locations of the resources	collection	produced		Mapping exercise
		present in the community				completed in Mombe
						Ward
5	Mombe ward	Show the current shared	Community engagement	Objections Corrections and	Objections Corrections	Shared Resource Map
	resource Map	resources, land uses and	meetings for validation	Confirmation (OCC) done for the	and Confirmation (OCC)	validated by the Chief
	validation		purposes.			and community

		have the communities confirm the boundaries		shared resource map in Mombe Ward.	done at the Palace and in all the 3 village clusters	representatives in the ward.
6	Future land use planning and	Develop maps of how Community meetings communities envisage to		Future Land Use Plan developed and By-Laws formulated	The whole Mombe Ward	Future Land Use Plan and By-Laws done
	Formulation of By- Laws	sustainably use their natural resources.		,		,
7	PLUP approval	Have the plan approved by all relevant authorities in order to be implemented	Submit PLUP copies to both traditional and local authorities	PLUP approved	Mombe Ward PLUP	PLUP approved by the Chief and Local Authority

Table 1: Stages of PLUP Activity

#### 3. CHARACTERISTICS OF THE MANAGEMENT AREA

#### **3.1 Location of Mombe Ward**

Mombe Ward falls in Nyimba District which has **15** wards, namely: **Chinsimbwe**, **Katipa**, **Vizimumba**, **Mtilizi**, **Ngozi**, **Nyimba**, **Lwezi**, **Mombe**, **Chiweza**, **Kaliwe**, **Chinambi**, **Chamilala**, **Msima**, **Mphundwe** and **Luangwa**. Nyimba District lies between **13°30'** latitude and **14°45'** longitude, **31°** west and **32°** east, spans along the Great East Road Corridor and is characterised by mountainous topography and flat terrain. Mombe Ward is a boundary ward, sharing an international boundary with The Republic of Mozambique on the South. It also shares boundaries with four wards, namely: Chamilala, Chinambi, Kaliwe and Chiweza. The map below shows the location of Mombe Ward:

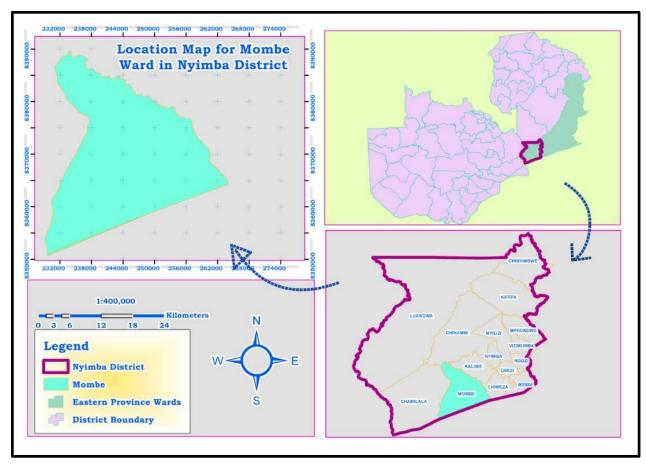


Figure 1: Mombe Ward Location Map

#### **3.2 Climatic Conditions**

Mombe Ward is characterised by a **Tropical Savanna** climate which is associated with the tropical wet and dry climate. The summers are much rainier than the winters in Mombe with an average annual temperature of **23.4** °C and annual rainfall of **1,051** mm.

#### 3.2.1 Temperature

The temperatures are highest on average in October, at around **27.7°C** and lowest in July, with temperature recordings of around **13.4°C**. Table 2 and figure 2 below show average temperatures for Mombe Ward:

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Ave. Temp (°C)	23.4	23.3	22.9	22.1	21.0	19.6	19.5	22.6	25.9	27.7	26.8	26.4
Min. Temp (°C)	19.2	18.8	18.1	16.8	15.2	13.6	13.4	15.8	18.7	20.9	20.9	20.1
Max. Temp (°C)	27.6	27.7	27.6	27.3	26.8	25.5	25.6	29.3	33.0	34.5	32.7	32.7

Table 2: Monthly Temperature Conditions for Mombe Ward

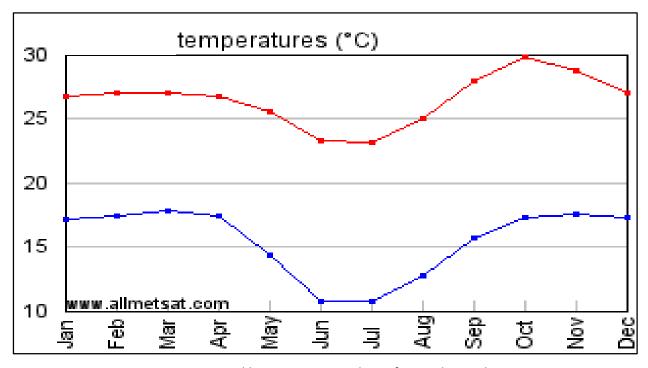


Figure 2: Monthly Temperature Conditions for Mombe Ward

#### 3.2.2 Rainfall

Mombe Ward receives a total annual rainfall of about **1,051** mm. There is high rainfall recorded during the wet season from November to February with average rainfall between **91-298** mm. The variation in the precipitation between the driest and wettest months is **150** mm. Figure 3 below shows rainfall patterns for Mombe Ward:

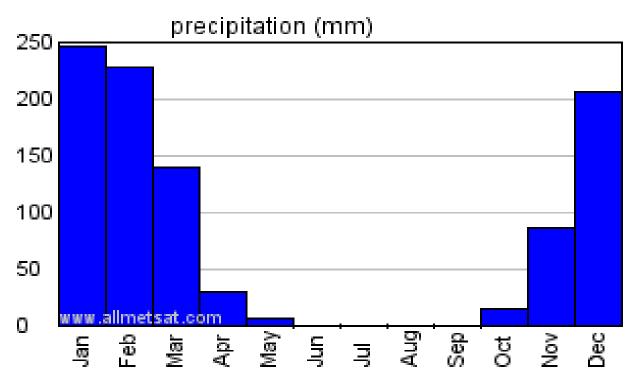


Figure 3: Annual Rainfall Pattern for Mombe Ward

#### 3.2.3 Ecological Zone

Zambia, as a country, is divided into three main Ecological Zones, which are: **Zone I, Zone II** and **Zone III**. Nyimba District is characterised by both the **I** and **IIa** Ecological Zones. Mombe Ward, being located in Nyimba District, therefore falls under the **IIa** Ecological Zones, which is characterised by annual rainfall of between **800-1000** mm, and has a growing season of **100-140** days. This Ecological Zone supports the growth of medium and late-maturity crop varieties such as maize, soya beans, groundnuts and other leguminous plants. The figure below shows the different Ecological Zones of Zambia:

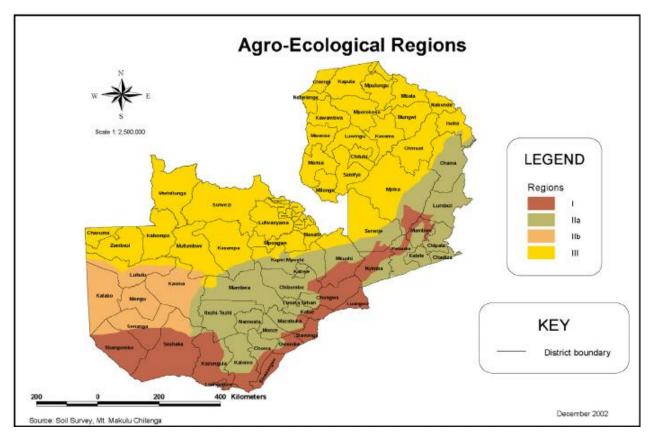


Figure 4: Agro-Ecological Zones

## 3.2.4 Soil Types

Nyimba District is dominated by three soil zones i.e. **Acrisol**, **Luvisol** and **Lithosol** soil zones. Mombe Ward is covered by **Lithosols** and **Luvisols**. Thus all agricultural activities in Mombe Ward are done in these Lithosols and Luvisols. The figure below shows a map of Mombe Soil Types:

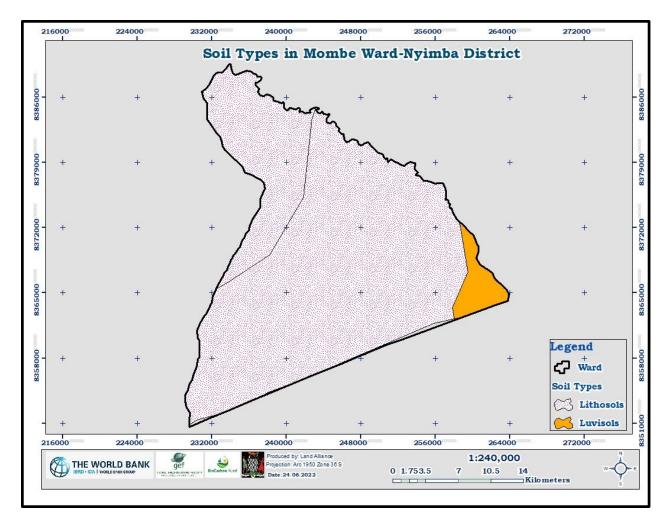


Figure 5: Mombe Soil Map

#### 3.3 Socio-Economic Environment

Mombe ward covers a total area of **67,737.4** hectares. Settlements in the ward are dispersed with poor road networks, especially during the rainy season, as the areas become inaccessible because streams flood and there are no bridges/culverts (Nyimba IDP, 2021). Based on the village geo points collected, the ward has a total of **64** villages, and according to the 2017 Census of Population, Mombe Ward had an estimated total population of **5,571** as shown in the table below:

POPULATION						
MOMBE	Male	Female	Total			
	1,644	3,927	5,571			
Source: Nyimba IDP, 2021						

Table 3: Mombe Ward Population

#### 3.3.1 Population Projection

For the purposes of projecting future services and land use needs, the population forecast was based on the national population projections (adjusted to reflect the population of Nyimba District at 2.8% Growth rate as per 2017 Zambia Census projection.) On this basis, the population of Mombe Ward was projected to increase to 5,727 and 7,343 in 2021 and 2030 respectively (Nyimba IDP, 2021).

This projected increase in population will not only require land for development of infrastructure and other services but will also increase pressure on ecologically sensitive areas such as forests and hills that serve as catchment areas as well as water recharge areas. This entails that more land will be opened up for agricultural purposes, which will potentially lead to forest degradation and loss of biodiversity, consequently contributing to severe climate change and its related effects. However, the impact of anticipated increase in agricultural activities on land can be managed through the promotion and adoption of Climate Smart Agriculture (CSA) practices, aimed at reducing agriculture land expansion while increasing crop yields.

