







# **NKHANGA WARD – CHASEFU DISTRICT**

# PARTICIPATORY LAND USE PLAN

(PLUP)



Prepared by: Land Alliance Consortium (TSP) in Collaboration with LUNDAZI/LUMEZI/CHASEFU DMT

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#### **Preface**

This Participatory Land Use Plan (**PLUP**) for Nkhanga 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 Magodi of Magodi Chiefdom, Chasefu District Multi-sectoral Team (DMT), Department of Physical Planning, Nkhanga 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 Nkhanga 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
Chasefu District Council		Chasefu District
•		••
	HRH Chief Magodi	
	Magodi 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 Nkhanga 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 (**IDP**s) for the development of each district but also provides for the preparation of Local Area Plans (**LAP**s) 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 Nkhanga 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 Nkhanga 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 Nkhanga 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 Magodi. PLUP sensitization meetings were held with the Indunas, Headpersons, Nkhanga 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 six (6) clustered focus group village meetings, namely: Boyole, Vuvumwe, Nkhanga, Chasamwa, Chikuyu and Kamatete. 76 villages were represented at the clustered village meetings. Community members in all the six (6) 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** application 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 (Rapid Village	Know the total number of villages in the ward by	Physical Data Collection in all villages	<b>76</b> Villages were identified	All Villages within  Nkhanga Ward boundary	Villages falling within the ward boundaries
	Assessments)	picking points of interest			,	were captured
2	Community	Sensitise communities on	Community meetings	One Community Meeting for each	Community members in	<b>261</b> Total Number of
	Sensitization	PLUP		of the <b>6</b> Village Clusters.	all the <b>6</b> Village Clusters	community
						representatives
						sensitised across the
						ward disaggregated as
						179 men and 82 women
3	Shared Resource	Collect geographical	Physical Spatial data	13 Shared Resource Maps were	Nkhanga Ward	Shared Resource
	Mapping	locations of the resources	collection	produced		Mapping exercise
		present in the community				completed in Nkhanga
						Ward
4	Nkhanga 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	have the communities	purposes.	shared resource map in Nkhanga	done at the Palace and in	and community
		confirm the boundaries		Ward.	all the <b>6</b> village clusters	representatives in the
						ward.
5	Future land use	Develop maps of how	Community meetings	Future Land Use Plan developed	The whole Nkhanga Ward	Future Land Use Plan
	planning and	communities envisage to		and By-Laws formulated		and By-Laws done

	Formulation of By-	sustainably use their natural				
	Laws	resources.				
6	PLUP approval	Have the plan approved by	Submit PLUP copies to	PLUP approved	Nkhanga Ward PLUP	PLUP approved by the
		all relevant authorities in	both traditional and local			Chief and Local
		order to be implemented	authorities			Authority

Table 1: Stages of PLUP Activity

#### 3. CHARACTERISTICS OF THE MANAGEMENT AREA

# 3.1 Location of Nkhanga Ward

Nkhanga Ward is in Chasefu District (Eastern Province), which has a total of **10** wards, namely: **Manda Hill, Susa, Magodi, Kapilisanga, Membe, Chaboli, Nkhanga, Chizingizi, Luwerezi** and **Kajilime**. Chasefu District is a border town, sharing an international boundary with Malawi in the East. It is characterised by mountainous topography and flat terrain. Nkhanga Ward shares boundaries with five wards, namely: Chingizi, Luwerezi, Kapilisanga, Membe in Chasefu and Vuu (Lundazi). The map below shows the location of Nkhanga Ward:

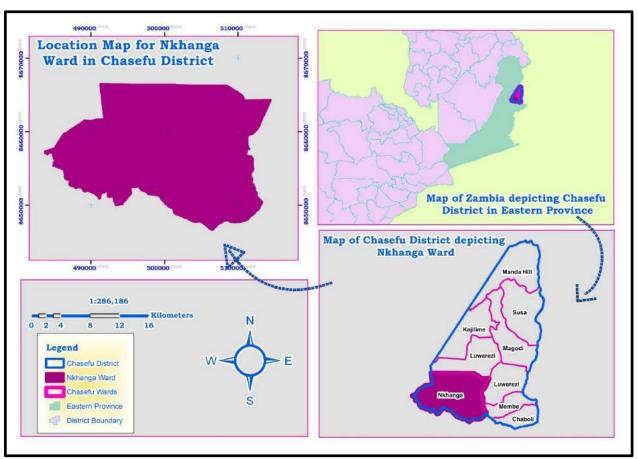


Figure 1: Nkhanga Ward Location Map

#### 3.2 Climatic Conditions

Nkhanga 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 Nkhanga with an average annual temperature of **21.1** °C and annual rainfall of **1,051** mm.

#### 3.2.1 Temperature

The temperatures are highest on average in October, at around **31.1°C** and lowest in July, with temperature recordings of around **11.7°C**. Table 2 and figure 2 below show average temperatures for Nkhanga Ward:

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Ave. Temp (°C)	20.5	21.2	21.0	20.4	19.5	18.0	17.8	20.3	22.5	24.6	24.7	23.0
Min. Temp (°C)	17.7	17.4	16.8	15.8	14.2	12.2	11.7	13.7	15.7	18.1	18.7	18.4
Max. Temp (°C)	24.8	25.0	25.2	24.9	24.7	23.8	23.8	26.8	29.3	31.1	30.6	27.6

**Table 2: Monthly Temperature Conditions for Nkhanga Ward** 

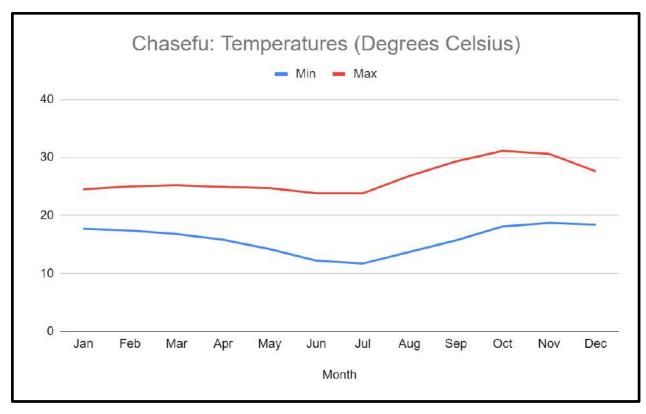


Figure 2: Monthly Temperature Conditions for Nkhanga Ward (source: https://weatherspark.com)

#### 3.2.2 Rainfall

Nkhanga 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 Nkhanga Ward:

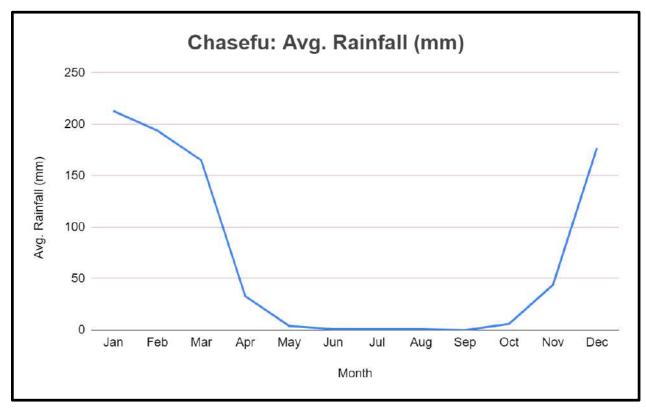


Figure 3: Annual Rainfall Pattern for Nkhanga Ward (source: https://weatherspark.com)

## 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**. Chasefu District is characterised by the **IIa** Ecological Zone. Nkhanga Ward, being located in Chasefu District, therefore falls under the **IIa** Ecological Zone, 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:

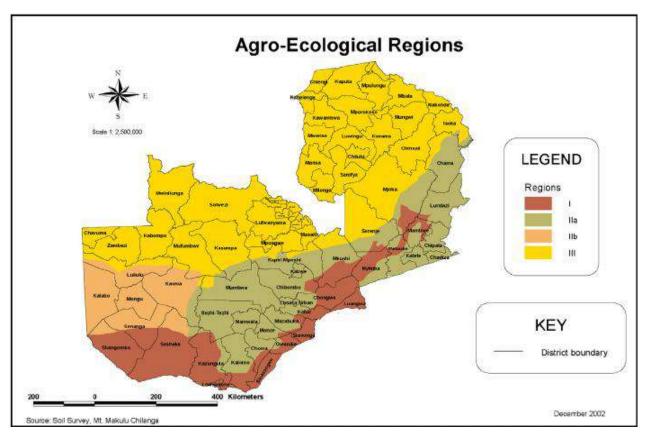


Figure 4: Agro-Ecological Zones

# 3.2.4 Soil Types

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

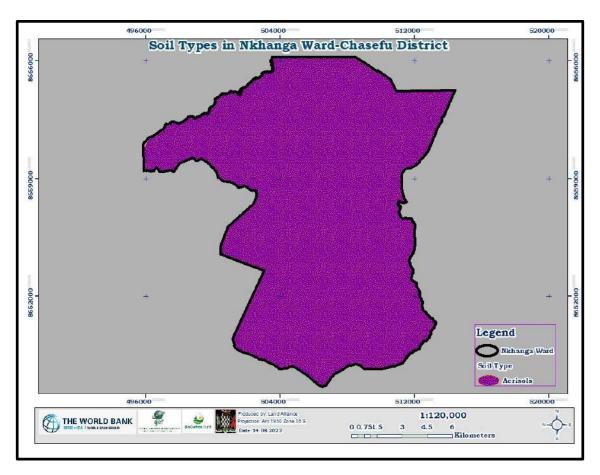


Figure 5: Nkhanga Soil Map

#### 3.3 Socio-Economic Environment

Nkhanga ward covers a total area of **20,909.7** 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 (Lundazi/Lumezi/Chasefu JIDP, 2021). Based on the village geo points collected, the ward has a total of **76** villages, and according to the 2017 Census of Population, Nkhanga Ward had an estimated total population of **24,337** as shown in the table below:

POPULATION				
NKHANGA	Male	Female	Total	
	11,828	12,509	24,337	
Source: Lundazi/Lumezi/Chasefu JIDP, 2021				

**Table 3: Nkhanga 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 Chasefu District at 2.8% Growth rate as per 2017 Zambia Census projection.) On this basis, the population of Nkhanga Ward was projected to increase to 27,180 and 34,849 in 2021 and 2030 respectively (Lundazi/Lumezi/Chasefu JIDP, 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

Nkhanga Ward currently has **five** (5) primary schools, namely: **Boyole**, **Chasamwa** and **Nkhanga Primary Schools**, and **Kamwala** and **Kamatete Community Schools**.

