





MAWANDA WARD – LUSANGAZI DISTRICT PARTICIPATORY LAND USE PLAN (PLUP)



Prepared by: Land Alliance Consortium (TSP) in Collaboration with PETAUKE/LUSANGAZI DMT

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Preface

This Participatory Land Use Plan (PLUP) for Mawanda 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 one: 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 Assessment (SBIA), and various stakeholders such as His Royal Highness Chief Sandwe of Sandwe Chiefdom, Petauke/Lusangazi District Multi-Sectoral Teams (DMTs), Department of Physical Planning, Mawanda 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 Mawanda 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.

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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 Lusangazi Town Council District Commissioner Lusangazi District

HRH Chief Sandwe Sandwe 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
- GMA Game Management Area
- **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.

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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.

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1.3 Legal Context

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

Further, it provides guidance on the development of areas within land falling under customary tenure with the provision of developing planning agreements between traditional authority and relevant government authorities. However, there are other laws and policies that govern Land Use Planning in Zambia which were adhered to during the preparation of Mawanda 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 Mawanda 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 Mawanda 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 Sandwe. PLUP sensitization meetings were held with the Indunas, Headpersons, Mawanda 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 four clustered focus group village meetings namely; Mawanda zone, Makale community, Penje-Penje community, Nyaluwilo community were represented at the clustered village meeting. Community members in all the four clustered meetings took a leading role in developing sketch maps, problem analysis through pair-wise ranking, identifying shared resources and validation of the maps.

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

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

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

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until the point recorded is shown to be reasonably in the right location relative to the orthophoto image.

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

2.1 Stages of PLUP Activity

No.	Activity	Objective	Strategy	Output	Target	Indicator
1	Village Identification	Know the total number of	Physical Data Collection in	95 villages were identified.	All Villages within	Villages falling within
	(Rapid Village	villages in the ward by	all villages		Mawanda Ward	the ward boundaries
	Assessments).	picking points of interest.			boundary.	were captured.
2	Sensitization of	Sensitise Indunas and Head	Indunas and Head Persons	7 Indunas from Sandwe Chiefdom	All the Indunas in the	Number of Indunas and
	Indunas and Head	Persons to fully accept	meeting	were sensitised.	Ward.	Head Persons sensitised
	Persons	PLUP				in the chiefdom of
						Sandwe.
3	Community	Sensitise communities on	Community meetings	One Community Meeting for each	Community members in	225 Total Number of
	Sensitization	PLUP		of the 4 Village Clusters.	all the 4 Village Clusters.	community
						representatives
						sensitised across the
						ward, disaggregated as
						109 men and 116
						women.
4	Shared Resource	Collect geographical	Physical spatial data	16 Shared Resource Maps were	Shared Resources within	Shared Resource
	Mapping	locations of the resources	collection	produced	Mawanda Ward mapped	Mapping exercise
		present in the community.				completed in Mawanda
						Ward.

5	Mawanda 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 Mawanda	done at the Palace and in	and community
		confirm the boundaries.		Ward.	all the 4 village clusters	representatives in the
						ward.
6	Future Land Use	Develop maps of how	Community meetings	Future Land Use Plan developed	The whole Mawanda	Future Land Use Plan
	Planning and	communities envisage to		and By-Laws formulated.	Ward	and By-Laws done.
	Formulation of By-	sustainably use their				
	Laws	natural resources.				
7	PLUP Approval	Have the plan approved by	Submit PLUP copies to	PLUP approved	Mawanda 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 Mawanda Ward

Mawanda ward is one of the four (4) wards in Lusangazi District namely: Mawanda, Lusangazi, Chisangu and Ukwimi. Mawanda Ward falls under Lusangazi District, which has one constituency called Msanzala and covers a total surface area of 3,701 km². It lies between latitude 13°26' and 13°55' south and longitude, 31°22' and 31°42' east. Mawanda Ward is surrounded by 8 wards, namely: Lusangazi in the North; Ukwimi and Chitawe in the East; Mn'goma, Chilimanyama and Nyika in the South; Singozi in the West and Chikowa in the North-West. The map below shows the location of Mawanda Ward:

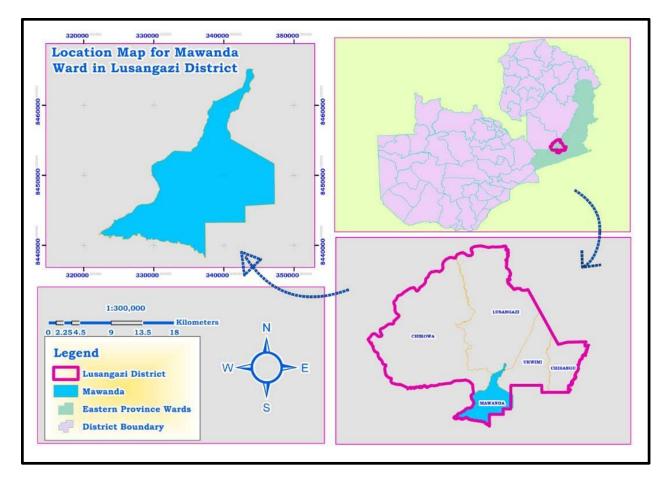


Figure 1: Mawanda Ward Location Map

3.2 Climatic Conditions

Mawanda 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 Mawanda with an average annual temperature of 23.4 °C and annual rainfall of 1,051 mm.