#### 3.3.2 Social Facilities

Mombe Ward currently has four (4) primary schools, namely: Siwalya, Mombe, Mchimazi and Malilangwe Primary Community School and one (1) boarding school namely Kacholola Secondary Boarding School. The ward currently has two (2) health facilities, namely: Mchimazi Health Post and Kacholola Clinic, and one solar mill and a police post. The map below shows the spatial distribution of social facilities in Mombe Ward:

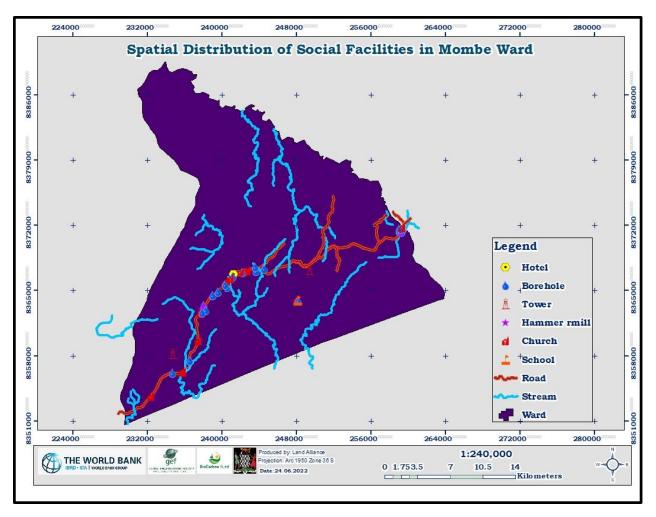


Figure 6: Spatial Distribution of Social Facilities in Mombe Ward

#### 3.4 Source of Livelihood

Livestock keeping and subsistence farming are the predominant livelihood activities in Mombe Ward, with soya beans, maize, sweet potatoes, sun flower, tobacco, cotton and groundnuts being the main crops grown. Animals reared by the local residents of Mombe Ward include cattle, pigs, goats, sheep, chickens, and ducks. The products are either sold to the Food Reserve Agency (FRA) or in urban centres of Nyimba. The communities in Mombe Ward also survive on non-wood products such as fruits, caterpillars, mushrooms and honey among others.

#### 3.5 Livelihood Security

Livelihood security is the secure adequate access to resources as well as income generating activities to meet basic needs and it is shaped by the changing natural environment (Kassa, 2018). Securing the livelihoods of Mombe Ward residents is closely associated with the limited development of economic opportunities in the area because most, if not all, residents depend on undiversified sources of livelihood based on rain-fed agriculture.

Livelihood security is often influenced by possibilities to diversify livelihood sources. If there are diversified livelihood sources, chances of attaining livelihood security are high. However, the over-dependence on agriculture as a livelihood source has contributed to soil degradation as the only option available is to open up new fields by cutting down trees, leading to deforestation, which has a negative effect on the climate. On the other hand, climate change affects rainfall patterns which further affect agricultural productivity thereby endangering the livelihoods of the local people of Mombe Ward.

#### 3.6 Livelihood and Natural Resource Utilisation

Sustainable Livelihood refers to a livelihood that can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Ayantoye et al, 2017). The over-dependence of Mombe Ward residents on agriculture has led to increased pressure on the natural resources, especially land being the means of production for agricultural-based sources of livelihood. This unsustainable natural resource utilisation for survival, such as cutting down trees for field expansion leaves the lands bare, thereby resulting in soil degradation, which, in return, affects productivity.

On the other hand, farming practices adopted by the locals contribute to soil degradation, which forces them to abandon old fields and open up new ones with a view to increasing yields. Thus, adopting conservation farming is encouraged so that one field can be used over and over without affecting the yields. This, in turn, will reduce the rate at which new agricultural fields are being opened up, thereby conserving trees.

Increase in population has equally contributed to unsustainable natural resource usage in that community members clear land for purposes of settlements and agriculture because their livelihood is entirely dependent upon farming. Thus, they either clear land for field expansions or to open up new fields.

Trees (forest) serve as natural habitats for various wild animals, birds and insects which get affected when their habitat is cleared. These animals, birds, and bees have the capability to serve as alternative livelihood sources through careful management. For example, the locals can venture into beekeeping as a business. However, the clearing of trees has led to the disappearance of biodiversity in the area.

#### 3.7 Livelihood Constraints and opportunities

Agriculture and charcoal selling are the major livelihood activities in Mombe Ward but due to changing climate the area has been experiencing late onset of rains, occasional dry spells and floods which have affected yields, thereby affecting the livelihood of people. However, there are opportunities of improving the yields through practising climate smart agriculture which ZIFLP, through the Ministry of Agriculture, has been implementing in the ward. Additionally, communities can be encouraged to form cooperatives or groups which various stakeholders can support to venture into environmentally-friendly value addition projects to process raw products and sell them as finished products. In order to minimise the livelihood constraints in the ward, sustainable investment in agro-industries to enhance value addition and the establishment of market infrastructures are of great importance. These can, in turn, improve food security and aid in poverty reduction through exploration of alternative sources of livelihood. The table below summarises the constraints and opportunities in Mombe Ward:

Constraints	Opportunities
Low agricultural yields due to poor farming practices	Switching to climate smart agriculture
Lack of initial startup capital	<ul> <li>Venturing into value-addition activities</li> </ul>
<ul> <li>Lack of alternative livelihood sources</li> </ul>	Establishment of market infrastructure
<ul> <li>Poor road network to access some villages</li> </ul>	Construction of feeder roads
Lack of electricity	<ul> <li>Investment in green energy e.g. solar</li> </ul>

Table 4: Livelihood Constraints and Opportunities

#### 3.8 Biodiversity Hotspots

The sustainable use and protection of biodiversity is an integral component of successful Land Use Planning. There is a need to identify the existing biodiversity together with the local population. Any conflicts of interest must be brought out and resolved leading to greater social acceptance. LUP is one of the tools utilised in biodiversity protection as it helps in identifying existing biodiversity and also creates a broad consensus on the sustainable use of natural resources leading to the conservation of biodiversity. Mombe Ward has various biodiversity hotspots and the following hotspots were identified during the PLUP preparation process:

#### 3.8.1 Streams and Dams

Mombe Ward has several seasonal streams, 9 year-round streams and no dams. These water bodies, which are biodiversity hotspots, can be protected by the enforcement of by-laws which restrict bad farming methods and also encourage adherence to the 50m buffer zone rule around water bodies as stipulated in the Environmental Management Act.

#### 3.8.2 Forests

Mombe Ward has three (3) forests, namely: Mwansanika Community Forest, Chikombola Community Forest and Kacholola Scenic Reserve, which is a protected forest conservation area. Mombwe Ward also has 25 hills and 12 woodlots. These hills, forests and woodlots are biodiversity hotspots which need protection and conservation. Kacholola Scenic Reserve has been slightly encroached upon by local residents creating settlements inside the forest and cutting down trees indiscriminately for charcoal production. These forests, hills and woodlots are

frequently affected by bushfires either as a result of mouse hunting or clearing of fields. Restriction of burning of fields to months between August and October of every year as well as by-laws prohibiting bushfires and expansion of fields and settlements can help in protecting these forests, hills and woodlots in Mombe Ward.

The map below shows the biodiversity hotspots in Mombe Ward that were identified during the PLUP preparation process:

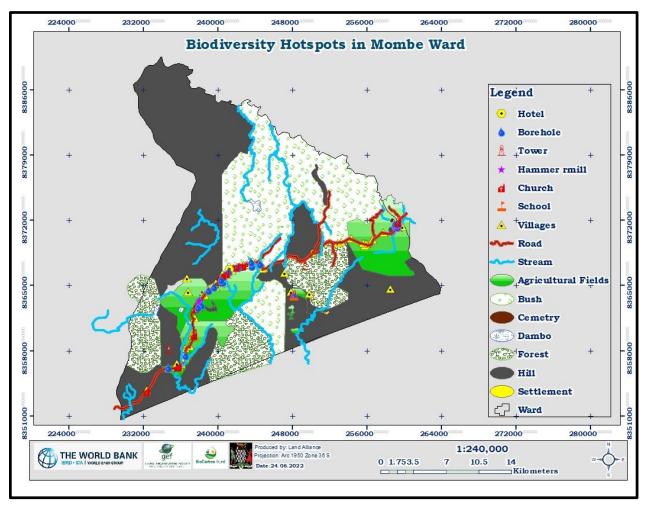


Figure 7: Biodiversity Hotspots

#### 3.9 Ecosystem Function

Ecosystem function is the capacity of natural processes and components to provide goods and services that satisfy human needs, either directly or indirectly (de Groot et al 2002). Although

unsustainable agricultural practices and charcoal production in Mombe ward are the main factors transforming the natural resource base (which in turn affects the biodiversity due to habitat loss), unplanned settlements and soil degradation have also led to disturbance of the ecosystem. Further, poor livestock grazing area management and encroachment into Kacholola Scenic Reserve has continued to cause a decline in the ecosystem. However, there are no settlements encroaching into the designated community forest area of Mwansanika and Chikombola Forests, and it is hoped that this PLUP will be instrumental in influencing ecosystem restoration and aiding in the conservation of biodiversity. Mwansanika and Chikombola community forests have benefitted from the ZIFL-P sub grants project where the communities formed cooperatives for growing vegetables as an enterprise in order to sustain their livelihoods and curb encroachment into these two CFs.

#### 4. CURRENT LAND USE PATTERNS

#### 4.1 Overall Land Use

Mombe Ward has forests, woodlots and several hills, and the main land uses are as shown in table 5 below. As can be seen, hills cover the biggest portion of the ward (44.83%), followed by woodlots (27.79%) and forests (Mwansanika and Chikombola Community Forests, and Kacholola Scenic Reserve - 14.26%), agriculture (14.57%), settlements (0.51%) and dambos (0.33%). However, it is worth noting that some shared resources overlap the ward boundaries, meaning that communities share these resources. Shared resources need to be considered in relation to existing key stakeholders who live adjacent to them. The table below shows the different land uses, the area sizes and the percentages of the whole ward:

No.	Land Use	Hectares	% Coverage	Comment
1.	Total Ward Area (ha)	67,737.4		This is the total area of Mombe Ward.
2.	Agriculture	9,866.1	14.57%	This is land under cultivation.
				4,407.3 ha (44.7%) of this mapped land falls
				outside Mombe Ward.

3.	Forest	9,663.9	14.26%	All land mapped as forest.  641.1 ha (6.6%) of this mapped land falls outside  Mombe Ward boundary.
4.	Settlements	345.7	0.51 %	These include villages and other built up areas such as schools, health facilities, cemeteries, football fields, markets etc.
5.	Hills	30,366.6	44.83%	Hills not designated as forests but also not used for human settlements or agriculture
6.	Bush (Woodlot)	18,824.6	27.79%	Land classified as community woodlots.
7.	Dambos	221.7	0.33	Dambo areas reserved for animal grazing

Table 5: Land Use Reservation

#### 4.2 Land Use Suitability Analysis

This is an analysis that was done to identify the suitability of Mombe Ward for agriculture as a land use. The analysis focused on agriculture as a whole and not necessarily evaluating the individual crops grown in the Ward and it was based on the soil types found in Mombe.