The ward currently has one (1) health facility, namely: Boyole Health Post.

Nkhanga Ward also has the following facilities: 18 boreholes, 6 hammermills, 3 football fields, 5 graveyards and 3 places of worship.

The map below shows the spatial distribution of social facilities in Nkhanga Ward:

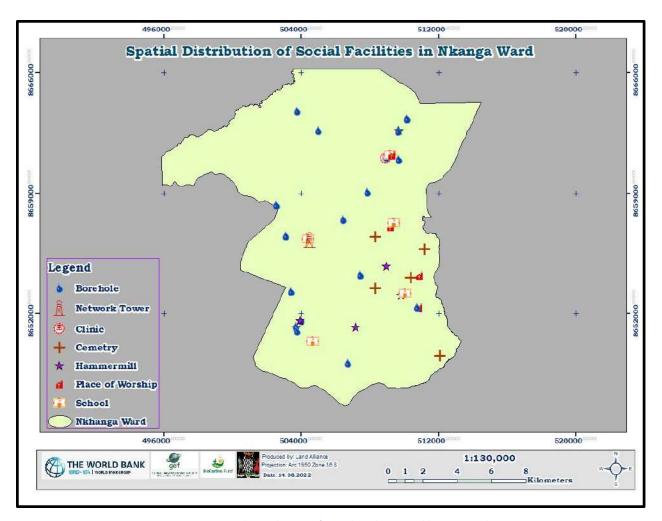


Figure 6: Spatial Distribution of Social Facilities in Nkhanga Ward

### 3.4 Source of Livelihood

Livestock keeping and subsistence farming are the predominant livelihood activities in Nkhanga Ward, with beans, maize, sweet potatoes, sun flower, tobacco, cotton and groundnuts being the main crops grown. Animals reared by the local residents of Nkhanga 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 Chasefu. The communities in Nkhanga Ward also survive on non-wood products such as fruits, mopani worms, 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 Nkhanga 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 Nkhanga 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 Nkhanga 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 Nkhanga 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 Nkhanga 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. Nkhanga Ward has various biodiversity hotspots and the following hotspots were identified during the PLUP preparation process:

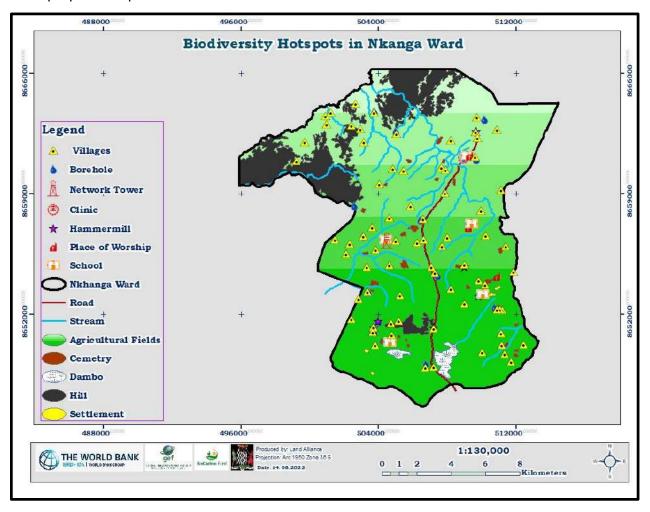
#### 3.8.1 Streams and Dams

Nkhanga Ward has several seasonal and 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

Nkhanga Ward has no forests but has **5** hills. These hills are biodiversity hotspots which need protection and conservation. These hills 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 hills in Nkhanga Ward.

The map below shows the biodiversity hotspots in Nkhanga 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 Nkhanga 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 has continued to cause a decline in

the ecosystem. However, it is hoped that this PLUP will be instrumental in influencing ecosystem restoration and aiding in the conservation of biodiversity.

#### 4. CURRENT LAND USE PATTERNS

#### 4.1 Overall Land Use

Nkhanga Ward has forests, woodlots and several hills, and the main land uses are as shown in table 5 below. As can be seen, agricultural fields cover the biggest portion of the ward (85.39%), followed by hills (12.86%), dambos (0.93%) and settlements (0.82%). 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)	20,909.7		This is the total area of Nkhanga Ward.
2.	Agriculture	17,855.0	85.39%	This is land under cultivation.
3.	Settlements	171.1	0.82%	These include villages and other built up areas such as schools, health facilities, cemeteries, football fields, markets etc.
4.	Hills	2,688.4	12.86%	Hills not designated as forests but also not used for human settlements or agriculture
5.	Dambos	195.5	0.93%	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 Nkhanga 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 Nkhanga.

#### 4.2.1 Soil Type Agricultural Suitability Analysis

There are **3** Soil Zones covering Chasefu District, namely: **Acrisol, Fluvisol** and **Lithosol**. 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 **Fluvisols** Soil Zones are mostly found in flooded plains and are characterised by weak topsoils and are made up of materials from river sediments. They can be used for farming if water levels can be controlled, and are mostly good for crops like rice that require a lot of water. Nkhanga Ward is covered by **Acrisols** and only a really small part of the ward is covered by **Fluvisols**. Thus, most agricultural activities in Nkhanga Ward are done in Acrisols. The map below shows agricultural land use suitability of Nkhanga Ward based on the Soil types:

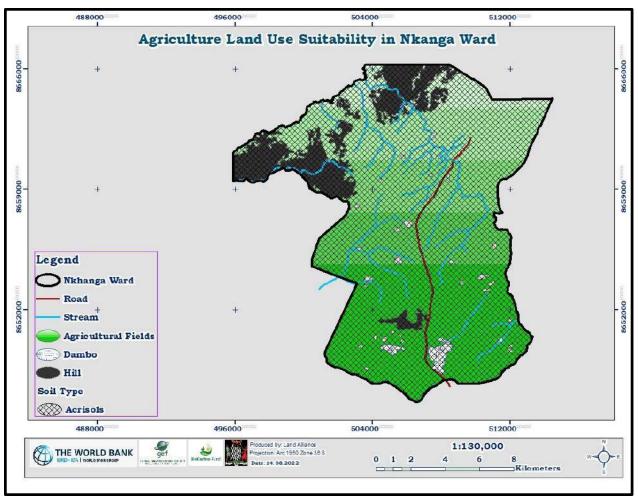
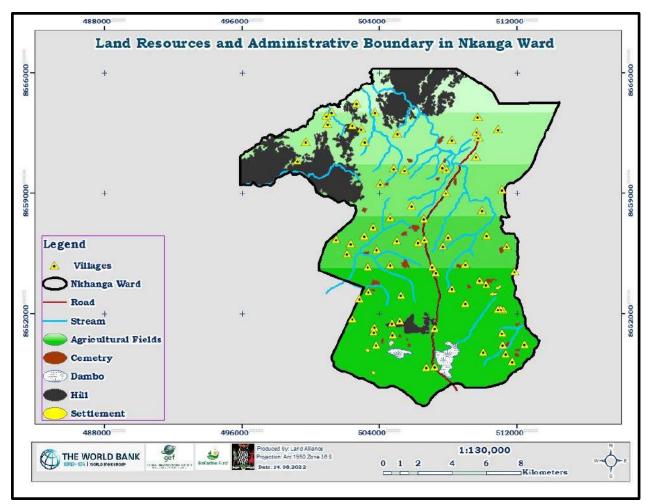


Figure 8: Nkhanga Ward Agricultural Suitability Analysis Map

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

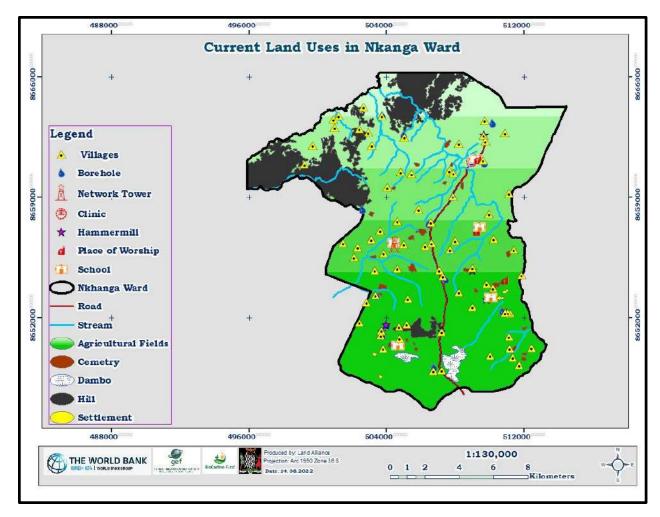
The land resources captured during the PLUP process are under Nkhanga Ward and may spill over into other surrounding wards (such as Kapilisanga and Chizingizi). However, despite the overlapping of these shared resources between wards, local people in areas around Nkhanga acquire their services from Nkhanga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



**Figure 9: Land Resource and Administration Boundaries** 

### **4.4 Current Land Uses**

In terms of land uses, Nkhanga Ward is mainly covered by agricultural fields, hills, dambos, settlements 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 Nkhanga Ward:



**Figure 10: Current Land Uses** 

# 4.5 Land Use and Agriculture

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

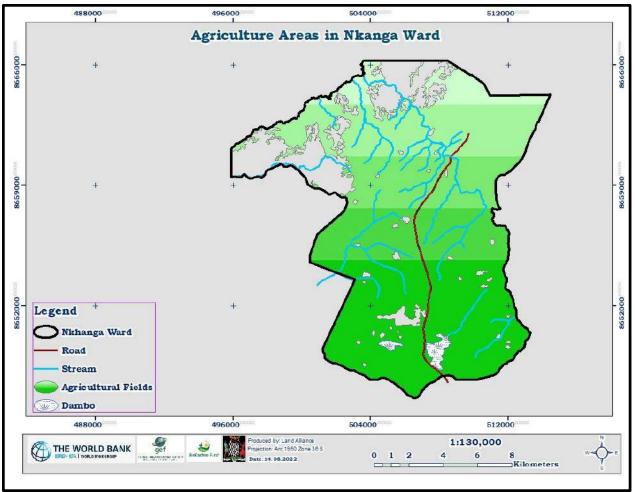


Figure 11: Land Use and Agriculture Map

#### 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 hills are where the local residents get firewood, mushrooms and vinkubala (mopani worms). Apart from the hills, communities can set aside forests and woodlots for purposes of conservation.