3.2.1 Temperature

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

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

Table 2: Monthly Temperature Conditions for Mawanda Ward

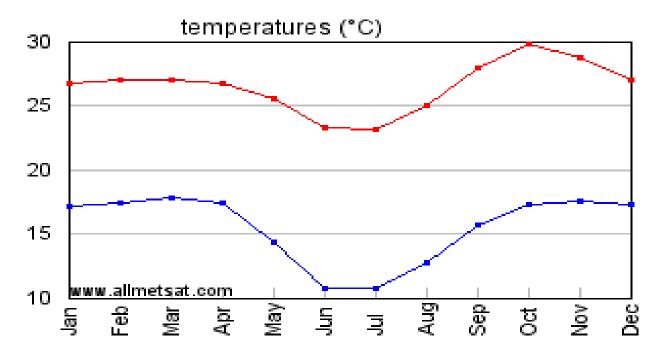


Figure 2: Monthly Temperature Conditions for Mawanda Ward

3.2.2 Rainfall

Mawanda 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 Mawanda Ward:

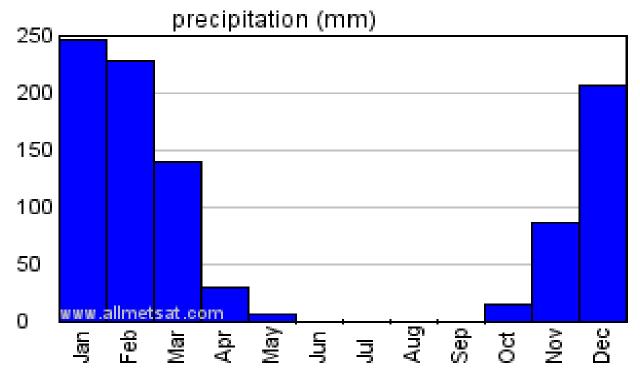
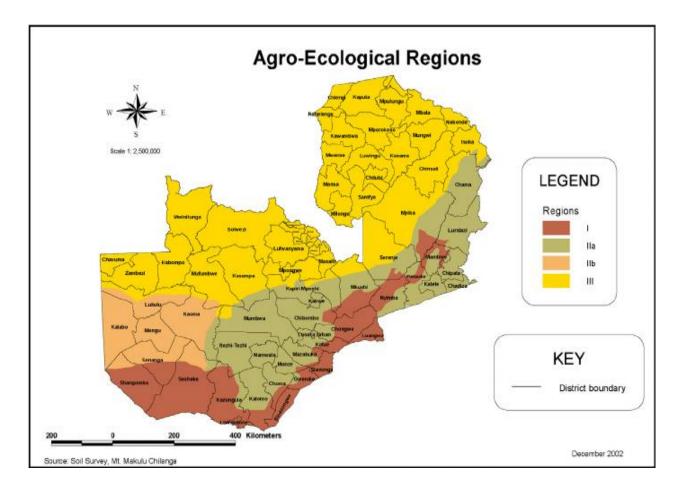
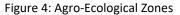


Figure 3: Annual Rainfall Pattern for Mawanda Ward

3.2.3 Ecological Zone

Zambia, as a country, is divided into three main Ecological Zones, which are: Zone I, Zone II and Zone III. Lusangazi District is characterised by both the I and IIa Ecological Zones. Mawanda Ward, being located in Lusangazi 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 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:





3.2.4 Soil Types

Mawanda Ward is dominated by three soil zones i.e. Acrisol, Luvisols and Lithosol soil zones. The Acrisol soil zone is the most common type and 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 Lithosol Soil Zones are characterised by rocky sandy soils which are very shallow soils developed from various non-carbonated hard rocks and sandy soils which are well aerated but do not hold much water and they have poor nutrients, making them unfavourable for agricultural practices (Ersek, 2020). The Luvisols soils are characterised by red clays or red brown heavy loams which are difficult to till by hand, but rich in nutrients and have a good water holding capacity, hence favourable for

farming activities. Agricultural activities in Mawanda Ward take place in all the three (3) Soil Zones. The figure below shows a map of Mawanda Soil Types:

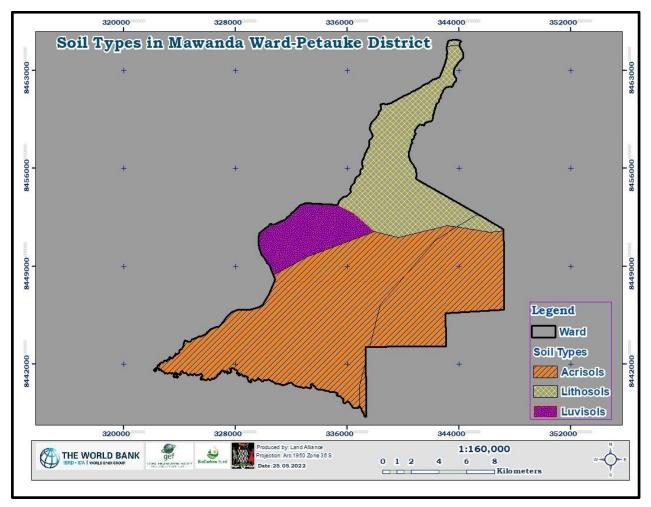


Figure 5: Mawanda Soil Map

3.3 Socio-Economic Environment

Mawanda ward covers a total area of 24,384.7 hectares. Settlements in the ward are dispersed with poor road networks, especially during the rainy season, as some areas become inaccessible because streams flood and there are no bridges/culverts (Petauke/Lusangazi JIDP, 2021). Based on the village geo points collected, the ward has a total of 95 villages, and according to the 2017 Census of Population, Mawanda Ward has an estimated total population of 14,230 as shown in the table below:

POPULATION							
MAWANDA	Male	Female	Total				
	7,038 7,192 14,230						
Source: Petauke/Lusangazi JIDP, 2021							

Table 3: Mawanda 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 Lusangazi District at 2.8% Growth rate as per 2017 Zambia Census projection.) On this basis, the population of Mawanda Ward was projected to increase to 15,414 and 20,120 in 2021 and 2030 respectively (Petauke/Lusangazi 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 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

Mawanda Ward has a total of seven (7) schools: five (5) primary schools and 2 private schools (one of which is a pre-school). The ward currently has three (3) health facilities. The map below shows the spatial distribution of social facilities in Mawanda Ward:

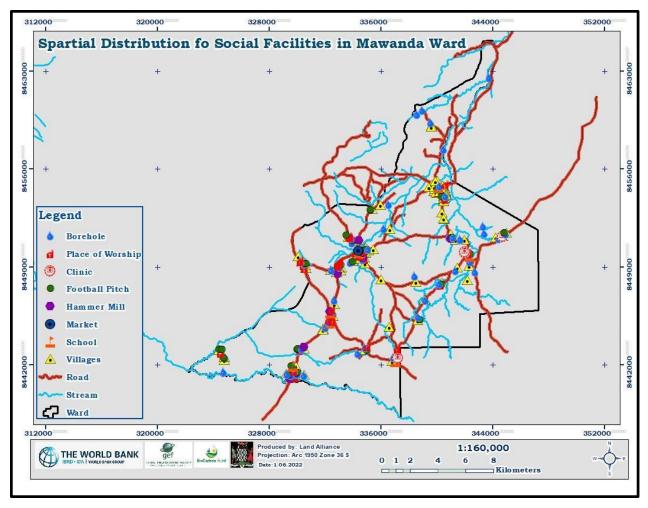


Figure 6: Spatial Distribution of Social Facilities in Mawanda Ward

3.3 Source of Livelihood

Livestock keeping, subsistence farming and artisanal mining are the predominant livelihood activities in Mawanda Ward, with soya beans, maize, sweet potatoes, sun flower, tobacco, cotton and groundnuts being the main crops grown. Animals reared by the local residents of Mawanda 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 Petauke. The communities in Mawanda Ward also survive on non-wood products such as fruits, caterpillars, mushrooms and honey among others.

3.4 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 Mawanda Ward residents is closely related 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. Consequently, climate change affects rainfall patterns, further affecting agricultural productivity and endangering the livelihood and food security of the local people of Mawanda Ward.

3.5 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 Mawanda Ward residents on agriculture and artisanal mining has led to increased pressure on the natural resources, especially with land being the means of production for agricultural and mineral-based sources of livelihood. This unsustainable natural resource utilisation for survival, such as cutting down trees for field expansion and digging trenches in search of mineral deposits, leaves the lands bare, thereby resulting in soil degradation, which, in turn, 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.

Illegal mining for alluvial deposits of gold for survival by the local residents has led to trees being indiscriminately cut down and has left big trenches on land which could have been utilised for productive farming activities.

Increase in population has equally contributed to unsustainable natural resource usage in that community members clear land for purposes of settlements, mining and agriculture because their livelihood is entirely dependent on farming and artisanal mining. Thus, they either clear land for field expansions, to open up new fields or for mining activities. Additionally, parts of Mawanda Ward have no access to electricity hence local communities depend on wood fuel for their energy use. Thus, the high demand for firewood contributes to the rampant cutting down of trees.

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.

3.6 Livelihood Constraints and opportunities

Agriculture and artisanal mining are the major livelihood activities in Mawanda Ward but due to climate change the area has been experiencing late onset of rains, occasional dry spells and floods which have affected yields, thereby affecting the livelihood and food security of the local people. However, there are opportunities to improve 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 tourism services and 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 Mawanda Ward:

 Low agricultural yields due to poor farming practices Lack of initial startup capital Lack of alternative livelihood sources Poor road network to access some villages Lack of electricity Investment in green energy e.g. solar 	Constraints	Opportunities
Illegal mining activities Investment in mining equipment	 Lack of initial startup capital Lack of alternative livelihood sources Poor road network to access some villages Lack of electricity 	 Venturing into value-addition activities Establishment of market infrastructure Construction of roads Investment in green energy e.g. solar

Table 4: Livelihood Constraints and Opportunities

3.7 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. Mawanda Ward has various biodiversity hotspots and the following hotspots were identified during the PLUP preparation process:

3.7.1 Streams

Mawanda Ward has several streams, which cover part of its boundary and no dam. 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.

3.7.2 Forests

Mawanda Ward has no forest but has more than 25 hills and 35 woodlots. These hills and woodlots are biodiversity hotspots which need protection and conservation. The woodlots and

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 woodlots and hills in Mawanda Ward.