#### **4.2.1 Soil Type Agricultural Suitability Analysis**

There are 3 Soil Zones covering Nyimba District, namely: **Acrisols**, **Luvisols** and **Lithosols**. The **Acrisol** soil zone is characterised by rich clay subsoil mostly associated with humid tropic climate and often supports forested areas. Acrisols are easy to till but are characterised by low fertility, low water holding capacity and more toxic amounts of aluminium, which make them unsuitable for agriculture (Peter Schad, 2006). The **Lithosols** Soil Zones are characterised by rocky sandy soils which are very shallow soils developed from various non-carbonated hard rocks and sandy soils which are well aerated but do not hold much water and they have poor nutrients, making them unfavourable for agricultural practices (Ersek, 2020). The **Luvisols** soil zones are characterised by red clays or red brown heavy loams which are difficult to till by hand, but rich in nutrients and have a good water holding capacity, hence favourable for farming activities. Mombe Ward is covered by Luvisols and Lithosols. From the map below (figure 9), it can be seen that the Ward is covered by Luvisols and Lithosols. Thus, all agricultural activities in Mombe Ward are done in

these soils. The map below shows agricultural land use suitability of Mombe Ward based on the Soil types:

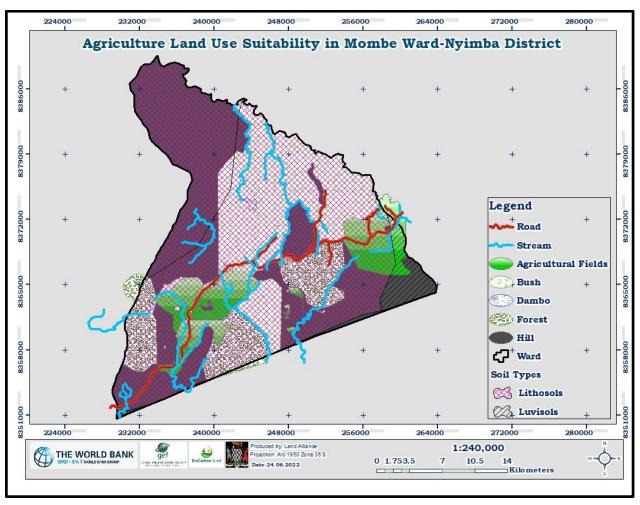


Figure 8: Mombe Ward Agricultural Suitability Analysis Map

#### **4.3 Land Resource and Administrative Boundaries**

The land resources captured during the PLUP process are under Mombe Ward and may spill over into other surrounding wards (such as Kaliwe, Chiweza and Chamilala). However, despite the overlapping of these shared resources between wards, local people in areas around Mombe acquire their services from Mombe Ward. The map below shows the land resources in Mombe Ward:

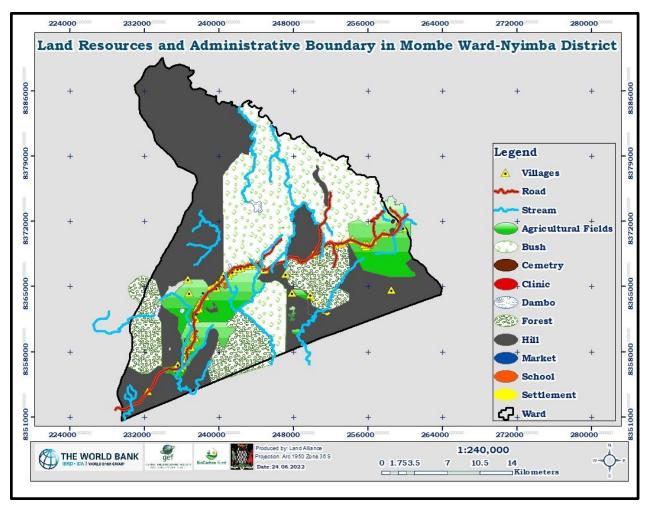


Figure 9: Land Resource and Administration Boundaries

#### **4.4 Current Land Uses**

In terms of land uses, Mombe Ward is mainly covered with hills, woodlots, forests (Mwansanika and Chikombola Community Forests, and Kacholola Scenic Reserve, which has been encroached into by settlements), agricultural fields, settlements, dambos and areas for social services such as schools, places of worship and other communal services like cemeteries, roads and streams. The map below shows the current land uses in Mombe Ward:

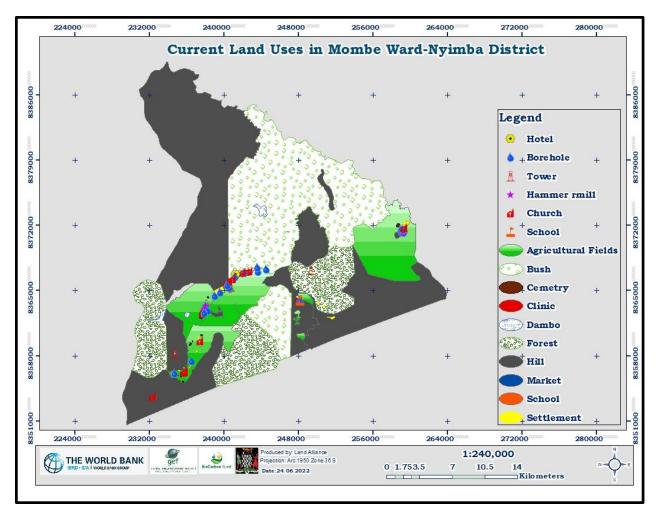


Figure 10: Current Land Uses

## 4.5 Land Use and Agriculture

Agriculture is a common land use in Mombe Ward. Most of this land is under Climate Smart Agriculture supported by the Government. The map below shows areas of Mombe that are used for agriculture:

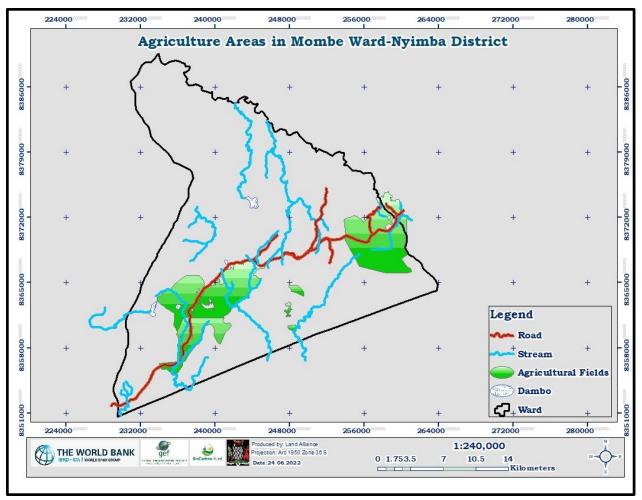


Figure 11: Land Use and Agriculture Map

#### 4.6 Land Use and Forest

The purpose of protecting forests is to provide for conservation and development of forest with a view to securing supplies of timber and other forest produce, protection against floods, erosion and desiccation, withering and maintaining the flow of rivers. Currently, the sustainable utilisation of forest land in Mombe Ward is the vegetable growing and beekeeping that is being supported by ZIFLP at the two community forests (Mwansanika and Chikombola). Apart from the existing forest area, which is a combination of national and community forests, communities have set aside woodlots within the villages for conservation. These woodlots and forests are where they get firewood, mushrooms and vinkubala (mopani worms).

In as much as areas for conservation are set aside by the community, there is need for awareness on the effects of indiscriminate cutting down of trees along the water bodies where there is riverine vegetation. This will mitigate erosion and siltation in order to enable the water bodies in the area to restore and hold water for a long period even during the drier seasons. The trees in the river banks will also be conserved in order to prevent streams from drying up early and this will result in the rise of the water table. The map below shows the forest areas of Mombe ward:

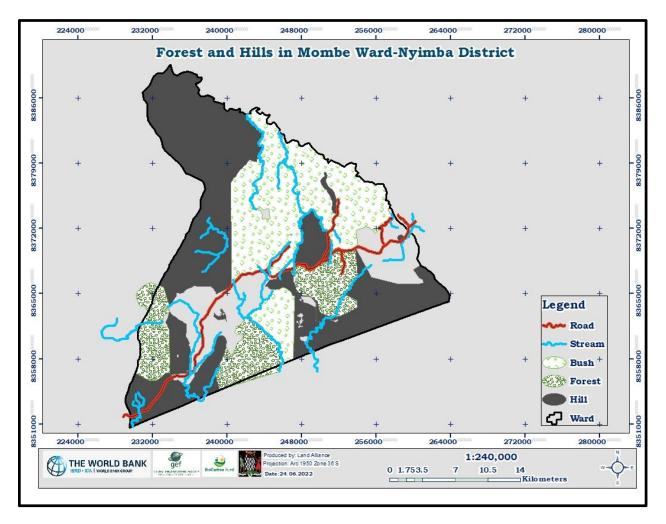


Figure 12: Land Use and Forest

#### 4.7 Land Use and Wildlife

One of the objectives of PLUP in Mombe Ward is to create an enabling environment for conservation and development of wildlife with a view to increasing economic activities leading

to improved livelihood in the area. Historically, there were a lot of animal sightings and presences of wildlife in Mombe Ward, this was attributed to an enabling vegetation cover, lower human population, smaller agricultural fields and respect for nature by the local people through traditional authority.

Currently, large mammals are rarely sighted in the area. However, the commonly sighted small game range from rabbits, monkeys and squirrels. During the community engagement activity, it was suggested that one way to restore wildlife in the area is by enhancing forest conservation, engaging in sustainable agricultural practices, enhancing conservation meetings on coexistence with wildlife, enhancing mitigation measures on human-wildlife conflict, and introducing exchange programs.

# 4.8 Land Use and Mining

Mombe Ward has no legally established mines though there are reported cases of illegal mining activities being undertaken in the ward. The minerals being reported to be illegally mined include Black tourmaline.

### 4.9 Land Use and Tourism

There are currently no tourist attraction sites or activities in Mombe Ward, but Kacholola Scenic Reserve has potential to be turned into a tourist attraction.

## 4.10 Land Use and Physical Development

Mombe Ward is characterised by various physical developments ranging from schools, churches, health facilities, police post, settlements, and markets. Changes in land use for creation of new settlements or expansion of existing ones is an area of concern in Mombe Ward because land used for settlements usually becomes a permanent feature, never to revert to the original (environmentally friendly) land use. This has also been evidenced by the mushrooming of unplanned settlements within protected forest areas such as Kacholola Scenic Reserve.

The Ward has five (5) schools – one (1) of which is a boarding secondary school, namely; Kacholola Secondary Boarding School and the remaining four (4) are primary schools, namely:

Siwalya, Mombe, Mchimazi Government Primary Schools and Malilangwe Community Primary School. There is one (1) clinic and one (1) health post in Mombe Ward. The map below shows the physical developments of Mombe Ward:

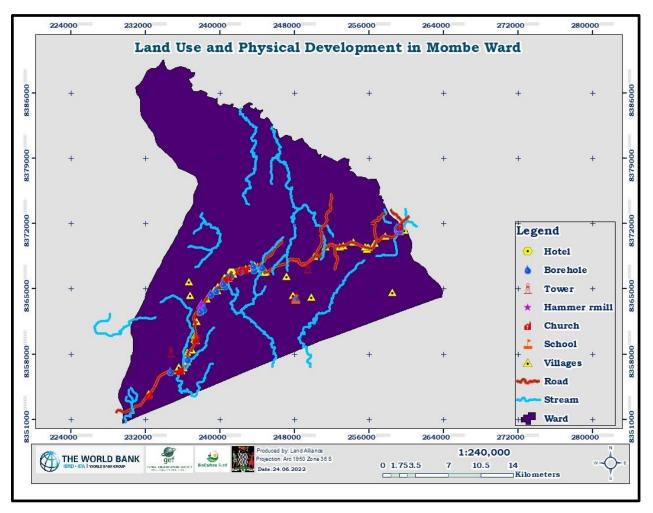


Figure 13: Land Use and Physical Development

### 5. COMMUNITY PARTICIPATION

# **5.1 Community Engagement Process**

Before the commencement of community engagement meetings, the DMTs were oriented in Participatory Land Use Planning with a lens of **SBIA**. The PLUP training workshop was conducted for five days, facilitated by officers from the Physical Planning Unit, Provincial Administration and officers from Land Alliance, a Technical Service Provider engaged to facilitate Participatory Land

Use Planning in Eastern province. DMT staff from Nyimba were trained in facilitation of PLUP. At the end of the training, the DMT was guided to prepare an action plan and budget to be used for facilitating PLUP activities in Nyimba District.

In the initial stages of PLUP activities in Mombe, Chief Nyalugwe was identified to be the custodian of land in Mombe Ward. The team went to the Chief to explain and solicit support for implementation of PLUP in the Ward falling in his Chiefdom. He expressed happiness and promised to offer support during the whole process of PLUP. He provided responsible Indunas to work with.