In as much as areas for conservation can be 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 Nkhanga Ward:

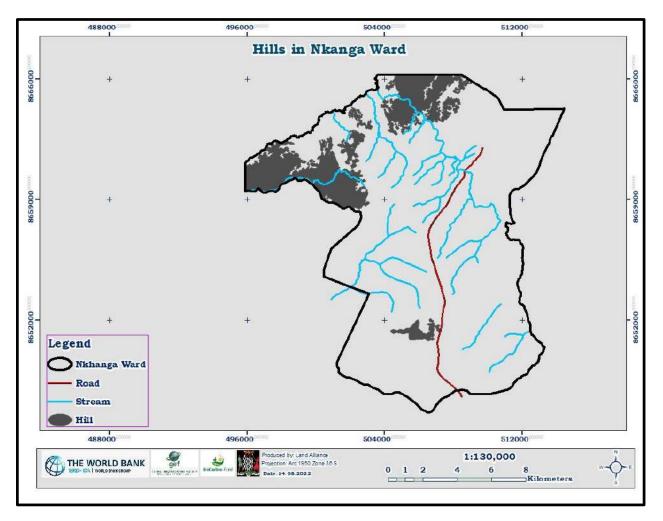


Figure 12: Land Use and Forest

#### 4.7 Land Use and Wildlife

One of the objectives of PLUP in Nkhanga 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 Nkhanga 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 include rabbits and mice. 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

Nkhanga Ward has no legally established mines.

#### 4.9 Land Use and Tourism

There are currently no tourist attraction sites or activities in Nkhanga Ward.

# **4.10 Land Use and Physical Development**

Nkhanga Ward is characterised by various physical developments ranging from schools, churches, health facilities, settlements, and markets. Changes in land use for creation of new settlements or expansion of existing ones is an area of concern in Nkhanga Ward because land used for settlements usually becomes a permanent feature, never to revert to the original (environmentally friendly) land use.

The Ward has **five** (**5**) primary schools, namely: **Nkhanga**, **Boyole** and **Chasamwa Primary Schools** and **Kamatete** and **Kamwala Community Schools**. There is **one** (**1**) health post in Nkhanga Ward, namely: **Boyole Health Post**. The map below shows the physical developments of Nkhanga Ward:

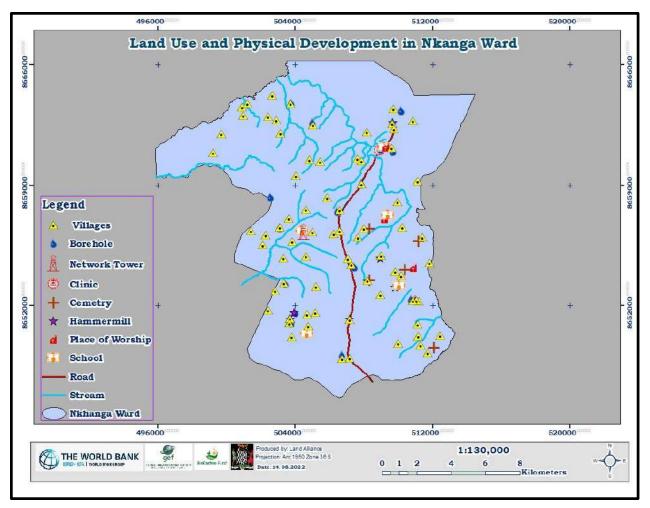


Figure 13: Land Use and Physical Development

#### 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 Chasefu 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 Chasefu District.

In the initial stages of PLUP activities in Nkhanga, Chief Magodi was identified to be the custodian of land in Nkhanga 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 Nkhanga Ward was embarked on through a series of community engagement meetings which involved meetings with the Chief, Indunas, Headpersons and the community at large in sharing the PLUP concept so that Free Prior Informed Consent (FPIC) could be adhered to.

Since Nkhanga ward has villages which are far stretched apart, community engagement meetings were held at **six** (6) 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 Nkhanga 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:

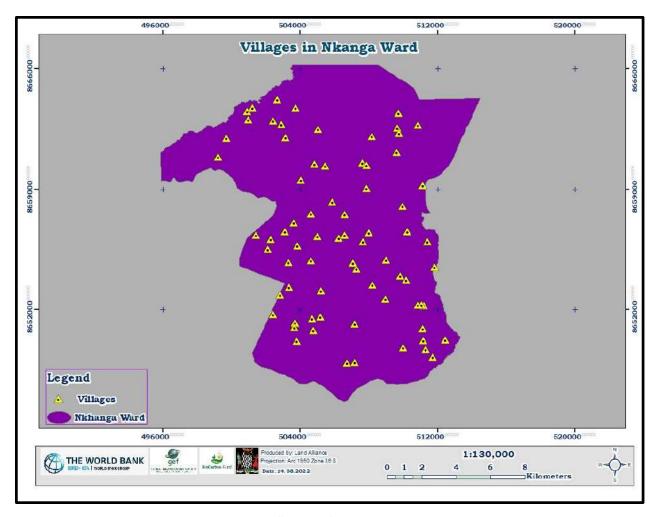


Figure 14: Village Rapid Assessment Exercise

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 Magodi. 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 2.

# 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 Nkhanga 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 Nkhanga residents are no exception. The most prominent challenges are:

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

Issues affecting land use in Nkhanga Ward were captured during the clustered community meetings which were conducted. The problems, causes and suggested solutions to the problems faced by residents of Nkhanga 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 **six** (6) clustered community meetings held at **Boyole**, **Vuvumwe**, **Nkhanga**, **Chasamwa**, **Chikuyu** and **Kamatete**, community members across villages in Nkhanga 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.

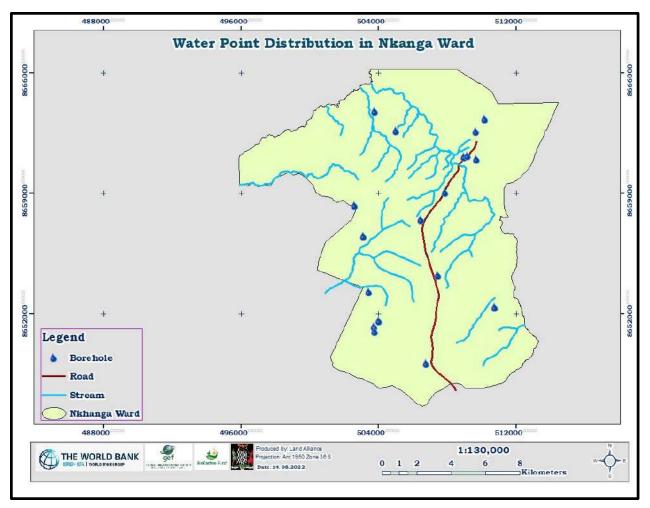
The high levels of poverty in the Ward make communities heavily dependent on fuelwood and charcoal. The identified alternative sources of energy such as gas stoves and cook stoves are unaffordable and extensively unavailable.

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 Nkhanga 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 not located close to any forests. The map below shows the distribution of water points in Nkhanga:



**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 Nkhanga 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.

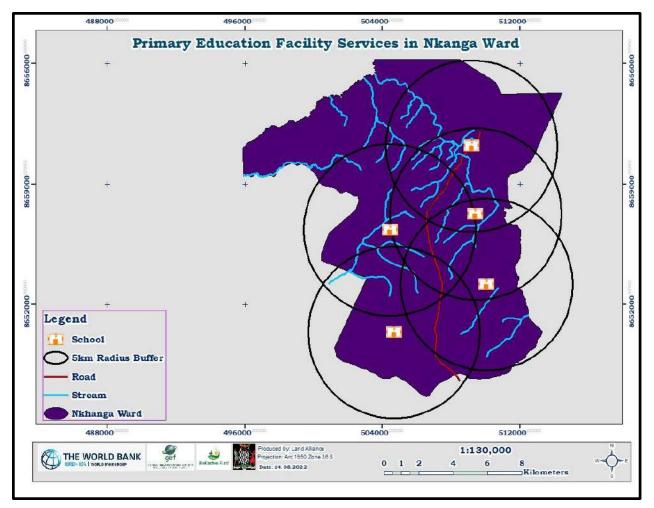
### **6.4 Long Distances to Schools**

The entire Nkhanga Ward has a total of **five** (5) schools, all of which are primary schools. These schools enable children within the Ward to receive adequate primary education, but the lack of a secondary school in the Ward means children need to cover long distances to access secondary school education in the surrounding wards.

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

 66 of the 76 villages in the ward fall within the recommended 5km radius of 1 or more of the 5 primary schools in Nkhanga Ward. The remaining 10 villages fall outside the recommended 5 km radius.