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

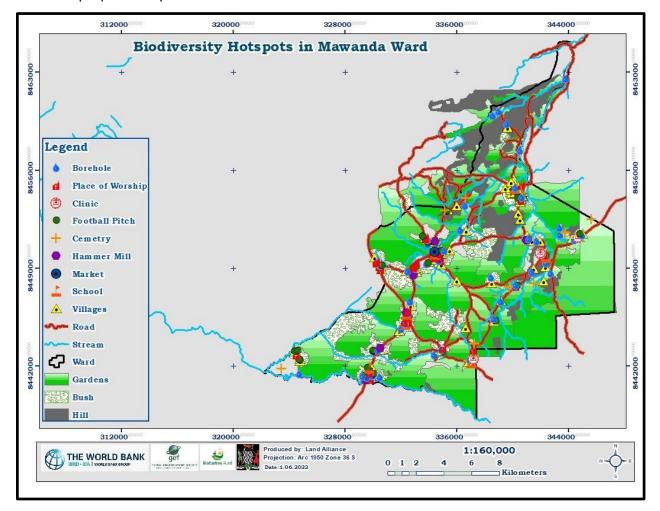


Figure 7: Biodiversity Hotspots

3.8 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, charcoal production and illegal mining activities in Mawanda 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

Mawanda Ward has several hills and the main land uses are as shown in table 5 below where agriculture is leading followed by forests that include the existing CFM and proposed CFMs, settlements, then hills, the bush and the Dambos proposed for free range grazing of animals. 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)	24,384.7		This is the total area of Mawanda Ward.
2.	Agriculture	14,908.3	61.14%	This is land under cultivation.
3.	Settlements	808.6	3.32 %	These include: Villages and other built up areas such as Schools, Health Facilities, Cemetery, Football Pitches, Markets etc.
4.	Hills	3,653.4	14.98%	Hills not designated as forests but also not used for human settlements or agriculture
5.	Bushes (Woodlots)	3,288.7	13.49%	Land classified as community woodlots.

Table 5: Land Use Reservation

4.2 Agriculture Land Use Suitability Analysis

This is an analysis that was done to identify the suitability of Mawanda 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 Mawanda.

4.2.1 Soil Types

There are 3 Soil Zones within Lusangazi District, namely: Acrisols, Luvisols and Lithosols. Mawanda Ward is covered by Acrisols (Loamy), Luvisols (Loamy-Clay) and Lithosols (Sandy-Clay). Lithosol (Sandy-Clay) Soils are more fertile than rocky soils because of the combination of two types of soils (Sandy and Clay). The clay particles in the Lithosol (Sandy-Clay) soil improve moisture retention while the sand minimises compaction and improves drainage, making the soil suitable for agriculture. From the map below (figure 9), it is clearly shown that the Southern part of the Ward is covered by Acrisol (Loamy) Soils while the Northern part of the Ward is composed of Lithosol (Sandy-Clay) Soils and Luvisol (Loamy-Clay) Soils. Agricultural activities in Mawanda Ward are done in all three (3) Soil Zones.

The map below (figure 8) shows the soil types covering Mawanda Ward:

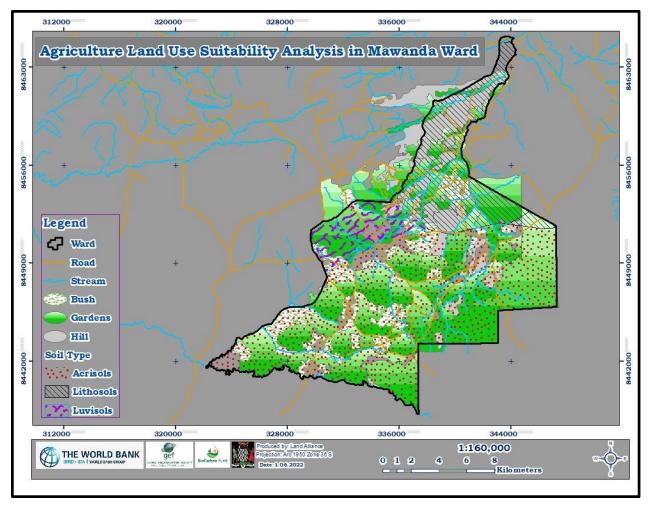


Figure 8: Mawanda Ward Agricultural Suitability Analysis Map

4.3 Land Resource and Administrative Boundaries

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

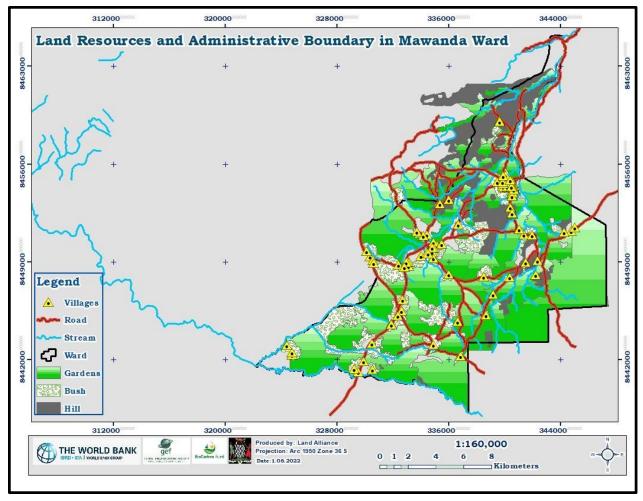


Figure 9: Land Resource and Administration Boundaries

4.4 Current Land Uses

In terms of land uses, Mawanda Ward is mainly covered by agricultural fields, hills, bushes (woodlots), human 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 Mawanda Ward:

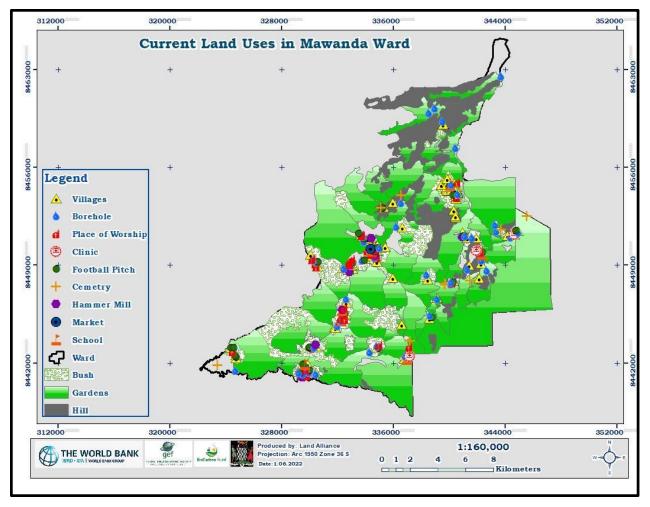


Figure 10: Current Land Uses

4.5 Land Use and Agriculture

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

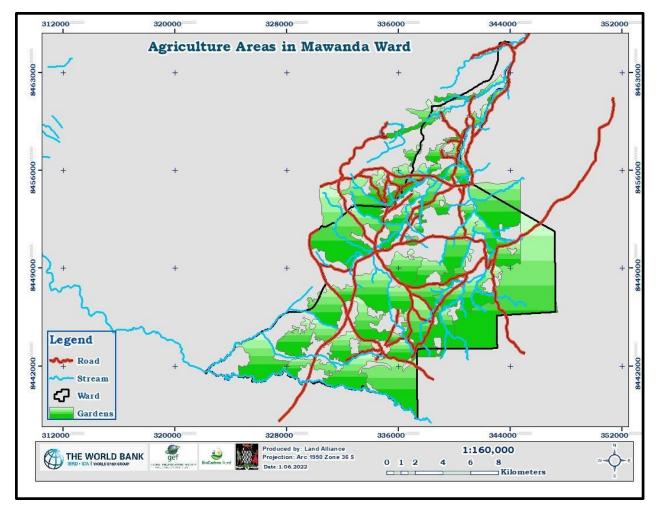


Figure 11: Land Use and Agriculture Map

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, there are **no** forests in Mawanda, but communities have set aside woodlots and hills for conservation. These woodlots and hills are where they get firewood, mushrooms and vinkubala (mopani worms).

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

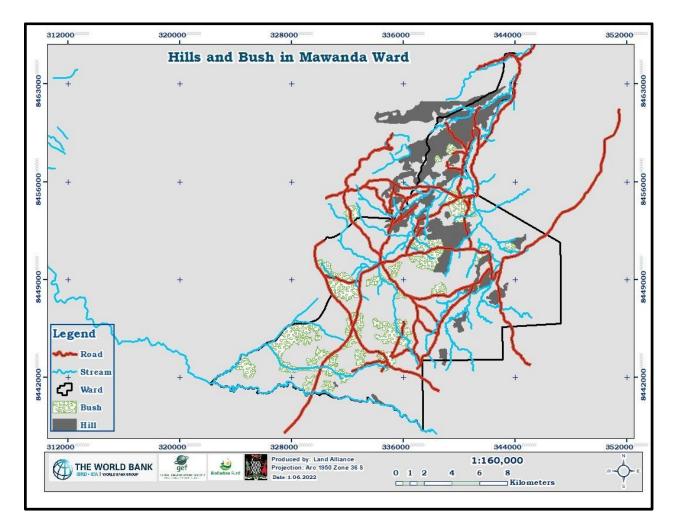


Figure 12: Land Use and Forest

4.7 Land Use and Wildlife

One of the objectives of PLUP in Mawanda 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 Mawanda Ward and this was attributed to an enabling vegetation cover, lower

human population, smaller agricultural fields, close proximity of Sandwe GMA and respect for nature by the local people through traditional authority.

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.

Further, there is a need to promote and establish a Community Partnership Park. For all the mitigation measures highlighted to work effectively, human mind-set change towards wildlife conservation is cardinal. The Community Partnership Park or Community Game Ranch suits better in the area considering the fact that most of Mawanda Ward falls in the open area. This can help expedite the process of establishing the Community Partnership Park or Game Ranch suits since open areas have fewer legal processes unlike the Game Management Areas (GMAs).

4.8 Land Use and Mining

There are artisanal mining activities for alluvial gold deposits in Mawanda Ward. The increase in population in Mawanda is as a result of the mineral deposits found in the ward which have attracted a lot of settlements especially in Chikowa area where small-scale mining activities take place.

The existence of mineral deposits in the valley part of Mawanda ward has seen a steady increase in settlements in that area due to small-scale mining activities in the area. The increase in population due to mining activities increases the loss of community forests in the area. It is important to ensure that proper plans are made to decide which areas will be for mining prospects and which ones will be preserved for community forests.

4.9 Land Use and Tourism

There are currently no tourist attraction sites or activities in Mawanda Ward. However, the creation of a Community Partnership Park or Game Ranch establishment has potential for tourism attraction. It suffices to mention that Mawanda Ward is next to a GMA and some animals

from the Luangwa National Park traverse through the ward and if well harnessed can attract local and international visitors.

4.10 Land Use and Physical Development

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

The Ward has five (5) primary schools, namely: Mawanda, Makale, Penje Penje, Nyalubilo and Chizalira primary schools. Additionally, there are 2 private schools in the Ward: Mr Flowers Little Angels Academy and a Pre-School.