Community engagement and participation is cardinal to the success of every community project, as it inculcates project ownership and sustainability. PLUP in Mombe Ward was embarked on through a series of community engagement meetings which involved meetings with the Chief, Indunas, Headpersons and eventually the community at large in sharing the PLUP concept so that Free Prior Informed Consent (**FPIC**) could be adhered to.

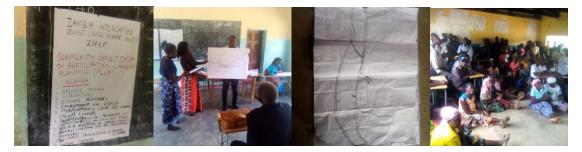
Since Mombe ward has villages which are far stretched apart, community engagement meetings were held at three (3) designated villages. This was done to ensure that many members of each village community attended for the purpose of getting acquainted with the PLUP concept and getting first-hand information for better and uniform decision making processes in each respective community stretching across the whole Ward.

Community engagement meetings were held in three (3) phases as follows:

**First Phase:** Consisted of the first village meetings. During the first village meetings, community members were exposed to the concept of PLUP which involved community identification of shared resources, identification of problems affecting the management of resources, sketch mapping of these resources and other spatial features. Participants were guided in drawing sketch maps that depicted resources in their area. To enhance participation, participants were put in three separate groups of youths, women and men. This allowed peer-to-peer interaction

among participants during the exercise. After drawing the sketch maps one representative from each group was asked to present the maps before the meeting.

The maps revealed a number of resources, natural and man-made, that were in Mombe Ward. These resources included streams, dams, forests, hills, dambos, fields, schools, health facilities, roads etc. After the exercise, facilitators captured images of the maps and original copies were left with the communities. The pictures below demonstrate the steps during this phase:



**Second Phase:** Consisted of rapid village assessments where village coordinates were captured by the enumerators in the company of Indunas so that Shared Resource Maps can be digitised and produced. Below is a picture showing the product of this stage in the process:

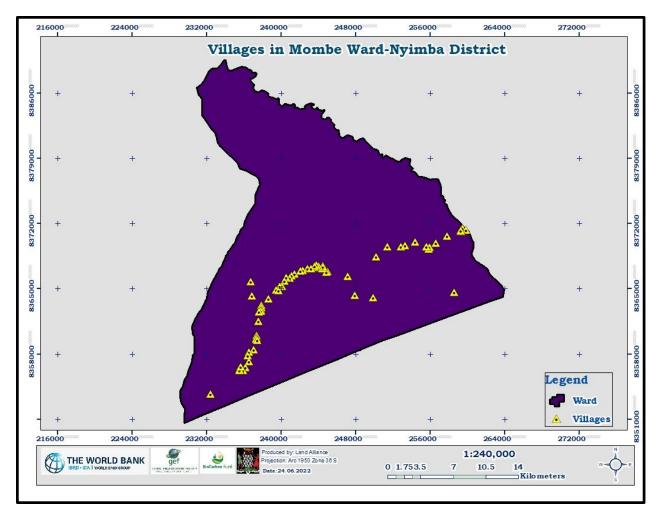


Figure 14: Village Rapid Assessment Exercise

Third Phase: In this phase community engagement meetings were also conducted for the verification of the digitised Shared Resource Maps in all the villages. This presented an opportunity for the community members to make objections, corrections and additions on the earlier submitted shared resource information. Community engagement meetings also involved zoning activities in all the village areas for future land uses. Members of the community were involved in the mapping of the proposed future land use areas. It was during the third phase of community engagement that Resource Governance Rules were also formulated for approval by HRH Chief Nyalugwe. Below are pictures showing communities validating the mapped resources and proposing areas of conservation:



The attendance registers for each meeting have been attached in Annex 3.

# 5.2 Agreed Local Rules for Land Use and Resource Management

Prudent management of natural resources where the residents derive much of their livelihood in the rural communities is a daunting task in the absence of agreed local rules for land use and resource management. The formulated by-laws for Mombe Ward aimed at facilitating the prudent use of local resources are attached as Annex 1.

## **5.3 Problem Identification**

There are several challenges that rural communities face and Mombe residents are no exception. The most prominent challenges are:

- Unsustainable agricultural practices.
- Lack of tenure security due to undocumented tenure rights.
- Marginalisation of the vulnerable groups such as women and youths.

Issues affecting land use in Mombe Ward were captured during the clustered community meetings which were conducted. The problems, causes and suggested solutions to the problems faced by residents of Mombe Ward are as outlined in the table below:

Problem	Causes	Possible Solutions	
<ul> <li>Inadequate safe water sources</li> <li>Drying of streams</li> <li>Delayed rains</li> <li>Loss of soil fertility</li> <li>Reduced crop yield</li> <li>Shortage of land for agriculture</li> <li>Poor roads</li> <li>Deforestation</li> <li>Inadequate communication facilities</li> <li>Inadequate Dams</li> </ul>	<ul> <li>Poverty</li> <li>Ignorance</li> <li>Seasonal streams and late onset of rains</li> <li>Lack of alternative livelihood sources</li> <li>Unsustainable agricultural practices</li> <li>Land degradation</li> <li>Lack of by-laws</li> <li>Inadequate communication towers</li> <li>Siltation</li> </ul>	<ul> <li>Drilling of boreholes and Dam construction</li> <li>Adopting conservation farming practices</li> <li>Adopting climate smart agriculture practices</li> <li>Rehabilitation/construction of roads and related infrastructure</li> <li>Skills in mushroom conservation and bee keeping</li> <li>Construction of Dams</li> <li>Installation of Communication Towers.</li> </ul>	

Table 6: Problems Identified

### 6. CORE ISSUES AFFECTING LAND USE AND THE ENVIRONMENT

At the three clustered community meetings held at **Kacholola**, **Mchimazi** and **Siwalya**, community members across villages in Mombe Ward identified various problems affecting them. During this session, participants were guided in how to prioritise the identified problems. This was done through pair-wise ranking, which involved participants comparing a particular problem against each of the other identified problems. This was done to help communities to identify and rank problems in order of importance and gravity so that core problems could be identified for intervention. This activity revealed the actual core problems to be addressed, as the others identified as problems were simply the results of the core problems. The main core problems identified at these meetings are listed in table 6 above.

The quest to increase crop production often leads to expansion of agricultural fields and consequently encroachment into forests.

The high levels of poverty in the Ward make communities heavily dependent on fuelwood and charcoal. The identified alternative sources of energy such as gas stoves and cook stoves are unaffordable and extensively unavailable.

Land tenure regarding forests and other communal/shared resources is often misunderstood because the communities claim that forests and trees in the wild in general do not belong to anyone. In addition, forest fires were identified as a key driver to deforestation and forest degradation. There is a general belief held among communities that bush fires, being a long-term part of their forest forest and land management system and historical part of their culture, does not significantly affect forests in a negative way.

Participants were further guided to identify the causes of such problems. This was done to make them realise that there was a human activity element related to the problems. Facilitators summed up the activity by explaining that some of the problems identified, especially those related to the environment, were as a result of lack of Land Use Planning.

### 6.1 Lack of Safe Water Sources

Residents of Mombe Ward mainly depend on boreholes and water wells for water, although most of the boreholes are limited to areas around schools and health facilities. As a result, those living far from such facilities have challenges in accessing water, especially that all the streams in the Ward are seasonal. During one of the community engagement meetings, they suggested that if beekeeping as an enterprise is to thrive in the ward, boreholes need to be sunk right into the forests because bees depend on water to survive. The current scenario is that water points are located further away from forests. The map below shows the distribution of water points in Mombe:

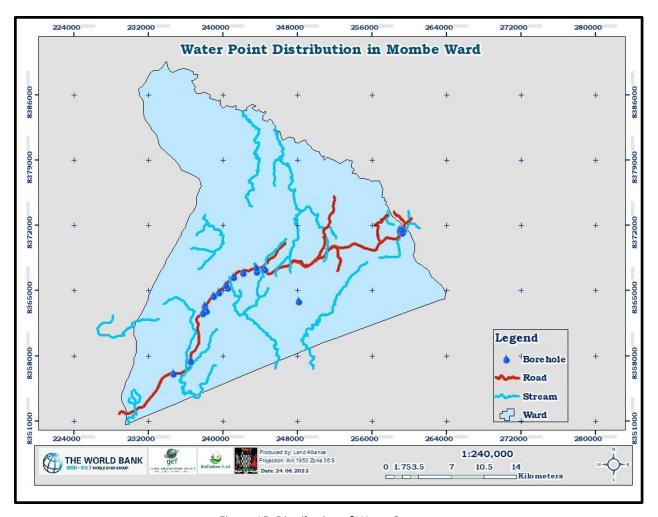


Figure 15: Distribution of Water Sources

# **6.2 Soil Degradation**

This problem is mainly as a result of encroachment into forest areas and protected areas, unsustainable agricultural practices, bush fires and cutting down of trees for either charcoal production, field expansion or by animal grazing. This has, in turn, affected land productivity, leading to food insecurity and livelihood challenges. Thus, adoption of Climate Smart Agriculture and formulation of by-laws prohibiting unsustainable land resource use can help avert the problem of land degradation.

#### 6.3 Poor State of Roads and Related Infrastructure

Inadequate transport system and lack of proper road network hampers development in Mombe Ward because the movement of goods and services (required for such development) depends on transportation. The Ward also lacks other road-related infrastructure such as bridges/culverts, making certain areas inaccessible, especially during the rainy season. This makes access to essential services such as health facilities and schools very difficult for residents, especially those in far away places.

### **6.4 Long Distances to Schools**

The entire Mombe Ward has a total of **five** (5) schools, out of which one (1) is a boarding secondary school, one (1) is a community primary school and the remaining three (3) are government primary schools. These schools enable children within the Ward to receive adequate primary education, but the presence of only one secondary school in the Ward means children need to cover long distances to access secondary school education in the ward.

With reference to the Ministry of Education standards of population of having access to school facilities within 5 kilometres distance, the analysis on Mombe Ward shows that:

- **31** of the **64** villages in the Ward fall within the recommended 5km radius of the only Secondary Boarding School in Mombe Ward (Kacholola Boarding Secondary School). The remaining **33** villages fall outside the recommended 5 km radius.
- **59** of the **64** villages in the ward fall within the recommended 5km radius of one or more of the 4 primary schools in Mombe Ward. The remaining **5** villages fall outside the recommended 5 km radius.