That being the case, secondary education levels are generally low in Nkhanga 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** 

# **6.5 Inadequate Health Facilities**

There is currently only **one** (1) health facility in Nkhanga Ward servicing residents of Nkhanga and other surrounding areas. Based on the standards of the population having access to health facilities within 5 kilometres distance, the analysis on Nkhanga Ward shows that:

• **18** of the **76** villages within Nkhanga Ward fall within the recommended 5km service radius of the **one** (**1**) health facility in the ward. The remaining **58** 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 Nkhanga 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 Nkhanga Ward:

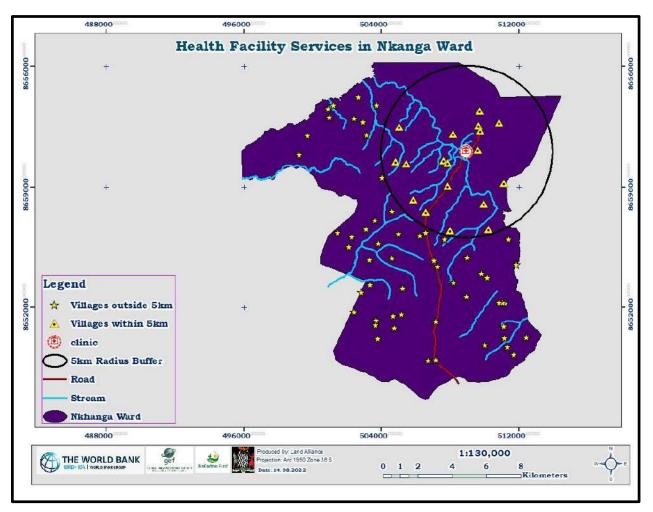


Figure 17: Health Facility Service Gap

# **6.6 Inadequate Telecommunications Facilities**

Nkhanga Ward is currently serviced with 1 telecommunication network tower. 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 Nkhanga 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 Chasefu 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. Nkhanga Ward was no exception to this, and the lack of adequate telecommunication towers presented challenges in internet access for residents of the Ward and most pupils in Nkhanga 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. Six (6) clustered meetings were held in Nkhanga ward at Chikuyu, Nkhanga, Vuvumwe, Kamatete, Boyole and Chasamwa Zones. 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 six (6) areas with a total attendance of 164 disaggregated as 123 males and 41 females as shown in table 7 below:

<b>Community Area</b>	Female	Male	Total No. of participants
Chikuyu	10	28	38
Nkhanga	6	23	29
Vuvumwe	12	22	34
Kamatete	4	34	38
Boyole	9	29	38
Chasamwa	1	21	22

**Table 7: Attendance Statistics** 

### 7.1 Chikuyu Community Meeting

The first validation meeting was held in **Chikuyu Zone**, with a representation of **13** villages, namely: **Kampezeni**, **Katemba**, **Kalinga**, **Kasaila**, **Kapyanga**, **Sunkhanga**, **Saonga**, **Chimudima**,

**Mpuma, Chinkholongo, Basiti, Nkhelewayo, Jumbawanga**. The total number of participants in this meeting was **38** (**28** Males, **10** Females). The community proposed the construction of a dam at Makongwa and fish ponds at Nyandewe.

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. A forest would provide an opportunity for beekeeping and 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.	Dam (Mkongwa)	0.80
2.	Fishponds (Nyandewe)	2.05

**Table 8: Land Reservations for Chikuyu Community Meeting** 

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

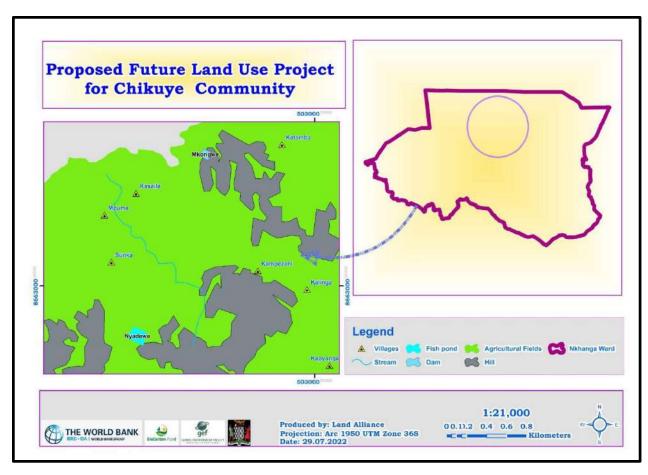


Figure 18: Future Land Use Map for Chikuyu Community Meeting

# 7.2 Nkhanga Community Meeting

The second validation and zoning meeting was held in **Nkhanga Zone**, with a representation of **11** villages, namely: **Kapinda**, **Chipeni**, **Bisa**, **Limbikani**, **Kahohoko**, **Chaliwa**, **Njolonjo**, **Kamzati**, **Thumba**, **Mwata** and **Chikaya**. The total number of participants was **29** (**23** Males, **6** Females). The community proposed the construction of Nkhanga police post, a dam and Nkhanga trading. The table below shows the proposed developments and their area sizes:

S/N	Proposed Development	Area (Ha)
1.	Police Post (Nkhanga)	9.97
2.	Dam (Nkhanga)	1.25
3.	Trading Area (Nkhanga)	1.22

**Table 9: Land Reservation for Nkhanga Community Meeting** 

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

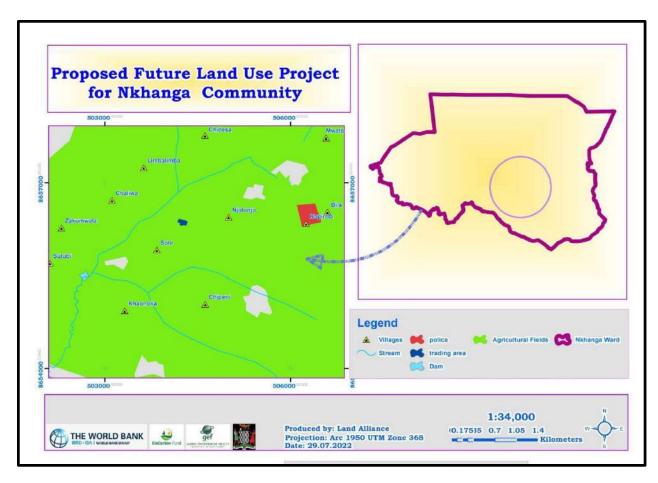


Figure 19: Future Land Use Map for Nkhanga Community Meeting

# 7.3 Vuvumwe Community Meeting

The third validation and zoning meeting was held at **Vuvumwe Zone**, with a representation of **4** villages, namely: **Ngwata**, **Machisa**, **Mahobe** and **Chiponde**. The total number of participants was **34** (**22** Males, **12** Females). The community proposed a dam, a health post and a school. Headman Ngwata also said he has reserved land which he is willing to turn into community forest if the government can help with the process. The table below shows the proposed areas and their area sizes and the map below shows the proposed areas:

S/N	Proposed Development	Area (Ha)
1.	Dam	2.45
2.	Health Post	3.1
3.	School	8.90

**Table 10: Land Reservation for Vuvumwe Community Meeting** 

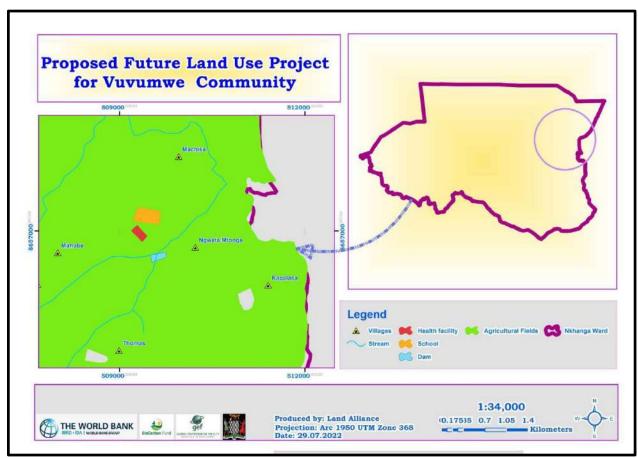


Figure 20: Future Land Use Map for Vuvumwe Community Meeting

# 7.4 Kamatete Community Meeting

The fourth validation and zoning meeting was held at Kamatete Zone, with a representation of 12 villages, namely: Chithawanga, Muzilanthende, Dowoko, Gwanja, Mukakeni, Kamzati, Jonasi, Lupiya, Jimu, Njonjo, Mutalimanja and Jamu. The total number of participants was 38 (34 Males, 4 Females). The community proposed the construction of a health post, a school, a trading place and a dam. Table 11 below shows the proposed areas and their area sizes and the map below shows the proposed areas:

S/N	Proposed Development	Area (Ha)
1.	Health Post (Kamatete)	14.16
2.	School (Kamatete)	16.33
3.	Dam (Kamatete)	6.54
4.	Trading Area (Kamatete)	0.79

**Table 11: Land Reservation for Kamatete Community Meeting** 

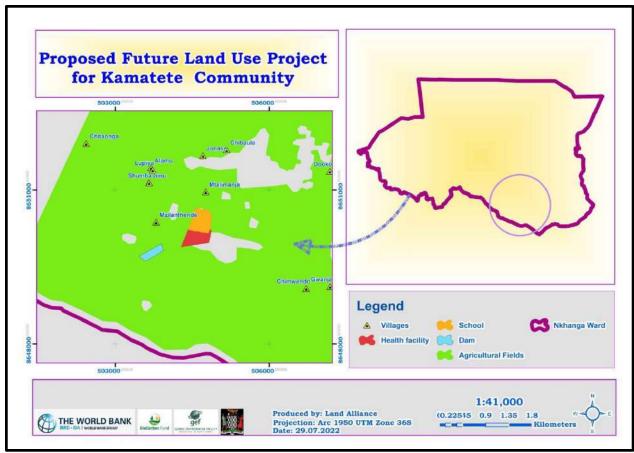


Figure 21: Future Land Use Map for Kamatete Community Meeting

# 7.5 Boyole Community Meeting

The fifth validation and zoning meeting was held at **Boyole Zone**, with a representation of **8** villages, namely: **Zibalwe**, **Duka**, **Boyole**, **Chipelwa**, **Chinzanso**, **Seleta**, **Chisenje**, **Chicho**, **Yobe**, **Chipewa**, **Chibechibe**, **Wegi** and **Kazembe**. The total number of participants was **38** (**29** Males, **9** Females). The community proposed the construction of a secondary school, a dam and land for a community forest. The table below shows the proposed areas and their area sizes and the map below shows the proposed areas:

S/N	Proposed Development	Area (Ha)
1.	Secondary School (Boyole)	7.81
2.	Dam (Boyole)	0.30
3.	Community Forest (Boyole)	0.97

**Table 12: Land Reservation for Boyole Community Meeting** 

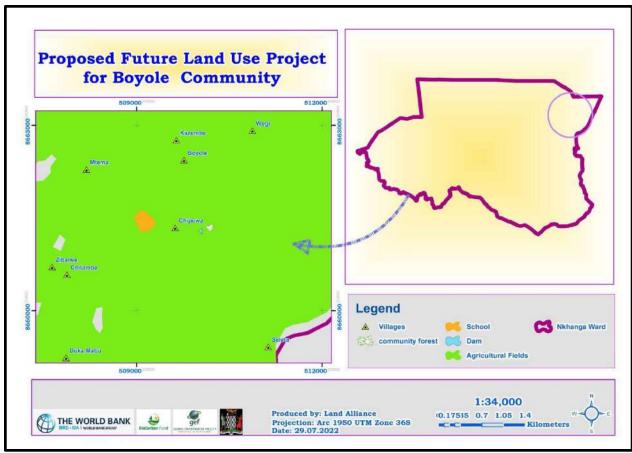


Figure 22: Future Land Use Map for Boyole Community Meeting

### 7.6 Chasamwa Community Meeting

The sixth validation and zoning meeting was held at **Chasamwa Zone**, with a representation of **13** villages, namely: **Juma, Kasamba, Chuzu, Jaje, Alick, Mukhondo, Thomas, James, Pondaponda, Chuzu Banda, Chuzu Zimba, Ngwata** and **Hoho**. The total number of participants was **22** (**21** Males, **1** Females). The community proposed the construction of a clinic and a dam. The table below shows the proposed areas and their area sizes and the map below shows the proposed areas:

S/N	Proposed Development	Area (Ha)
1.	Clinic	1.45
2.	Dam	0.26

**Table 13: Land Reservation for Chasamwa Community Meeting** 

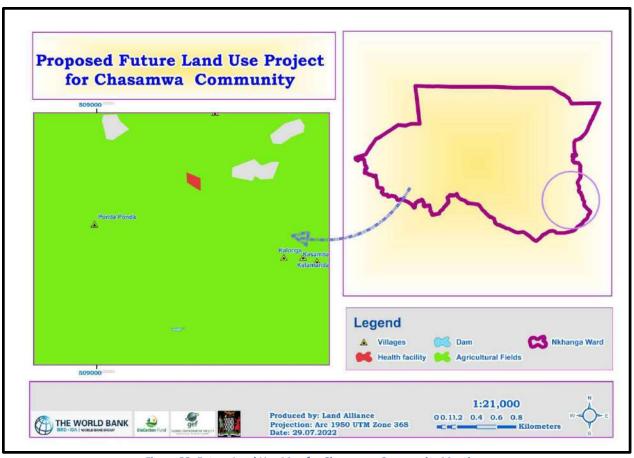


Figure 23: Future Land Use Map for Chasamwa Community Meeting

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

The environmental assessment of Nkhanga 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	Loss of fertile soil due to exposure	Clearing of land for agricultural	Revegetate cleared and
	Degradation	and land degradation due to	expansion, settlements, etc. increases	abandoned areas.
		indiscriminate cutting of trees for	the soil erosive potential.	Introduction of cook stoves and
		agriculture and construction of		solar energy.
		homesteads.		Engage communities to
				understand the impact and
				possibly help to come up with
				mitigation measures.
			Crop cultivation methods have an	Adoption of climate smart
			impact on the soil quantity and quality	agriculture.
			leading to soil degradation.	

				Reduce land clearing to avoid unnecessary exposure of bare ground to the elements of the weather.
2	around water bodies, which leads to around water bodies, which leads	Clearing of land for agricultural use around water bodies, which leads to drying of streams. Cutting of trees for charcoal production.	Enhance community sensitization.  Restrict activities in sensitive habitats.	
				Avoid unnecessary exposure.
				Restrict cutting down of trees.

3	Loss of Fauna	Loss of biodiversity and siltation in the rivers	Destruction of wild fauna habitat due to unsustainable 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.	Enhance community sensitization.  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	Revegetate bare areas.
			movements and vehicle emissions is likely to cause air pollution.	Minimise vehicle movements and speed.

				Water down cleared areas to reduce dust emissions.
5	Resource Use Conflicts	Sabotage of investment 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.	Formulation of by-laws.
				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	Displacement of communities or households and reduced grazing land which can cause conflict	There may be loss of farm and grazing land among others by the local communities owning land to	Communities must identify project areas in consultation with their leaders.
			investments projects and forest conservation.	Communities must use Free Prior Informed Consent (FPIC).
7	Water Pollution	Pollution is an unfavourable alteration in the physical, chemical or biological characteristics of water and that may adversely affect	Polluted water is harmful to human beings and may cause diseases such as Cholera, dysentery e.t.c.	Communities should be sensitized on the danger of disposing off toxic chemicals, pour fat and grease down the river banks. Especially
		human life, industrial life, industrial rogress, living conditions and cultural assets.	Polluted water may cause diseases to animals and crops.	those who do gardening along the Streams.

Table 14: 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 <b>6</b> dams constructed at	Number of dams constructed	
for Human	supply for animals and for	identified sites	Makongwa, Nkhanga,		
Consumption,	irrigation purposes		Vuvumwe, Kamatete, Boyole		
Animals and			and <b>Chasamwa</b>		
Irrigation		Borehole Drilling at identified	At least 10 boreholes drilled at Number of boreholes drilled		
		sites	identified sites		
Inadequate Trading	To promote investment and	Construction of markets at	At least 1 market constructed	Number of markets constructed	
Areas	access to goods and services	identified sites	in <b>Nkhanga</b>		
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)		
	such as COVID prevention				
	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 <b>Boyole</b> and	established	
		areas	Vuvumwe		

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 v		At least <b>1</b> extension worker	Number of extension workers
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 3	Number of health facilities
Facilities	health facilities	facilities in proposed areas	health facilities in Vuvumwe,	constructed
			Kamatete and Chasamwa	
		Construction of health staff	At least <b>9</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 education standard by increasing the number of schools and reducing the teacher to pupil ratio in all schools within the ward	Construction of new	Construct at least 13 classroom	Number of classroom blocks
Schools		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	
			Chiweza Primary School)	
		Construction of primary	Construct at least 2 primary	Number of secondary schools
		schools in identified areas	schools in Kamatete and	constructed
			Vuvumwe	

		Construction of secondary school	Construct at least <b>1</b> Secondary School in <b>Boyole</b>	Number of primary schools upgraded into secondary schools
		Construction of teachers/staff houses	At least <b>25</b> teachers/staff houses for the proposed and existing schools	Number of teachers/staff houses constructed
Lack of Alternative Livelihood Sources	To enhance human development through skills	Establishment of a skills training centre	At least <b>1</b> skills centre established	Number of skills centres established
	training and empowerment programs	Train farmers in fish farming, beekeeping and mushroom conservation techniques	Train as many people as possible	Number of people trained
		Establishment of value addition plants	At least <b>2</b> value addition plants established in the ward	Number of value addition plants established
Lack of Police Posts		Construction of Police Post at identified site	At least 1 Police Post constructed at Nkhanga	Number of Police Posts Constructed

Table 15: PLUP Implementation Plan

# **9.1 Capital Investment Projects**

Priority Projects	Quantity	Unit Cost (K)	Total Cost (K)
Dam Construction	6	_	
Drilling of Boreholes	10		
Construction of Secondary School	1		
Construction of classroom blocks for existing schools	13		
Construction of teacher staff houses (at schools)	25		
Construction of health posts	3		
Construction of health staff houses (at health facilities)	9		
Construction of Skills Training Centre	1		
Construction of Police Post	1		
Construction of Police Staff Houses	2		
Construction of Market	1		
Rehabilitation of roads	-		
Planting of trees	10, 000		
Construction of value addition plants	2		
Farmer Training (mushroom drying, beekeeping, etc)	-		
Installation of Telecommunication Towers	-		

**Table 16: 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.

Nkhanga Ward PLUP is envisaged to be implemented in line with the Lundazi/Lumezi/Chasefu JIDP 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 Nkhanga 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 Lundazi/Lumezi/Chasefu DMT team. Additionally, the PLUP analysed the current situation in Nkhanga 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 Nkhanga 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: Nkhanga 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 Nkhanga 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
	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 Magodi
Water Resources	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
	No cutting down of trees in forest area	
	No charcoal burning in the forest	
Forest	No cattle grazing in the forest	Face punishment from
Torest	No farming activities in the forest area	HRH Chief Magodi
	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	Report to the Chief
	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 17: Offences and Penalties** 

## **Annex 2: Meeting Attendance Registers**

# First Village Meeting

ZON	E. 14/07/2022		************		
	NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
,	EDDIE KANDA	m	garnga	0978533209	SA
	NCOMA CHILLINDIKA C	M	CHIKAYU SCHOOL	0976168842	9
2	KENLEST KALARO	771	WATERIER	0972334992	We to
4	STANKET NKHOWANT	M	SHOWING	0979974988	
	ZONDING MIORIA	M	KAMEPEEN		Zimen
		F	CHIERRY STHE	6 BOULLES	Miller
	THOSE RESEMBLES GG.	n/	Katherita		wayi
T	LISTER MARNORWIRE	F	CHIKAT-IN SCHOO	097651761	4 4491