There are four (4) health facilities in Mawanda Ward: Nyalubilo Health Post, Mawanda Rural Health Center, an unnamed clinic and an unnamed Health Post. The map below shows the physical developments of Mawanda Ward:

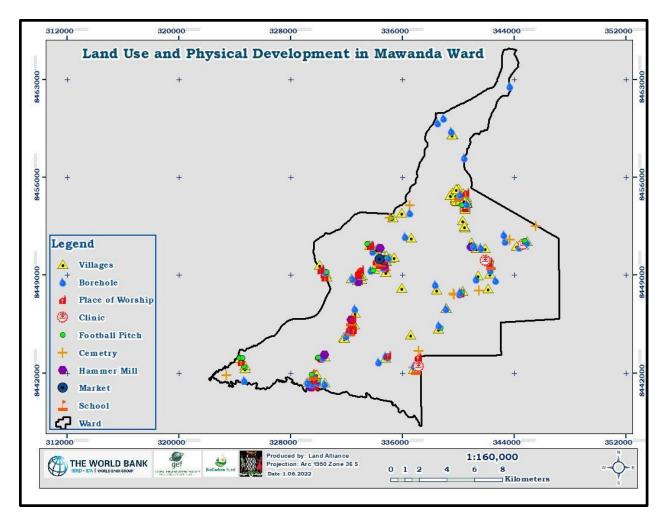


Figure 13: Land Use and Physical Development

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 Petauke/Lusangazi 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 Lusangazi District. In the initial stages of PLUP activities in Lusangazi, Chief Sandwe was identified to be the custodian of land in Lusangazi Ward. The team went to the Chief to explain and solicit support for implementation of PLUP in the Ward falling in his Chiefdom. The chief 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 Mawanda Ward was embarked on through a series of community engagement meetings which involved meetings with the Chief, Indunas, Head Persons and eventually the community at large in sharing the PLUP concept so that Free Prior Informed Consent (FPIC) could be adhered to.

Since Mawanda Ward has villages which are far stretched apart, community engagement meetings were held at three 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 Mawanda 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 GPS 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:

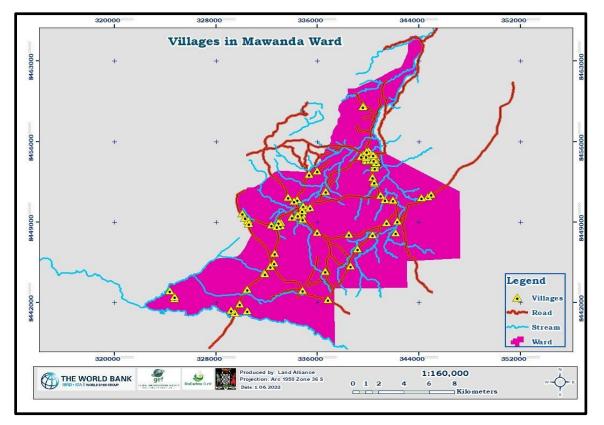


Figure 14: Distribution of Villages in Mawanda Ward

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 Sandwe. Below are pictures showing communities validating the mapped resources and proposing areas of conservation:



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

5.2 Agreed Local Rules for Land Use and Resource Management

Prudent management of natural resources where the residents derive much of their livelihood in the rural communities is a daunting task in the absence of agreed local rules for land use and resource management. The formulated by-laws for Mawanda 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 Mawanda residents are no exception. The most prominent challenges are:

- Unsustainable agriculture practices.
- Environmentally damaging artisanal mining activities
- Lack of tenure security due to undocumented tenure rights.

• Marginalisation of the vulnerable groups such as women and youths.

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

Problem	Causes	Possible Solutions
• Scarcity of water	Poverty	 Drilling of boreholes and Dam
Deforestation	Ignorance	construction
Lack of electricity	• Seasonal streams and late onset of	Adopting conservation farming
Poor road network	rains	practices
• Poor rainfall patterns	Lack of alternative livelihood	 Adopting climate smart
Lack of schools	sources	agriculture practices
• Loss of soil fertility	Unsustainable agricultural practices	Rehabilitation/construction of
Reduced crop yield	Land degradation	roads and related infrastructure
• Shortage of land for	Lack of by-laws	• Skills in mushroom conservation
agriculture	Inadequate communication towers	and bee keeping
Inadequate	Siltation	Installation of Communication
communication facilities		Towers.

Table 6: Problems Identified

6. CORE ISSUES AFFECTING LAND USE AND THE ENVIRONMENT

At the four clustered community meetings held at Mawanda primary school, Penje-Penje primary school, Nyaluwilo Primary school and Makale primary school, members across villages in Mawanda Ward identified various problems affecting them. During this session, participants were guided on 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 conservation areas.