That being the case, secondary education levels are generally low in Mombe Ward. This is mainly attributed to the lack of adequate secondary education facilities due to the Ward not having enough secondary schools. The figures below show the education facility service radius for primary and secondary education:

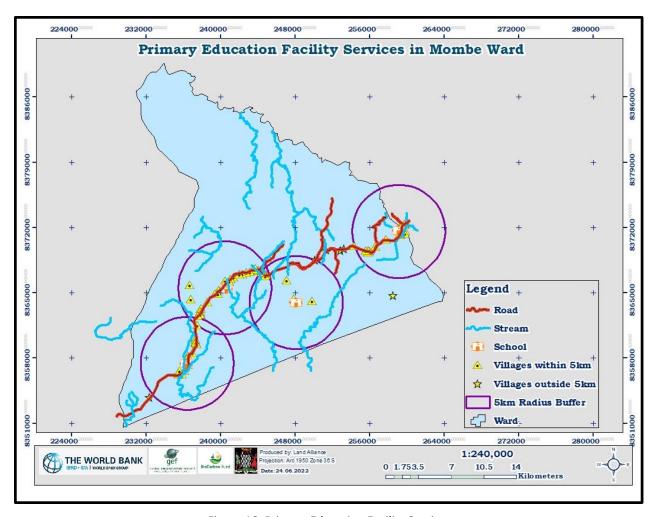


Figure 16: Primary Education Facility Service

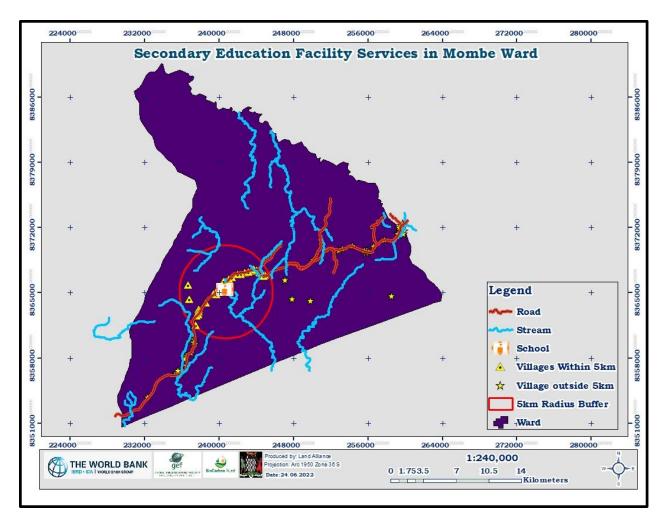


Figure 17: Secondary School Education Facility Gap

## **6.5 Inadequate Health Facilities**

There are currently only two (2) health facilities in Mombe Ward servicing residents of Mombe and other surrounding areas. Based on the standards of the population having access to health facilities within 5 kilometres distance, the analysis on Mombe Ward shows that:

• **33** of the **64** villages within Mombe Ward fall within the recommended 5km service radius of one or both of the two (2) health centres in the ward. The remaining **31** villages fall outside this recommended distance.

Thus, it suffices to mention that any future plans by the community should take care of the demand for primary health care which will increase in Mombe Ward and surrounding areas due

to people migrating from other parts of the district. The current health services will need to be expanded in order to improve the quality of health care. More health personnel will be required to ensure that the current high health worker to patient ratio is reduced. The map below shows the health facility service gap in Mombe Ward:

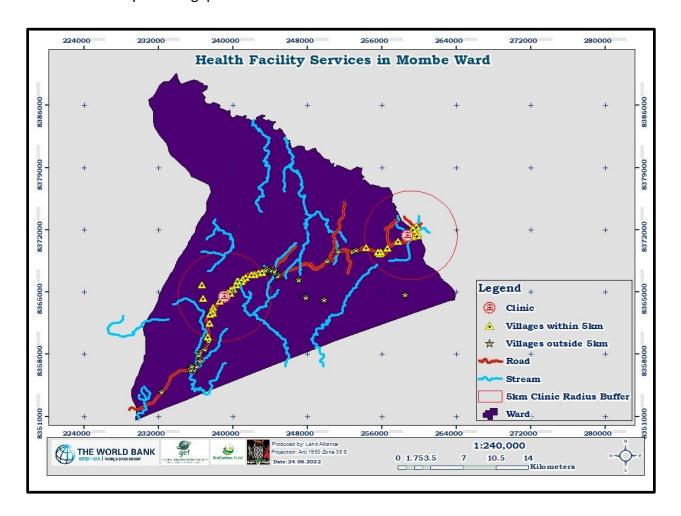


Figure 18: Health Facility Service Gap

## **6.6 Inadequate Telecommunications Facilities**

Mombe Ward is currently serviced with 6 telecommunication network towers. The data analysis in the area shows a deficiency of this service, because of intermittent network connection in certain villages within the ward. The telecommunication network tower installations facilitate the ease of access to diverse forms of information within the shortest possible time. Having more

telecommunication towers installed in the Ward would enable the residents of Mombe Ward and surrounding areas to interact through phone-calls, messaging, internet etc. With the development of the 4G internet speed, citizens are able to surf the internet with less difficulty. Mobile money platforms have also made money transactions easier. In order to make this possible, several service providers ZAMTEL (Zambia Telecommunications Network), MTN (Mobile Telecommunications Network) and AIRTEL have established themselves in Nyimba district, through the installation of network towers which enable transmission of signals containing information from the sender to the recipient, and vice versa, and capturing of satellite signals.

The advent of the Covid-19 pandemic, which led to the closure of all learning institutions in the country in 2020 and 2021, forced most institutions to conduct lessons using e-learning platforms, especially for students and pupils in examination classes. Mombe Ward was no exception to this, and the lack of telecommunication towers presented challenges in internet access for residents of the Ward and most pupils in Mombe Ward were affected by this. This highlights the need for adequate telecommunication facilities to be installed within the ward.

# 7. LAND USE PLANNING – ZONING, VALIDATION AND GOVERNANCE RULES

This activity was meant for communities to object, correct and confirm that all the mapped resources were captured on the maps and propose areas to be protected. Communities agreed on the by-laws that will help them manage their resources and other areas of development in a sustainable manner. Three clustered meetings were held in Mombe ward at **Kacholola**, **Mchimazi** and **Siwalya** villages. Printed shared resource maps on A1 were presented to the communities to confirm if the shared resources shown on the maps were a true reflection of their input. This was done in a consultative manner to make sure that the communities take responsibility for the process and the product, which is the PLUP. Community members selected the resources to be protected and zoned the areas and proposed other areas for developmental activities such as trading areas, clinics, schools and any other facilities that would support the improvement of their livelihood. Shared resources in the Ward overlap between sections/areas, especially that these sections/areas have imaginary boundaries. Thus, for the purpose of clearly presenting the proposed land uses, the meetings were clustered into three (3) areas with total attendance of **129** disaggregated as **91** male and **38** female as shown in table 7 below:

<b>Community Area</b>	Female	Male	Total No. of participants
Siwalya	19	34	53
Kacholola	1	32	33
Mchimazi	18	25	43

Table 7: Attendance Statistics

### 7.1 Siwalya Community Meeting

The first validation meeting was held in Siwalya Zone with a representation of **10** villages, namely: **Bvuno**, **Nyongani**, **Mpondabwino**, **Bimbe**, **Damula**, **Makani**, **Alubi**, **Kangachepe**, **Siwalya** and **Sylvester**. The total number of participants in this meeting was **53** (34 Male, 19 Female). The community proposed the construction of a health post and drilling of boreholes at Simambo, Lupenda, Bimbe, Chinyati, Mpondabwino and Kangachepe villages and Siwalya Primary School. The community already has a community forest, Mwansanika Forest.

The rationale for the proposed developments was built on the problems that were identified during the first village meetings conducted in the area as a measure of mitigating the effects of climate change and improving their welfare by identifying alternative sources of livelihood. For example, if a dam can be constructed, it would provide an opportunity for smallholder farmers to venture into fish farming and irrigation farming. Meanwhile, the same dam would provide water to their animals, and in the long run, their dependence on charcoal production as a means of survival would reduce. The forest would provide an opportunity for beekeeping. The establishment of trading areas would attract investments, which would result in upgrading and servicing of roads. The table below shows the proposed areas and their respective land coverages:

S/N	Proposed Development	Area (Ha)
1.	Drilling of Boreholes (Simambo, Lupenda, Bimbe, Chinyati, Mpondabwino and Kangachepe villages and Siwalya Primary School)	6.5
2.	Construction of a health post	4.0

Table 8: Land Reservations for Siwalya Community Meeting

The map below shows the proposed developments and future land uses for villages that were represented during the meeting held at Siwalya Village:

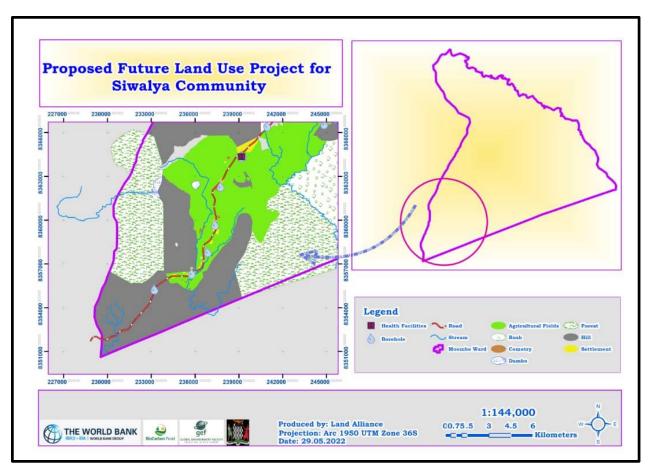


Figure 19: Future Land Use Map for Siwalya Community Meeting

## 7.2 Kacholola Community Meeting

The second validation and zoning meeting was held in **Kacholola Zone** with a representation of **14** villages, namely: **Lavu**, **Mwenechisangu**, **Mwale**, **Simatanga**, **Ntunthumale**, **Mikwala**, **Mwalanga**, **Sichitambo**, **Mambo Penyani**, **Chimuna**, **Tapeza**, **Manjase**, **Njanji** and **Nsanjilo**. The total number of participants was **32** (32 Male, 1 Female). The community proposed the construction of a dam, health post, police post, two community forests, community shed, skills training centre, market/bus station, hammer mill and the upgrading of Mombe Primary School into a secondary school. Table 9 below shows the proposed areas and their area sizes and figure 18 is the map showing the proposed areas:

S/N	Proposed Development	Area (Ha)
1.	Drilling of boreholes (Mwalanga, Paloba, Njoka and Spilla Villages)	0.04
2.	Dam (Mombe Stream)	0.25
3.	Police Station (Kacholola Market)	1.0
4.	Skills training centre (Mota-Engil Site)	6.0
5.	Community forest (Malilangwe Area)	5,000
6.	Community forest (Tondela Area)	7,000
7.	Community school (Tanja Community School)	5.0
8.	Health post (Elina Village)	0.25
9.	Community shed (Rose Area)	0.4
10.	Upgrading of Mombe Primary into a Day Secondary School	0.029
11.	Market / Bus station	0.4
12.	Hammer mill	0.09

Table 9: Land Reservation for Kacholola Community Meeting

The map below shows the proposed developments and future land uses for villages that were represented during the meeting held in Kacholola Zone:

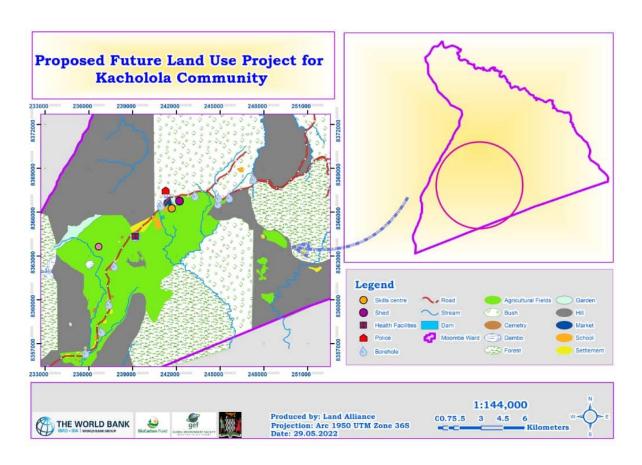


Figure 20: Future Land Use Map for Kacholola Community Meeting

# 7.3 Mchimazi Community Meeting

The third validation and zoning meeting was held at **Mchimazi Zone** with a representation of **17** villages, namely: **Tisatileni**, **Chilamba**, **Nyanthapo**, **Jaston**, **Masterd**, **Chipisani**, **Nyambaleni**, **Jatelo**, **Nyumbwe**, **Baloni**, **Edward**, **Chakupaleza**, **Unikedi**, **Lungisani**, **Zuwalinyenga**, **Nyampinga** and **Safrao**. The total number of participants was **43** (25 Male, 18 Female). Arising from the problems that the community identified during the first village meeting in the area which were; inadequate water points, no water for animals during the dry season due to early drying of streams, poor road network, no higher learning facilities and inadequate health facilities. The community proposed drilling of a borehole, construction of a dam, primary school and installation of a network tower. Table 10 below shows the proposed areas and their area sizes and figure 18 is the map showing the proposed areas:

S/N	Proposed Development	Area (Ha)
1.	Drilling of Borehole (Zuwalinyenga Village)	15.0 ha
2.	Dam (Mvunguti Stream)	0.25 ha
3.	Market (Mchimazi)	1.0 ha
4.	Primary School (Jetero Village)	16.0 ha
5.	Network Tower (Malala Mfumu Hill)	

Table 10: Land Reservation for Mchimazi Community Meeting

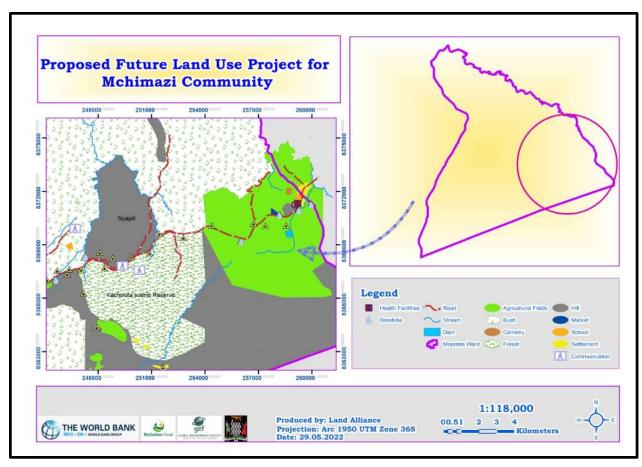


Figure 21: Future Land Use Map for Mchimazi Community Meeting

## 8. FRAMEWORK OF THE PLUP AND ENVIRONMENTAL MANAGEMENT PLAN

The environmental assessment of Mombe Ward highlighted the immediate development trends and environmental requirements of the area. Based on that, the PLUP Environmental Management Framework was compiled with the aim of guiding future developmental planning and decision-making processes. However, the potential environmental and social impacts of the PLUP activity are numerous, but mainly positive. Much of the negative impacts may be experienced during implementation of the identified sub-projects (based on the identified core issues within the ward) aiming to provide alternative livelihood sources and helping in mitigating unsustainable natural resource use and management. The specific impacts will be evaluated and distinguished during the preparation of the specific Environmental Management Plans (EMP) based on the identified sub-project investments. Therefore, this PLUP Environmental Management Plan was made with guidance originating from the current land uses and the proposed future land use analysis.

S/N	Aspect	Description	Impact	Mitigation Measure
1	Soil Erosion and Degradation	increase in farming activities	Deforestation	Establishment of Community forests.
	Degradation			Promote joint forest management.
				Formulate laws to protect the forest.
				Providing alternative off farm income generating activities.
2	2 Loss of Forests	ests Illegal logging of timber resulting in large scale deforestation and destruction of natural habitats.	Cutting of trees for logging purposes leading to deforestation.	Enforcement of forest act to curb down illegal activities surrounding timber harvesting.
				Restrict activities in sensitive habitats.
				Community forest protection.
				Establishing of tree nurseries and promotion of tree planning by the locals.
3	Loss of Fauna	Loss of biodiversity and siltation in the rivers.	Destruction of wild fauna habitat due to unsustainable	Enhance community sensitization.

			resource management. Potential investments are likely to break ecosystems, isolate species and cut off movements. For example, dams may block the upstream and downstream passage of migrating aquatic animals.	Prohibit hunting.  Restrict bush fires.  Minimise cutting down of trees  Forest conservation.  Restrict locations of dams.
4	Air Pollution	Decreased Air Quality.	Dust is anticipated during the construction phase of the identified investments as well as from vehicle movements and vehicle emissions are likely to cause air pollution.	Revegetate bare areas.  Minimise vehicle movements and speed.  Water down cleared areas to reduce dust emissions.
5	Resource Use Conflicts	Sabotage to investments and lack of ownership	Dam construction investments may cause conflict between those with different water needs such as farmers and pastoralists, fishery, household use, etc.	PLUP development  Land use decisions must be inclusive of all users and groups, including women, youths and differently abled people in the area.

6	Loss of Land	Construction of dams for	Heavy filtration as a result of	Communities must identify
		agricultural purposes will result	agriculture activities conducted	project areas in
		in disturbances in the flow of	around the streams.	consultation with their
		water in the streams		leaders.
		Furthermore, it disturbs the	Reduction in water levels in	Communities must set up
		Natural habitats for flora and	affected streams.	water committee to
		fauna.		manage the water
				resources in the ward.

Table 11: Environmental Management Plan

# 9. Implementation Strategy

The table below outlines the PLUP Implementation Strategy

Problem	Objectives	Strategy	Output	Indicator
Shortage of Water	To improve access to water	Dam Construction at	At least 2 dams constructed at	Number of dams constructed
for Human	supply for animals and for	identified sites	Mombe and Mvunguti streams	
Consumption,	irrigation purposes	Borehole Drilling at identified	At least 12 boreholes drilled in	Number of boreholes drilled
Animals and		sites	Simambo, Lupenda, Bimbe,	
Irrigation			Chinyati, Mpondabwino,	
			Kangachepe, Mwalanga,	
			Paloba, Njoka, Spilla and	
			Zuwalinyenga villages and at	
			Siwalya Primary School	
Inadequate Trading	To promote investment and	Construction of markets at	At least two (2) markets	Number of markets constructed
Areas	access to goods and services	identified sites	constructed in Mchimazi and	
			Kacholola	
		Construction of bus stations at	At least 1 bus station	Number of bus stations
		identified sites	constructed at Kacholola	constructed

Inadequate	To create connectivity	Installation of communication	At least each	Number of communication towers
Telecommunication	between the rural and urban	towers by Telecommunication	Telecommunication Company	installed
Towers	communities for easy	Companies	should put up a tower (Zamtel,	
	dissemination of information		MTN and Airtel) e.g at <b>Malala</b>	
	such as COVID prevention		Mfumu Hill.	
	and other pandemics			
Soil Degradation	To Promote Environmental	Tree planting exercise and	Plant at least 10,000 trees	Number of trees planted
	Protection and Conservation	promote natural vegetation		
	of Natural Resources	growth		
		Community Forest	Establish at least 2 Community	Number of Community Forests
		establishment in identified	Forests in Malilangwe and	established
		areas	Tondela areas	
Poor Agricultural	To promote agricultural	Adoption of Climate smart	At least <b>75%</b> of local farmers	Percentage adoption of CSA
Practices	productivity.	Agriculture	adopt the CSA technique	
		Deployment of extension	At least <b>1</b> extension worker	Number of extension workers
		workers	deployed	deployed
Poor State of Roads	To promote spatial growth	Rehabilitation of roads	Rehabilitate all roads	Number and length (km) of roads
and Related	and improve transport			rehabilitated
Infrastructure	system	Construction of culverts and	Construct culverts and bridges	Number of culverts and bridges
		bridges	across all streams	constructed

Inadequate Health	To increase the number of	Construction of health	Construction of at least 2	Number of health facilities
Facilities	health facilities	facilities in proposed areas	health facilities in Elina Village	constructed
			and <b>Siwalya</b>	
		Construction of health staff	At least <b>6</b> staff houses for the	Number of staff houses
		houses	proposed health facilities (3	constructed
			per health facility)	
Long Distances to	To attain a high quality	Construction of new	Construct at least 13 classroom	Number of classroom blocks
Schools	education standard by increasing the number of schools and reducing the teacher to pupil ratio in all schools within the ward	classroom blocks	blocks in the ward (1 per	constructed
			primary school (4), 1 for the	
			secondary school, 6 for the 2	
			proposed primary schools and	
			2 for the proposed upgrade of	
			Mombe Primary School)	
		Construction of primary	Construct at least 2 primary	Number of secondary schools
		schools in identified areas	schools in <b>Jetero</b> and <b>Tanja</b>	constructed
		Upgrading of primary school	Upgrading of Mombe Primary	Number of primary schools
		to secondary school	into a Day Secondary School	upgraded into secondary schools
		Construction of teachers/staff	At least 25 teachers/staff	Number of teachers/staff houses
		houses	houses for the proposed and	constructed
			existing schools	

Lack of Alternative	To enhance human	Establishment of a skills	At least 1 skills centre	Number of skills centres
<b>Livelihood Sources</b>	development through skills	training centre	established at Mota-Engil Site	established
	training and empowerment	Train farmers in fish farming,	Train as many people as	Number of people trained
	programs	beekeeping and mushroom	possible	
		conservation techniques		
		Establishment of value	At least 2 value addition plants	Number of value addition plants
		addition plants	established in the ward	established
Lack of Police Posts		Construction of Police Post at identified site	At least 1 Police Post	Number of Police Posts
			constructed at Kacholola	Constructed
			Market	
Lack of Community		Construction of Community	At least 1 Community Shed	Number of Community Sheds
Shed		Shed	constructed in Rose Area	Constructed
Lack of Hammermills		Construction of Hammermill	At least 1 hammermill	
			constructed in Kacholola	

Table 12: PLUP Implementation Plan

# **9.1 Capital Investment Projects**

Priority Projects	Quantity	Unit Cost (K)	Total Cost (K)
Dam Construction	2		
Drilling of Boreholes	11		
Upgrading of Primary School to Secondary School	1		
Construction of health posts	1		
Construction of classroom blocks for existing schools	5		
Construction of teacher staff houses (at schools)	25		
Construction of health posts	2		
Construction of health staff houses (at health facilities)	6		
Construction of Skills Training Centre	1		
Construction of Police Post	1		
Construction of Police Staff Houses	2		
Construction of Community Shed	1		
Construction of Hammermill	1		
Construction of Bus Station	1		
Construction of Market	1		
Rehabilitation of roads	-		
Planting of trees	-		
Construction of value addition plants	2		
Farmer Training (mushroom drying, beekeeping, etc)	-		
Installation of Telecommunication Towers	-		

Table 13: Capital Projects Identified

## 10. INSTITUTIONAL ARRANGEMENT FOR PLAN IMPLEMENTATION

The Local Authorities will play a critical role in supporting the implementation of PLUP in line with the guidelines and provisions of the URP Act No.3 of 2015. The Forestry Department, Department of National Parks and Wildlife and Ministry of Agriculture will be the main implementers of the PLUP while the Ministry of Health, Ministry of Education and other line ministries will be monitoring adherence to the zoning of the land use plan with regards to schools, health facilities and other developmental and social land reserves.

Mombe Ward PLUP is envisaged to be implemented in line with the Nyimba IDP which is running for a period of 10-years from 2021-2030. Being a local plan, the Traditional Authority will work hand in hand with the DMT team in the implementation process since the plan is part of the Integrated Development Planning framework. The plan also provides an opportunity for the traditional leaders to lobby for support from the government through local authorities e.g. from the Constituency Development Funds (CDF).

At chiefdom level, the traditional authority with guidance from the DMT team will choose community representatives who will be overseeing and executing PLUP activities and will intermittently rehearse with both the DMT and the Chiefs on the implementation process.

The mandate to carry out minor (pilot) measures may in some cases need to be transferred to the civil society (i.e. self-help groups, cooperatives, farmers' organisations or local NGOs). It is also possible that private sector companies or individual consultants take over this part so that the Government, through DMT, only concentrates on the supervision and monitoring of the process.