1 Moress Banch	F	Charage School	0771151000	
10 Sincle Kabinda	t	Kalinga Village	09 72 612590	S. V.
Il Genud munga	f	Kamperen Villag		G. murage
12 Grace Zgambo	F	Vampezen Villag		G. Zgamb
15 Joyce menga	E	Kampezeni Villan		J. mponga
14 Loveness mumba	E	Kam Pezeni ude		L. mumber
15 Tumala syrongo	f	Kampezeni Villa		T. Lyicon
16 willie kasmala	In	Karganga		Warnel
17 Stephen Zembe	by	Sentens		6. Zinha
18 georg Kamanga	150	897048 1685	0970 4816/9	q. permange
9 Lastone majordile	m	Basili	8978558114	( husanda
20 JOHN ZIMBA	for .	SCANIER	0976171733	J Zimber
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	4	Mount	01196060	Heart
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5//N	NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
1	ELIAS NEULUBE	M	Lupiya	0977929279	Encyder
2	JUMBANI TEMBO	ne	JONAS	0975841037	-
3	WHYFORD TEMBO	PM	JONAS	0976610316	u. jane
4	BRASTONE K TEMBO	m	CHIMOGRADA	0974060890	Barmer
5	PETROS KAMANSA		GWANGE	0972955348	Banage
5	medson msetcka	m	Bulaula	0972687933	of motific
7	Bouda Godwin	· va	kamedi	0977128099	9-2
4	NKroma Platwert	-	MODALD		Pha

7 SIMEN TEMBS	147	CHRRLIN	ANN. 100 ANN. 10	-01
10 Patrick Maeters	m	Bulanda	07707557/2 075/7587/2	
11 Zulu Artick	m	Jonas;	0959274	f-ricke
12 TRYWELL NOWLOW	60	Atlance	0777959336	
13 Chipumu Shumbu	wa	Sime		5 19hun
14 Tembe Light	m	Junes		E.Tambo
15 Ngumbe Lupiya	02	Lupiya	097423005	L Aquab
16 Kananga mavalem	-	chilhowenge	0975191461	M. Kanteny
17 MAROPIA LOWIS	n	170000	9776365185	
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DAT	- N. 2	J	**************		
	NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
	WATEON MISSEA	# TA	MARIODA	OTTURESAU	Washing
2	SALDON ZONAL	n	MACHIER	UN78231560	4075
	NTIRENTE MICKEON	200	ner us no	5976 THUS	X3 Y
	WICHSELF MBOND	200	MAHERE	047009000	
	NAISON DIRECTOR	***	CHIECURO	077861889q	125
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	Alice Phin	F	chipande		A Phi

9	SOPHIA NYIRENDA	F	machiga	0979350X9 Summer
1	LYNESS MTONGA	F	MACHISA	097438250 1000
	Ekha Bonda	6	mahobe	0971800379 E. Banda
	Flora D. Zimba	T	Kapalesa	0975344963 FAZ
	Beatrice zimba	F	disponde	Q. Zimbs
		F	machisa	C. Zilva
	Esnart Zemba	7	chipande	M Tasm
15	mary Zaruts	F	disonde	T-dung
	Tanala Churan	M	chilowde	Gillow
	1 Gabby Menga	10/1	mahobe	07.6801.58 K 1160
	s Kekha monga	PS	maloke	5 Mibels
10	1 Joseph Mobba	M	Chiponde	0472 1985 C MAN
2	o Chanes Myrenda	M	chande	AGTILITUSS D MONTE
	Deryson mountains	M	Chiponele	No. House
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to EDWARD Mirerda	M	dilande	0972661163	
s Offwer Rashid mbanga	N	Aguata	0770519041	P. C. Contract of
26 Geoffrey DURENOW	m	Chyponde		Street
	M	nered	0977774563	
17 MTONGO WORS	140	chipovdo		Le
28 Simon wairerds	M	machisa	0984 121215	Tel.
29 Beary Zitel	-	mahole	0974944	40.Z
30 Overson Munjugi Limba	1	mahobe	097837018	2 L agants
2. I lovas Laanisa	Tel	Kafalasa	0945843	78 Aug
38 Widson Warz	H	LAFELAGA	097527416	5 100
33 LOTTIE MIDNIGA	M	LHAZASA	-	M militas
34 MACLOUD MEMBASINE	M		-	
MACLOUP AT L. SAL	M	nguata	11139	98 88
35 peral mutange	ne	MATCHISE	1 partible	12 B S
A TOTAL PARTY LAND	M	NAMATA	01.1	D-NKL
RY MIDNER END	E	distande		
30 Dama Mhorsela	- Indiana			

39 Eliza Woods		dilente		Elijan
to Jew Wandalin		Mariante	COTTOTE DOLL	
Les Morses Myoni	F	dilante	TO IN MILES	
142 Janua Flirenda	M	Chimonde	67727541	M. Pyron
43 Agign & Xmin		Matchisa vis	047452784	
lese Titus Mbows		Malisto	197452177	
us Justo Timba		matchisa	097/11/5321	
of trasanzana		maish Su	o Transport	
un Pablic Zimba	17	make his set		R zman
16 2 Lovy Hymentu	-	diame		Minch
2" Ton Wiede	Ŧ	e-wholes		Tablesh

	PARTICIPATORY LAND US	SEPLA	NNING ATTEN	DANCE LIST	
PRO	GRAM: PLMP YILLAGE	MEET!	n.c.		
	D: NKANGA				
ZON	E NKANGA				
DAT	E: 15 - 07 - 2022				
FACI	LITATORS:				
S//N	NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
01	TAMARA MTONGA	F	CNIBESA	-	T.m.
02	ATIREADA MOSY	1	KAPINDA	-	JW
03	borrees sylvesta	F	SAONGA		D. N.
04	TAMARA MUKWAYI	P	LIMBALIMBA		T. money
08	PATRICK CHIRWA	M	MALONGA		
Ol	Type of Hynends	m	Chidesa		Pedy I.
-	ALICK MKDET-11	m	Limba-Limba	0971901707	b-
08	STANT ZIMBA	M	CHAILWA	0973189608	5-7

09 MAS/1005 7 1				100
10 DEURON ZIMBA	M	KAHONOKO	0973042141	14.74
10 REUBSN Belangia	m	MAHOBE	0974 987424	
11 COLLEX NIDNI	M	BILLA	097821349	
12 Ms molco Danniver F.	M	Limba-limba	0972817723	A.
13 Molis banda	M	Khamba	64729 W30	Bad
14 EDWW CHIRWA	M	Musaho	097175958	
10	M	KAPINDA	0935026043	OIMMNE
16 Jester mwanza	F	Kheymba	097365156	4 Imporpr
17 RHOON GARRA	F	CHIKONA	-	R.B.
18 BESTER BARRA	f	mnoAro	-	6.6
19 TIMALE BANDA	1	CHILOCHAMALA	- 19	T-6
20 ROOR TRO	f	BANBA	- 1	87
21 LIBORD CHIRSON	m	MALONGA		L.C.
22 LAZARONS MKANDAWIRE	M	NKHANGA C	0974253629	19 m
23 CHANSA MUSONDA	M	NKHAMGA C	097286/883	CLER

Greenford mbouse	m	Saonga	6070	
MTONGA GILBERT	M	MINIATA MTONGA	697919354	
CHRISIOPHER BANDA	m	Kanzan	0978959364	MI D
Rojd regulate	na	Chalocamala		
BETT JERE	F	BILLA	0978676498	
Youser mugaza	m	Molongo	097806428	
LOSTON mwange	m	nlelonjo	C=17494560	
GEORGE BANDA	M	BAWA	0972161683	@ Ro
	3			
			Maria Maria	
		100 100 100		
			The second	Land of
	THE REAL PROPERTY.			

#### PARTICIPATORY LAND USE PLANNING ATTENDANCE LIST PROGRAM: PLUP VILLAGO MOSTING WARD: NKHANGA ZONE NKHANGA DATE: 15" JULY 2022 S//N NAME GENDER VILLAGE CONTACT NUMBER SIGNATURE NTIRENDA JAIRDS CHIKOJA 0979358876 20160 M 2. ZIMBA DAVISON 0974806276 CH IPE DI M 0976319724 Amen 3 Kapirida walter mouls M m KAHONOICO 0974292866 HE 1/2 4 ZIMBA HANDROS M ZALLIMWELLY 0977990512 No 5 NTIRENDA LITANT NUMBER COUP. 0976276/59 2013 6 Phen Peres ~ THEMBA 0977198443 000 Daka Jackson m KAMBELEMA 0970979956 C-P PHIRI CHAKUFWA m

9 BANDA KENEDY - L.			
IN DUIL KONLIEDY - L.	M	BARIA	0776366124 100 4
10 PHIRI MASTER	m	SHONGA	0970488905
11 JACOB ZIMBA	m	KAHONDICO	0949918035 3215
in SHADRICK MCHOMA	M	MICHEAL	S. axhang
13 KOSMAS PHIRI	M	KANDELEMA	097234293 K. Phiné
IL MIDNIGH ANDREW	M	CHIPEN	0777803009 194
15 Picnato Mitenda	m	CHIKOYO-	0970569311 R. Wene
16 kangachepe data	m	themba	0971471230 K. Kds
17 Phoma organida	m	chidesa	0979194873 A. Mirenda
18 Abut/Am mula	M	chalochamala	- A.mhila
19 CHIRNA ROAGOIS	37.	MERKO	0978566274 8
	8	Zakumwela	0978098493 mad
20 COLTOESS EXPLOSEDA	m	zakumodo	10973362867 5 DUN
21 Jernes Dylaboble 22 Maubin Banda	m	41	- M. Ganas
Hard State of the	M	NKHANGA SHOP	S 0972489227 @ 5 1
23 CHISOMO A. NKHATA			