#### 11. CONCLUSION

The PLUP for Mombe Ward was developed through a consultative and participatory process, and technically analysed by the Land Alliance Consortium - the TSP hired by ZIFL Project - in consultation with the Nyimba DMT team. Additionally, the PLUP analysed the current situation in Mombe Ward and issues pertaining to Land Use Planning were identified, with a lack of alternative sources of livelihood being one of the key drivers of unsustainable natural resources management. At the same time there has been haphazard and unsustainable use of land and other natural resources by residents of Mombe Ward and those residing in surrounding areas largely due to lack of documented rules and regulations governing the use of resources. Therefore, it is hoped that this PLUP will be used for the purpose for which it was developed.

#### 12. GLOSSARY

## **12.1 Natural Resources**

One of the essential and prerequisite activities when embarking on participatory land use planning is understanding the quality and quantity of the land resources. Besides, participatory land use planning forms a basis for obtaining optimum level of production and also helps in introducing appropriate land management practices for better and/or improved livelihoods (Schwedes and Werne, 2010). Therefore, natural resources must be understood as conditions and elements of the land that can be exploited, developed or managed without causing negative impacts that risk the fragile environmental relationships (Negash. 2012). The following are some of the natural resources:

## 12.1.1 Vegetation

In the context of PLUP, vegetation refers to all plant species that are unsustainably managed and used by communities for any of their land uses. The vegetation is used to mainly fulfil community needs such as gathering firewood, fruits, medicine, poles and also serves as habitats for wild animals. On the other hand, vegetation provides cover for the soil, allows the rainwater to percolate into the ground, and protects the soil from erosion.

# **12.1.2 Soils**

This is one of the key elements across the globe that determines what land can be used for, taking into consideration the physical and chemical properties (FAO, 2006). The soils exert influence in determining the feasibility of land uses and composition of natural communities such as plants, animals, etc of an area. Thus, land use planning may demand a study on physical and chemical conditions, composition, and overall characteristics of soils (GIZ, 2012; Negash, 2012). This is due to the fact that knowing the soil characteristics helps in understanding the past and present land uses and helps in predicting future land use potentials.

#### 12.1.3 Water

This is an essential resource which is required for use by human beings and Wildlife. It is also used for irrigation and navigation by people and by plants to perpetuate, grow and produce

(Mitchell et al, 2004). Besides, the quantity of available water determines the type of land use options and land utilisation types. Thus, the availability and accessibility of water resources in an area determine sustainability and the types of land uses that can be implemented (GIZ, 2012).

### 12.2 Climate

Climate is one of the factors that affects land use as it is the major agent that determines water balance and dictates the nature and type of natural vegetation in a specific area (Malcolm et al, 2006). Interactions among climate, relief and soils are important in determining socially acceptable, economically viable and environmentally sound land use types (FAO, 1993). The main climatic elements which directly govern land use types to be considered for a certain area are the rainfall amount and distribution and the air temperature level (Negash. 2012). Thus, data on these elements is so important for sustainable local level land use planning processes. The following climatic elements are important factors in determining the land use options of a certain locality or planning area;

### 12.2.1 Rainfall

The term precipitation includes rainfall, snow and dew. The availability of water through precipitation or rather the lack of it is often the most limiting physical factor in crop and livestock production in areas where water is scarce for irrigation. It's of great importance to know the rainfall patterns of a given area when undertaking any level of land use planning. Besides, the seasonal distribution of rains governs the choice of major land uses, crops and the optimal planting time, harvesting and other farming operations such as land preparation, weeding and threshing (Negash. 2012).

# 12.3 Land Use Planning

According to Liversage and Mangiafico (2014), land-use planning is the systematic assessment of land and water potential, alternatives for land use and economic and social conditions in order to select and adopt the best land-use options. It's a process of decision making on the use of the resources of a certain unit of land for options of more productivity, environmentally sound and sustainable economic uses (JICA, 2011). However, Negash (2012) argued that decisions on land

use options are based on the analysis of potentials and constraints of the land resources as guided by the competing needs of the communities.

# 12.4 Participatory Land Use Planning

This is an interactive process in which local communities could discuss and determine how to manage the land and other natural resources in their locality (JICA, 2011). It is based on dialogue among all stakeholders with an aim of making sustainable land use decisions through negotiation (GIZ, 2012). The intention is to form comprehensive land use options based on the quality and quantity of the resources and the needs of the community (PLUP Manual, 2019). The land use plan aims at improving the livelihoods of the existing community and meeting the resource development and administration needs of the future generation (Negash. 2012).

#### 12.5 Livelihood

This can be defined as means and ways of making a living. It encompasses people's capabilities, assets, income and activities required to secure the necessities of life (Mutea et al, 2019). According to Kassa (2018) livelihood is said to be sustainable if it enables people to cope with and recover from shocks and stresses (such as natural disasters and economic or social upheavals) and enhance their well-being and that of future generations without undermining the natural environment or resource base.

Presently, natural resources are overexploited, exceeding the rate at which they are replenished due to the increase in the demands because of high population increase and unsustainable usage (Abu and Soom, 2016). Hence, land use planning is the tool that can well be utilised in order to improve and maximise the usage and management of resources in order to better improve the livelihoods of people. This is because LUP bases its processes on the quantity and quality of resources available that can improve livelihoods and the environment (GIZ, 2012). Thus, decisions are made based on the knowledge of resources by all stakeholders.

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### **ANNEXES**

# Annex 1: Mombe Ward By-Laws on Land Use and Natural Resource Management

### **Preamble**

Having resources identified and zoned is not a guarantee that there will be proper management, hence establishing rules is key to sustainable management of all natural resources. The communities of Mombe ward did not want just to leave things at zoning level but they also formulated by-laws pertaining the natural resources that were identified in their community. Traditionally, no one is allowed to give a penalty to the offenders except the chief as he is the custodian of natural resources in the chiefdom.

# **GOVERNANCE RULES FOR MOMBE WARD**

Resource/Development	Rules	Penalty To Offenders	
Water Resources	No farming activities around the dam and other water bodies, the buffer zone of 50m shall be applied.  No illegal fishing on the dam.	Direct report to HRH Chief Nyalugwe	
	No depositing of poisonous chemicals in the dam.		
	All gardening activities to be done on one side of the dam to allow animals to have access to water.		
	No cutting down of trees around the dam.	Face appropriate	
	No farming activity to be done around the buffer zone of the dams and streams.	punishment	
Forest	No cutting down of trees in forest area	Face punishment from HRH Chief Nyalugwe	
	No charcoal burning in the forest		
	No cattle grazing in the forest		
	No farming activities in the forest area		
	No fire burning in the forest		
	No fetching of firewood without permission in the forest.		

Trading Area	Only the development committee recognised by the chief has the right to allocate plots.	Report to the chief.
	No farming activities are allowed in the trading area	
Upgrading of School and Clinic	No encroachment in the area set aside for school and clinic expansion	
	No cutting down of trees around the school and clinic premises	
	No farming activities are allowed	
Expansion of Agricultural Area	Anyone wishing to expand the field must get consent from the chief.	Any offender shall be reported to the chief for further action
Hunting	No hunting is allowed in the chiefdom	Any offender shall be reported to the chief for further action
	No vandalism of Telecommunication Towers.	
Telecommunication Towers	No farming within the radius of 20m of the Telecommunication Towers.	Inform the chief and report to the police.

Table 14: Offences and Penalties

### **Annex 2: Proposed Future Land Use Map**

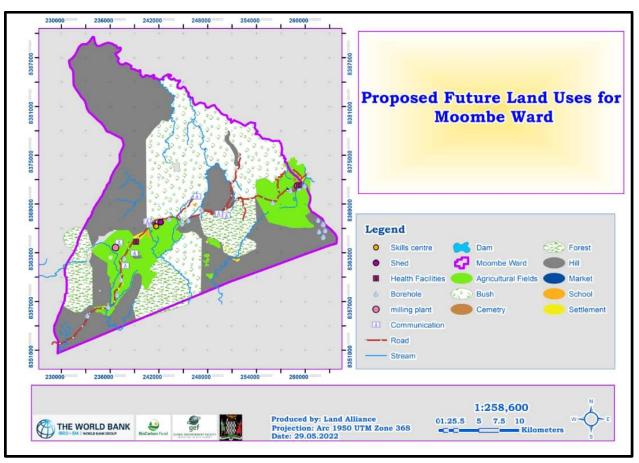


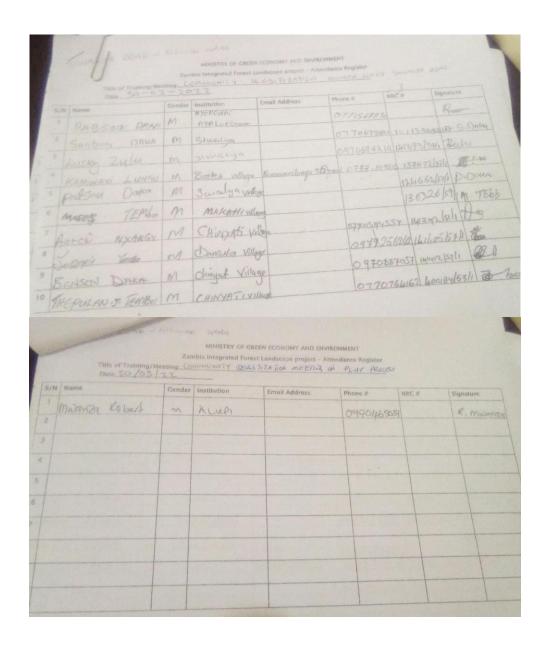
Figure 22: Future Land Use Map for Mombe Ward

## Annex 3: Meeting Attendance Registers Indunas Meeting

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### **First Village Meeting**

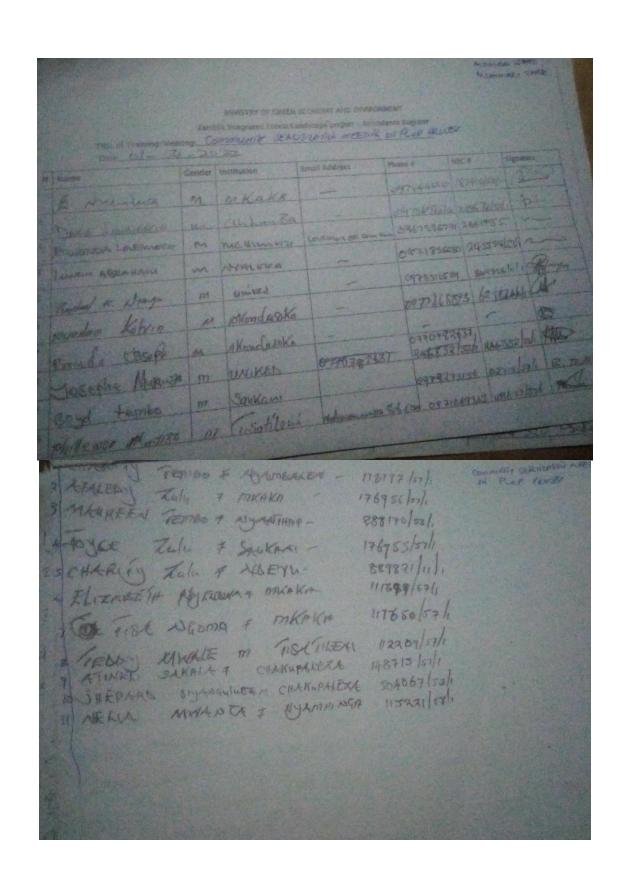


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### **Validation Meetings**

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me	if Meeting Collins	mastro					6-20.00
			9	S.M.T		Date. O. S	
CONT	N	0.1			T 100		
1	Name	Gender	Village	Age	Phone #	NRC#	Signature
2	ACKINAH MUDNZA	M	LAYU	70	0973701630	177012/53/1	Musel
	MSONDA DAKA	m	MUENTECISAR	84 45	NIL		M. STAK
3	STEPHEN Lynnay	m	MWALE	51	09782187	64584573/11/	15. Lyngs
4	JOSWHUA LINGU	M	MINALE	45	09762930	11280921/5	3113 200
5	RANFORD TEMPSU	M	SIMATANGA	29	143703/5711	143703/57/1	K-Tembo
6	JACKSON MUMBA	n	NTUNTUMALE	25		143803/5+11	
7	NEANGO LONGO	M	MIKKEALA	21		152277/54/1	
8	DAVISON TEMBO	M	MIKWALA	66	0971490144		D.T
9	FAN WEL TEMBO	M	STUSTHUMALE	75	,		4.7
10	Julius MBEWE	m	MWALANGA		097892396	JENSKAL	THE P.
11	FREDRICK TEMBO		SICHITAMBO	41	The state of the s	298527/53/	7-1-2-8
12	SHOW MADE	M	MAMBO Buy				100
13	SHADRECK CHIKAM						-
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15	DUKA Sustine	M	Simatungo	43	097748	371 103645	571, A