24 Clement MAKEREA 25 MISMIKE CTRACE 26 Patrice Tembo 27 Mary B Zimbo 28 Ruth Nyrenda 29 Tope Phic. 30 PATWELL Nyrenda 31 TIMOTHY BONDA 32 NYONI EMMANUEL	M F F F F W M	1 1 miles	0970926580 C. 4 097325433 cmols 0973804486 and 0973804486 and R. Nyirenda T. Phiri 097649627 Almos 0972021945 Hoore.
33 Tiyane Kumwenda	f	Limba-Limba	T' Kumwenia

193	PARTICIPATORY LAND US	SE PLA	NNING ATTEN	DANCE LIST	r
PRO	GRAM: phup				
WAR	D: NKANGA				
ZON	E CHASAMWA				
DATI	E 15-07-2021				
FACI	LITATORS:				
5//N	NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
01.	HARA ROCKEN	m	THOMASI	0976666059	AWWA ?
	MKAMDAM RE BENSON	M	CHAKUTATA		
	NGOMA WITFRED	M	MUNDALYANGA	0976797952	W. noana
	MIREMAN LYTON	M	MICANTLE	0972624744	S. Lighlan Mingula
05	MIRCHARO WHYSON	W	GWAZAPAS1	0972249018	W. Ny Honge
	PHYRI TOTAM	M	CHAPAGINYA		Africa.
40	C EPHRAIM	M	KASAMBA	097082494	2 Flowbo
	GUMBO EPHRAIM BANDA LACKSON	W	CHUZU B.	0970693480	Hace (4 11

9 HARA SAIDI	M	THOMASI	67777-	-
10. GUMBO PAASKANI	M	KASAMBA	0777304970	
11. MICANDAMIDE AARON	M	CHAKUTAYA		P. Gumbe
12. WHIRENGO DANIEL	M	GWAZAPASI	0978281425	A. modern
3. WHRENDA LEWIS	M	JAJE	8970870867	This ?
4. MIONGA FRANCIS	M	KATAMANDA	, 201	FIR metro
S NGULUBE LOVEMORE	M	MKHONOO	0978099923	1
6 KIMBA WHYFERD	M	CHUZU . Z	09798134	
7 ZIMBA NEDSON	W	HOHO	09760001	ADMIN SA
8 DGULUBE LOYEMORE	m	MukHonso	0.	
9 MAMWIKO WATER	M	POROAPOROA		10 H Smile
20' SOMBA LYTMAN	M	1CALONG A	0948474783	Le sonde
RI MBENE JOHN	M	DULIRE	0772556746	Fine
22 NHIREMON DAINESS	F	JAJE		D. Augustada
3º MULLA ELIZABETH	F	JAJE		E Mula

24 GWAI Scolgsica	F	CHASAMMA SCH	0774446115	90
25 CHRWA ESTA	F	PORTAPONDA	-	S. GWANS
26. MARENDA SARA	F	GWA ZAPARI		S. wyme So
27 HARA HUMPHREY	W	THOMASI	0974291688	
28 MIONGA MICHAEL	M		0873006255	
29. 21MBA SUZERO	M	The second secon	0974808787	1
30. HARA DICKSON	M	PONOAPONOA		D. HARK
31 CHANGAYA THOMSON	M	Adick FARM	097771971	alex
32 BANDA LEONARD	M	ILASIYA	0974602621	
33 CHIROFO PHODA	F	CHASOMAD SER	0978742803	1Q
				No.
		BU 188	MARIO DE	
	1 1 19			
	The state of the s			

ONE BOYOLE	KARGA			
ONE: 4 M JMLY 2022				
//N NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
11 ESMAIL Zulu	M	BOYOLE	0972612017	5- Zulu.
12 Peter Banda	M	Boyole		P. Bos
11-44	We	Chipewa	0111933464	
3 Tomas RAMOINDA + TOSEPH MPSANDS	M	Chipewa	09771618	A STATE OF THE REAL PROPERTY.
	M	pos		Delin
5 Stephen Mohandle	M	Chi pena	077098588	900
7 Lenford Dulata	m	Pooyele	-	3
8 Mothers Tembro	M	B ZIBALWE	0776360	128 Mauri

10 Mattios Nuroneo	m	ZI BHEWE	8970100	
11 MAYOUN JAMES	m	Wingsi	0975425462	
12 PAILEMON arrow.	m	Soleta	091272138	M-royen
13 8 708 BOIHA	M	8615TA	0979829198	-
14 FLIZAH LANDAWEE	m	CHITAMEN	0975403276	7
15 WYIEDY MACTOR	m	CHIZASO	1757103216	
the Court of the C	M	BOYRE		# Lando
16 BRYSON MPHANSE	m	CHIPGVA	1970.00	Whang
17 IEDSON BOTHA	m	Our Bus	0979620708	/-
18 Addin MWANZA	m		0974088316	
19 Greson BOTHA	M	CHIAMEA	000	
20 BEHARD BANDA	m	BOTOLE	0978603460	3
21			077737095	D-Branda
22				

PARTICIPATORY LAND	USE PLA	ANNING ATTE	NDANCE LIS	T
PROGRAM:				
WARD: NKANGA				
ZONE: BOYOLE				
DATE: 14 JMLY 2022				
FACILITATORS:				
S//N NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
o' febby harda	f	WEGI	-	F-B
OL SABETA ZIMOA	F	BOYOLE	-	S . E soiling
US CHARAY DYCRUBA	f	SIBALDE	-	c.s
OH KELLINESS MSIMMKO	f	MIKA	-	Km
OS ESTER NYAMA	F	your	-	E-myama
06 AGRESS MYIKA	F	chipenn	-	A WHILA
OF TIBBLE MABILE	F	THROLE SELLIA	-	T-H
07 MMRUD MONGA	F	SELETA	-	Markenella

08 GLORY PHIRI 09 BRIGGT MUMA	F	CHIZN 80	-	G. PHIRI
BRIGET MUMA	f	CHIZASO	0978283141	B muma

## **Validation Meetings**

		PARTICIPA	TORY LAND U	SEPLA	NNING ATTEN	DANCE LIS	
	PRO	GRAM: MALADI	ATION		****		
	WAI	RD: NKHANG	А		••••		1000
	ZON	VE: CAMATET	£	••••••	****		1000
	DAT	E. 30 JULY	2020				
	FAC	ILITATORS:					
	S//N	NAME	-	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
	t-	WHIFORD	TEMBO	m	JONAS	0976610316	W. TEMBE
	2.	FALO	NXHOMA	n			F. NKHOMA
74	3.	Jumbe	1Embo	n	JONAS	09755841037	J Fine
1		JOHN	SHUMBA	M	Jim	097172885	
Ī		Mutergo	Tenso	N	MUZI LANTHENDE	0978651597	1000
-		ESACK	ZIMBA	m	MUKAKENI		E. ZIMBN
		BANDA	PETER	m	KAMUZATI	0976184167	P. BANDA
		THINKHO	ZimBA	n	MUKAKENI	0974355006	

9. CHARLSE NGULUBE	ne	0971300421	097950042	C NGULUE
10 TYSON KAMANGA	m	CHITHAONGA		
4. PARTWERL NKHOMA	m	NIONIO		P. NKHOMA
12 EMANWEL TEMBO	m	MUZILANIHENDE		E · rembo
13. MAIKO SHUMBU	m	Jimu	0479528009	
14 JAMES NYIRONGO	74	JAMU		J. NYIRENGO
IS WHATSON ZGOVU	ne	ALAMU		W. Zgovu
(2-111	m	MIALIMANIA	0976602295	W. TEMBE
	m	CHIMISTENDO		B. TEMBO
17. BLASTONE TEMBO RAMANGIA	ne	GWANSA		P. KAMANGA
	M	KAMATETE		W. ZIMBA
19. WATSON ZIMBA	m	KAMUZATI		K. BANDA
20. KOMAN BANDA	ne	LUPITA	0977929279	E . NGULLE
1 FILAS NGUISE		mulalima	NA	K. TEMBE
2 PA	nl			t. HARO
22.1111011	m	Donoko		
23: FELIX NYIIZONGO				

GAZIZANI	1 Em Bo	m	KALIKEKHA	0978535654	G. TEN
MUPWATER	KAMANGA	m	CHITHAONGA	· (10000000 4	M-KAMA
ALEX	Temso	m.	muTALIMANJA		A- TEMB
SIMON	TemBo	n	CHIBAULA		S. Em
KELVING	BANDA	m	KAMUZATI	0779600246	K. BAND
CHIKOMEN!	Temso	m	SONAS		C. TEME
LIGHTWEL		m	JONAS		L. Ten
MADSON	MUSETEKA	m	BULAULA		m. mus
misozi	MIONGA	na F	MIALIMANJA	0973931955	M. Mulan
BLANDA	BANDA	pa F	MIALIMANJA		B. BAN
MAIWASE	Zgambo	ma F	MIALIMANJA	8	m. Zgar S mions
SUZANG	miongA	ne F			W CTONDW
WILI C		M		07773\$7100	E. THE
WILI	T (M-1=0	m	KAMATETE		T. Zim
TRAISON	EL' THED	m	BULAULA		1 7 1100

### PARTICIPATORY LAND USE PLANNING ATTENDANCE LIST PROGRAM: VALIDATION & ZONING WARD: NKHANGA ZONE BOYOLR DATE: 31/07/2022 FACILITATORS:..... GENDER VILLAGE M-N ZIBALNE 1. MARY NIRONGO KM barka 2. KELLINESS MSIMMKO PK BOYOLE 3 FRBBY KUMWERDA AN F CMPREWA A ALIAROS AYIKA ap p chizaso 5. GLORIA PRIRI 0974265313 6. CHESTER MUNSANDE BOYUL 2 0444370916 A Bang-Botoke 7. BENASO BANISH 0979529195 M SELETA 8 PHILEMON NONI

	GADSON NAOZO	m	CHISTASE		GUDAL
	BENARD MKANDAWRE	M	CHIZASO		
11.	MOYET Bernso	m	Churgiere		
12-	Mathews Tembo	M	Zibaline	0776368402	
13.	LUKE MAGABA	M	Boyde		不同
	Zebby TEMBO	m	Zibaline	0975425462	Tuho
	Elisa Kandawire	M	Chizaso		
	JOHN ALMONA	M	Chicho	0 97359589	
		m	Yoke	0971204516	But 1
17	Lamece Change PATIMEND Muche	n	CHEPENS	09782884	
18.	CHANG DAULANZA	m	CHipava	597626	4 C.Min
19.	CHARY MWANZA	m	Zibulwe	100	J.E. And
20	John ELISAH Tembo	M	chipeaser	8776186294	an
21	Abubakar Docalomila	M	Clibe dibe	077736990	( G. July 1009
22	George J. Nyirongo Joseph prophense	we	CHIPEW or	0977458	Nim

29	besone A- Bli	· pt.	Rogale	164/03/16	1-12.
35	CHARLES KASNAMER BANDA	M	LUKA VILLASE	1	Morde
26	BRENDAY MUMA	Ŧ	Boyale		
27	preclas museteka	£	Boyote		P. musetek
28	Leya Phiri	平	Boyole		L. Phir
29	TECKSON BOTHA	m	BUKA		T. BURT
	MATINS NYIRONGO	M	Weg		Mayronga
	Marsoncha Komanii	n	CHIPSINA	0474771053	Xel.
	Questinu Banda	m	Bolole	09720558180	to soundy
	Bonson Banda	m	Bozace		5 Banda
	0	W	buen	0975235991	
20	LAINFORD NUMBIA	m	KAZEMBE		L Wilharts
	1	m	Chipewa	0770985889	- A ) do
2		m	wegg	0771148913	E hotel
	7 Poter inwandila 5 75884 Randon	+	Wegi		of Bon

VARD. AKHAACA				
ONE CHASAMWA				
ATE: 8/07/22				
ACILITATORS:				
//N NAME	GENDER	VILLAGE	CONTACT NUMBER	SIGNATURE
1 DICKSON CHIMA	M	JUMP	0974110936	Dance
2 EPHRAIM GUMBO	M	KASAMBA	097804929	E.anb
3 JOSEPH NYIKA	M	CHASAMWA SCH	0977944978	Autoc
BANDA IGNULUS	m	CHUZH	0970693480	
DANNY NERENDE	M	JAJE	0770136158	Downs
6 MICHAZL CHANGASYA	Μ.	Adek	0978 281281	Marie
MICHAY CHAY	M.	Merondo	0974449	18 B
Figurall Banda Rockery	100	HomAs1	0976606069	MAD 'S

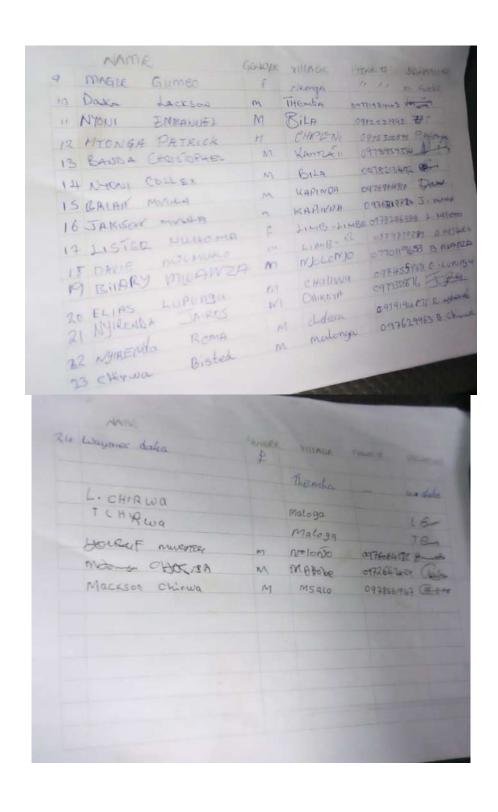
9	SHABAH AGROW	M	LAMES	0975021850	A Stratach
10	REV HARA LASTON	m	PONSA-PONSA	0978661188	
11	MIONGA MULIBA	m	NGWATA	0973302221	hig
	Misheck Banda	m	Chuzu Bardo	-	m. Barrola
	waison Nyilongo	nı	gwazopasi	-	W. Hyilon
	LXNJEN PHIRI	W	Rasing	097223686	
	ELIAS MIONGA	M	KAPALASA	0978702286	16 Creter
16	Patrick Banda	m	CHUZU BANDA	0973965974	P. Band
	Charls Banda	m.	CHUZY Banda	0948100380	C. Band
	Daniel Chine	M	Suma	0972560754	Our D
19	Jefferson Chima	M	Juma	०१७ ११३२७ ४	
70	Thomas Chima	W	Juma		
Co	apporto Ryona	4	CHOSANIONA	09787428	03 re
21	Dicholas gumbo	M.	KASAMBA	077/14/83	W.

AR	GRAM: MIDATION AND ZON  D. MKHAMSA WARD  E. Chikings	124	****	
АТ	E: 30th July, 2022	PO, ANE	TA, MATZHEN (L	x) TOWISIMS (TX)
//N	NAME	GENDER	VILLAGE	CONTACT NUMBER SIGNATURE
,	EDDIE ISANDO	m	Sacresit	0975555209 BAT
	BENTRY THEO	p.s.	KAMPEZENI	0979809561
4	156 (12)	nı	Saorisia	0878716909 GNUL
3	GEORGE NICHOWAN	M	CHIRLY SCHOOL	0711143555 &
	BANDA SHONEY	m	Savonga	0 9 74959585 8.00
5	NKhowani Patrick	701	chemudema	0976646044
,	SCHZO KHBNON			0976904932 S.A.
D.	1 1 1 1 1 1			097000

10	Ronaldo Daka JESAT CHIPETH	m	Kalingo	0977207916	A)
	-	m	KACHAM	0972406249	
	JASON MTONGA	м	KAMPEZENI	0777377158	
12	DINGI TRYSON	M	KALINGA	0971956170	The second second
	KENNEDY WASARD	M	KATEMBA	0972334992	
14	Muez, nabinda	m	19 cerycus		
	Crement Makeware	156	Sauvigo	017985240	
	TYSON Zimba	m	Sunta	8473777808	T. Zinda
	makan monga	jec	pany ofen	0978871442	M.M. Com
		M	SAORGA	097940108	Office
	EDWARD PHILL	FE	Saenlya	0578845129	me Phin
17	Matilder Phin	7	Samo	0473125160	R. Hypen
20	Roider Hyllenda	F	honga kapyanya		W. Physica
21	Whitness I have	7	tappanga		Office.
22	Catrine Mkhowam	7	athicite servest	0975788518	Mr. House

7	~0002331	Marga	m	Kampezoni	K. Maga
25	Temulana	i Theo		16959,19	T. 7140
26	Brighten	V Bayda	B <sub>M</sub>	Saonga	097265235613. Barda
27	MAVIS	mende	F	Salonga	m.manda
28	MORINE	pod Colova	7		M. Nelhaoren
		Lungu	m	Clinkwongo	0779817236 A. Lingu
		1 Kolinda	m	KIPYANGA	0973054226 1 debinds
		n. Nikhowai	m	Soronga	0972542742 ANKhown
1-	Product	kasında	M	keepjerrya	0979939088B kubida
200	PULLEN	MEANINGE	m	Meund	S. wandow
33	SIELISA	in Lowar	评	Saviga	J. sukmilan
34	Und etc	mkanlawal	F		0972307107 5 chizinga
35	DATLES	CHIZINGF	F	kapyanga	R mxtralip
21		mKhali Pi	m	Kapyunga	0973807869 C. Habrida
27	Chy m 10 22	was manya	MA	Kalinya	0972609271 1

ROGRAM VALIDATION NO AND			
VARD: NEHANGA			
DATE 31 July 2022  FACILITATORS MATTHEM LANANCES	ME CHIS	SA BROTZULU,	TOMBINE (TY) THEY
FACILITATORS MATTHEM EATER	CENDER	VILLAGE	CONTACT NOMES
1. Banda obete S.  2 JERE BETT  3 PHIZE PETERS  4 MCIMALO MORTON  5 MEINTE MORTON  6 ABOUT MALES  7 MOSES MUSICAL  8 HOPORT MISSION	M F H	MUNITAR NUMBER AND	व्याहरणपष्टि है के किया के जाति है किया किया किया किया किया किया किया किया



WING	77707	
MACH	77779	
THEN		
THEN		
	(24) ME CHIRE	on 800, mc Zuce, Lon
GENDER		CONTACT NUMBER SIGNATURE
per.	mahobe	0974431364 W.M.
M	NGWATA	0974397778 10 40
ver	Mawata	0974944337 H noting
H	maneh#	097530739 L 2000
11/	nguada	097/899704
		0979457627 1 My
		0977A98ALA 78
27/	Innua se se se	
m	Choose	Q 214 14581987PO
		0975087177 DE-
m		40 4
m	CHIPOPRE	+ S +++++
m	Mahobe	J. Mbelia
701		* 097649627 P. 1-
m	Chipadu	007 k 121215 to
		0970999
		01/84/8/8
	Liperde	097766119
	pande	-1268 BUE
	- Historia	4 / 1 (222) 1 PM
	- nde	011
	M M M M M M M M M M M M M M M M M M M	M DGWATA M MANDED M MANDED M MANDED M MANDE M CHIPONE M MANDE

	Jangos Lynes	mtonga	W	mahobe	0	-
	- mes	Selonon	M	mahabe		- pus
26	Tamala	Chungu.	m	Chiponde		-
0	Voilet	Chena	m	mahabe		V mad
	Esnat	Sele	m	mutchisa		esus
28	Fyres	nysterna	m	muhabe		Semo 3
9	MACTA	TI NGWATH	1	MAHORE		Alex)
0	RICHPE	D Zimba	ph	machisa		thenke
	Charles		M	Chiponde		Corriverdo
			f	Chipenole		A F
	ALICE		m	- relia	04718485	Jus
	mather S Kekha	zibq mtonga	94	Makabe	O 170801/253	K-wdorigs