## WHCHOLO LA ZON€ MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)

Title of Meeting. Date 09-06-2027

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	BENSON MWANZA	MI	MWALAKGA	56	0948923950	2210 57/53/	B. Sa
2	Chankumia Mwanza	M	LAVU	33		110128/57/1	-0.1
3	DAVISON LUNGO	M	MThouthous	25	0470297979	13623457/1	Dais.
4	WEZISON STRALT	M	MIKWALA	22		143689/57/1	
5	Rodrick Zulu	M	LAVU	31		130302/57/1	100
6	Afunika Sakala	m	MIKWALA	29	0777117156	126399/57/1	A' SHIKALA
7	DAVISON SAKHLA	m	MIKWALA	32	0	126145/57/1	D. SAKALA
8	STEVEN TEMBER	m	TUPEZH	64			3. Tourse
9	PETEKS SAWALA	M	TAPEZA	44		51428/52/1	P. SHKALA
10	ADMUSE MUMIZA	Ar F	MANSASE				A- mumba
11	Buston BAKH	m	Monthomis	43	0478310547	103417/5411	B SPRA
12	12th Lunge	m	Nyalunmba	80		46999/5B/1	TOPA
13	Guzeon Zulu	m	Simortanga	65	0770760161	18188291/53/	G. Zwu
14	hackson NSUBVU	m	MANSASE	69	0970071934		
15	PEFIAS Lungu	m	Chimena	50	0977 845592	295695/53/1	PLUAGE

### KACHOLOLA ZONE

### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)

Title of Meeting. Date 09-06-2022

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	Jimmy Chulu	male	Simatanga	41	0476893260	29568/53/1	
2	1ACKSOULungu	M	NJANJI	69		184 192536/5	
3	JACKSOULungu JOWER Mumba	m	NSANJILO	77	0979882676	281535/53/	Inumber
4	Phinias Mwenda	M	ZLA	30	0979-2049/	110962/57/	19
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## MUCHIMAZI ZONE

### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)
Title of Meeting Community meeting on Yalidation & Zaning Bate 10/06/2022

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	Phillemps Mang	M	Tesatilen	36	0971049343	109677/57/	A 100.
2	LEWRENT DAKA	14	Curizman	50	0 972692074	288873/501	6
3	ILLCK MWANZA	11	WYENTHAPS	76			
4	DUNTHAPO MUMBE	m	DYNTHAPO	32	0978503364	104438 57/	N. MUMBA
5	MILION XULU	M	7751000	59	0975494530	2183	M. Zula
6	LEVISON Zulu	n	Tr8+TILEOU	36	0976611545		
7	MHANZE MASTERS	n	MASTERD	53	0970298443	176832/57	M. nivs
8	FACILION TEMBO	n	CHIPISTON	48	-		F range
9	Benny Lungy	m	TWATEN1	33	0977457991		BLoom
10	Abert Mvula	m	masterd	32	077282064	4 139392/57/1	#10-6
11	ELIZABETH MWANZA	Ŧ	CHIPISANI	36		137666/571,	Et.
12	MATHER TEMBO	+	CHIPISANI	23			See.
13	AIKHUMBWITYA MUKLE	Ŧ	DYAMBLE	38		137666/57/	840
14	GAICE TEMBO	F	AtTELO	33		113276  571	Gien
15	IREEN MWKOZŁ	7	ALIELO	52	0976696767	74555  501	1 nivaris

# Muchimazi Zone

### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)

Title of Meeting. Date 10/06/2022

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	MAGRET SAKALA	F	NYIIMBUIE	56	0770725862	187508/10/	M. Sakal
2	FROLENCE TEMBO	F	CHIPISTON	38	-		
3	GRACE SEKALA	F	B210,01	69			
4	CETHAINI MUMBE	F	UNINED	68			,
5	JOICE DAKA	F	CHPISTAI .	51			
6	AARON ZULU	M	EDWARD	34	0974716537	327129/53/1	Dun.
7	FLEBET MUMBA	F	DYANTHAPO				
8	JOHN DAKA	M	CHARUPTLE				
9	ILEEN MUMBA	F	NYANTHAPO	<b>4</b> 43	0976568516	281479/53/1	THE
10	GEACE ZULY	F	NYANTHAPO	30			93
11	BONFACE LUNGU	M	DYAUTHAPO	53			B Lungu
12	LEKESINA MUMBA	F	HYAMBALEN	68			1. Mumba
13	POSILIYO MWALE	M	JATELO	35			PANO
14	LUNGU TWENDER	M	LUNGISANI	30	0977 84978	126224/21	Gent of
15	MWADET ELIZIBETH	F	BALON	30	0765/87594		E. Mlooun zer

## Muchimari Zone

### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

### ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)

Title of Meeting.

Date 16/06/2022

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	ACKLAD LUNGO	M	LUNGISANI	45	0977289532	254891/53/1	Au s
2	JOANS Fully	M	TISATILENI	65	0770298023	193335/53/	- Her.
3	CHARLSE TEMBO	DI	TUMALINTENS	1 57	0975701713	744898/53/	C. Temb
4	NICKSON TEMBO	pr	Trusherstedge	58		221695/53/1	N. Tembo
5	RICHARD MWALE	17	UNIKED	62		213684/50/1	Bhilly.
6	PETER MUSTIGA	71	NYMMPINGE	56		153685/65/	f. Mulsunge
7	MARVICE TENES	+	CHILLME/E	50			M. TEMBO
8	CHANDA TEMBO	Ŧ	CHILAMBA	46			C. Tempo
9	CHALONA PHIRI	M	SAFRAO	26	097612859	146412/54	C.P
10	MERY JEMBO	Ŧ	NYAMBALENI	70		272920/11/1	4
11	Edward Olypunga	m	ZLA	34	0975871010	112127/5/1	Attance
12	Phinias Mwenda	M	7 LA	30	0979-204948	110962/5/1	The Oder
13	Kallaa mrhota	m	NTINK TOWN	28	09777261556	370714/55/	No
14							(6)
15							

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### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

Title of Meeting DMMUni y Mss has on Volida how & Zonin 9 Date 09-06-2022

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	CHISMIGA Zuly	m	Bruno	48	No. of the last	14-39-17	C. Zulu
2	PAISON TEMBO	m	NYONGANI	59		A PORTON	p. Tembo
3	Glins amon	m	MEUNDARWIN		Participal Control		Banela
4	TOWN TOMBO	m	BimBE				J. Tembo
5	marilom onen	7-	BimBe				M. Dara
6	BESNORT PINRI	7	BimBe				B- Phin
7	pina Knzembe	m	Damula				Rin
8	Durion pina	7	Morensi	20			D. phin
9	DINMI SMENER	7-	BUNU	23			D. Sallala
10	morey Zulu	7	ALUBI	46		103711/87/1	Hzulu -
11	Voiles numan	7	Damula			7	V. mumbu
12	ATMICL TEMBU	7	Bimbe				A. Tembo
13	LENDA TEMBU	7-	KANTINCOPE				The
14	KAMWEN Luntu	m	Bimbe	28	0777149201	137472157/	## " M
15	Justin Pinner	M	maximi	19		171716/57/	

SINVARYA ZONE

### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)

Title of Meeting Date 09-06-2022

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
1	Simon Luntin	m	ALUBI	3/		123685/57/1	S. Lungu
2	Homas gents	m	SINALVA	79	097789126	2 148039 53	Amo
3	Stephen Dalla	· Ly	Kangacap	69	@ 97.55990	4.17678454	Soulas:
4	alugade Bakala	M	Bruno	28.	0 9 776228	5130398/97/1	H Sakala
5	Paule Dake	u	Danula	30		113177/57	1 P. DAKE
6	Katanga Phil	m	makon	40.	0979460	11 HAB153/57/	F. Phili
7	Cimeles Luntan	m	KANTOCOPE	52	0977928502	32186018311	
8	Torn Zuly	m	NYONGANI	28	* *		Thuy
9	LAZAROUS DAKA	m	Bruno	22			L DAKa
10	Evekyn DAXA	7	BUHNO	21			E. Dona
11	Corneced Temps	7	Bruns				C. Tembo
12	Telisius Temes	7	BimBE	28	076076714	173753/97/1	S. Tembo
13	Tembo Joseph	M	BIMBE			12 6836 152h	
14	NICHOLAS TEMBO	m	Sylvesion	36		11323375771	15602
15							

SIWALYA ZONE

### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P)

S/N	Name	Gender	Village	Age	Phone #	NRC#	Signature
	DUBE DAM	M	Kangacepe	43	0975 70165H	28076015511	2504
2	KABANGA F. MUYATWA	M	HEADTRACHER SIWALYA	52	097728481		
3	Dyson Zulu	M	MYONDABHIND	53		199893/55/1	Bely
-	CHISULO LUNTU	M	BIMBE	38	0979760551	103721/57/1	C. Lunya
5	RODRICK PINYI	m	MPONDABWIND	30	0965329480		R. phiri
6	7-mucs MWANIER	7-	BVUNO	SZ			F. Mwanza
7	TOWN! MUMBA	7	Sylvesies	31			Bula
8	Lonesian pinni	7-	KANTINEEPE		-		L- phir.
)	BENJON LUNGA	m	Кличесть	42			13- Lungu
10	Zemen Luntin	M	ALUBI	29			Z. Lungu
11	Moses Nowa	m	Bruno	48			Mary
12	KALJENI TEMBS	M	moneni	38			K. Tembo
13	Derick Zuly	M	Sylvesien	52			D. Zulu
4	GOWINO MUMBO	m	MAKAN				E. Mumbu
15	TOWN TEMBU	m	BUND	44	0976342491	207502/11	Almber.

SIWALYA ZONE

Title of Meeting...

#### MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

## ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT (ZIFL-P) Date: 09 -06 - 2022

Village S/N Name Gender Phone # NRC# Age KANGACHEPE 36 JOYCE KAYLUKA F J Bulliky Doantela 32 67 Bunbaco A Saida Zuilie Danuela 22 23. Khulos fore plie le Nyongon 52 NIXON Luly Israeli ELIAS SONSCYCE CHILLIM BY MUSHUDE 39 0978111241 88442411 ZhA MOCTA 30 0977256174 591445 2

8 CHLUMBU MUSYULE M MOCTA 30 0975871010 112127/57/1 214