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 hills and other communal/shared resources is often misunderstood because the communities claim that woodlots, hills and trees in the wild in general do not belong to anyone. In addition, bush fires were identified as a key driver to tree-cover loss and land degradation. There is a general belief held among communities that bush fires, being a long-term part of the woodlots/hills ecological systems and historical part of their culture, do not significantly affect ecosystems 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 Mawanda 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. The map below shows the distribution of water points in Mawanda:

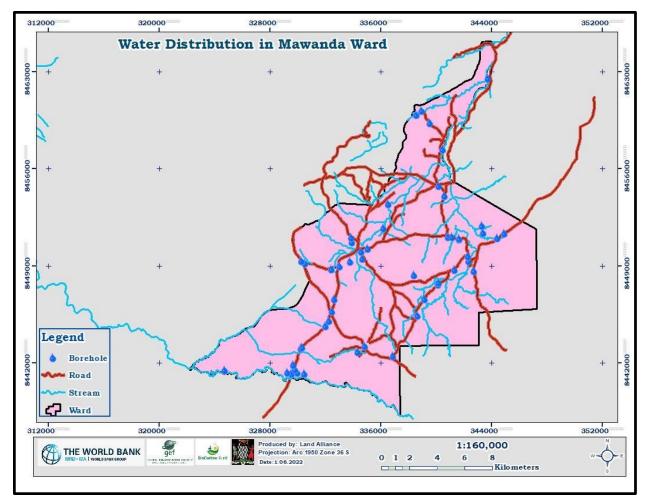


Figure 15: Distribution of Water Sources

6.2 Soil Degradation

This problem is mainly as a result of encroachment into protected conservation areas, unsustainable agricultural practices, bush fires, over-grazing and cutting down of trees for charcoal production, field expansion and artisanal mining. 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 Mawanda 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 Mawanda Ward has a total of five (5) schools, all of which are primary schools namely: Penje Penje, Mawanda, Chizalira, Nyaluwilo and Makale Primary Schools. These schools enable children within the Ward to receive adequate primary education, but the absence of a secondary school in the Ward means children cover extreme long distances to access secondary school education in the neighbouring Lusangazi ward.

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

 All villages in Mawanda Ward fall within the recommended 5km radius of one or more of the 5 primary schools in Mawanda Ward and 1 community school located about 50m into the neighbouring Singozi Ward.

That being the case, secondary education levels are generally low in Mawanda Ward. This is mainly attributed to the lack of adequate secondary education facilities. The figure below shows the education facility service radius for primary education in Mawanda Ward:

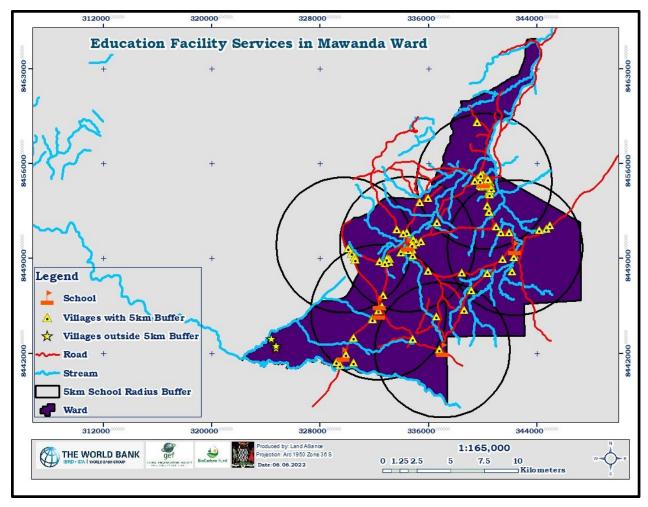


Figure 16: Primary Education Facility Service

6.5 Inadequate Health Facilities

There are currently four (4) health facilities in Mawanda Ward servicing residents of Mawanda and other surrounding areas. An analysis of the data shows the following:

• 22 villages in Mawanda Ward fall outside the recommended 5km service radius for clinics.

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 Mawanda 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 Mawanda Ward:

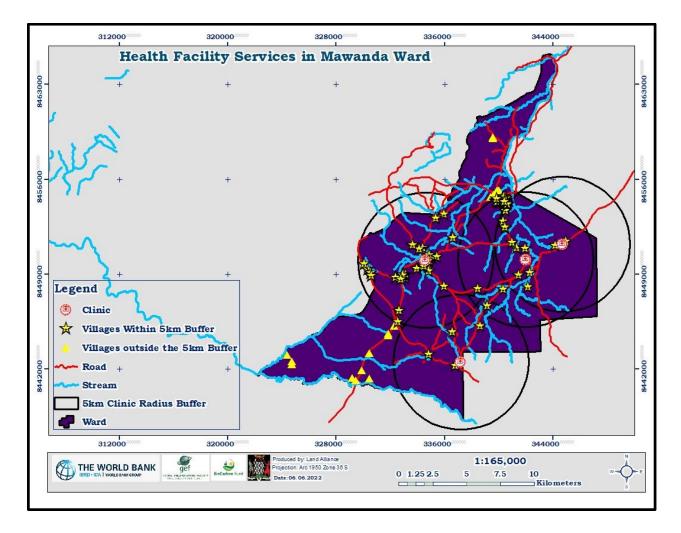


Figure 17: Health Facility Service

6.6 Inadequate Telecommunication Facilities

The community in Mawanda Ward identified telecommunication as a major challenge affecting the Ward. The data analysis in the area shows a deficiency of this service, with only 1 Airtel network tower installed in the Ward. The telecommunication network tower installations facilitate the ease of access to diverse forms of information within the shortest possible time. Having telecommunication towers installed in the Ward would enable the residents of Mawanda 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), AIRTEL have established themselves in Lusangazi 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. Mawanda Ward was no exception to this, and the lack of telecommunication towers presented challenges in internet access for residents of the Ward and most pupils in Mawanda 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 to 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. Four clustered meetings were held in Mawanda ward at Mawanda school, Makale school, Penje-Penje school and Nyaluwilo school. Printed shared resource maps on A1 were presented to the communities to confirm that 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 four (4) areas with total attendance of 225 disaggregated as 109 male and 116 female as shown in table 7 below:

Community Area	Female	Male	Total No. of participants
Mawanda	35	31	61
Makale	30	32	62
Penje-Penje	32	25	57
Nyaluwilo	22	23	45

Table 7: Attendance Statistics

7.1 Mawanda Community Meeting

The first validation meeting was held at Mawanda primary school with a representation of 16 villages, namely: Chimkwamba, Nyatuwondo, Chimansa, Chilengu, Chinvule, Chakanalirani, Mkwakwa, Chimtowe, Chikupu, Chipanzawe, Saili, Chakana. The total number of participants in this meeting was **61** (31 Male, 30 Female). The community proposed Kayoyo hill as a forest, proposed the construction of a secondary school, Mawanda dam, and fish ponds. The rationale

for the proposed development was built on the problems that were identified during the first village meetings conducted in the area as a measure of mitigating the climate change as well as 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 will provide water for their animals and in the long run, the dependence on charcoal production and artisanal mining as a means of survival will reduce. The forest will provide an opportunity for beekeeping and mushroom harvesting. More investments will be attracted, which will result in upgrading and servicing of roads. The table below shows the proposed areas and the land coverages:

S/N	Proposed Development	Area (Ha)
1	Dam Construction (One Site)	0.4
2	Fish Pond Areas (One Site)	11.6
3	Forest (Kayoyo Hills)	65.1
4	Construction of Secondary School at Mawanda	10.0
5	Fish farming along Mawanda Stream	N/A

Table 8: Land Reservations for Mawanda Community Meeting

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

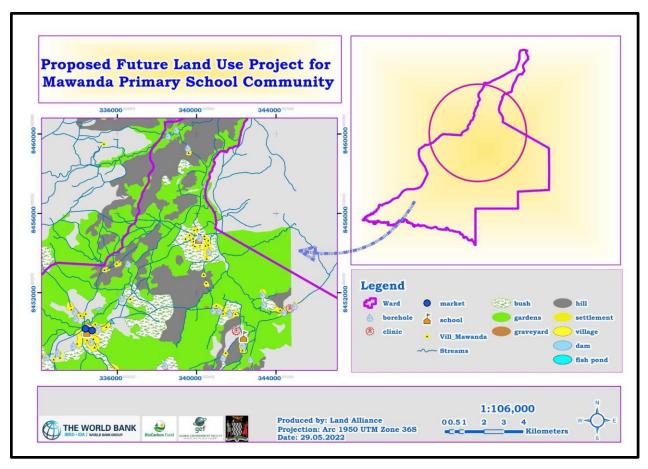


Figure 18: Future Land Use Map for Mawanda Community Meeting

7.2 Makale Community Meeting

The second validation and zoning meeting was held at Makale primary school with a representation of five (5) villages. The total number of participants was **62** (30 Male, 32 Female). The community proposed Makale and Chikwa hills as forests, and proposed the construction of a school. The justification 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 climate change as well as improving their welfare by identifying alternative sources of livelihood. The table below shows the proposed areas and the land coverages:

S/N	Proposed Development	Area (Ha)
1	Forest (Chikwa)	4.04
2	Forest (Makale)	24.5
3	Secondary School	18.6
4	Market	0.5

Table 9: Land Reservation for Makale Community Meeting

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

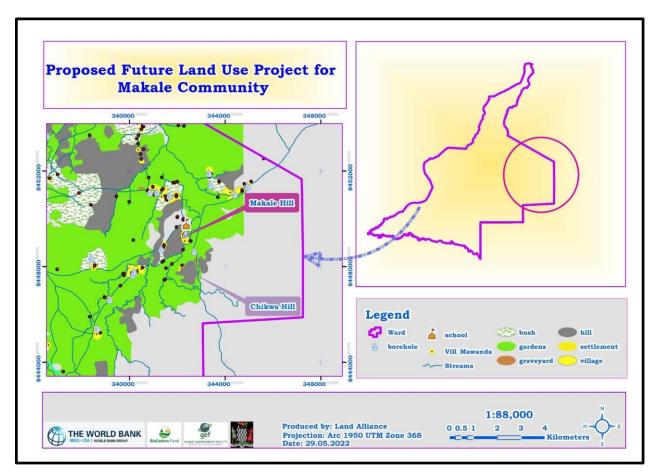


Figure 19: Future Land Use Map for Makale Community Meeting

7.3 Penje-Penje Community Meeting

The third validation and zoning meeting was held at Penje-Penje primary school with a representation of 6 villages, namely: Manasha, Chinvule, Mpindo, Chitindi, Misa, Kutowa. The total number of participants was **57** (25 Male, 32 Female). The community proposed Tunganyama as a community forest, Penje-Penje dam, Chitindi Mini-Hospital, a dam along Penje Penje stream and fish ponds. The rationale on proposed development was built on the problems that were identified during the first village meetings conducted in the area as a means of mitigating the climate change as well as improving their welfare by identifying alternative sources of livelihood. The table below shows the proposed areas of development and the land coverages:

S/N	Proposed Development	Area (Ha)
1	Forest (Tunganyama)	42.75
2	Dam (Penje-Penje)	3.07
3	Chitindi Mini-Hospital	1.07
4	Fish ponds (Penje-Penje stream)	0.63

Table 10: Land Reservation for Penje Penje Community Meeting

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

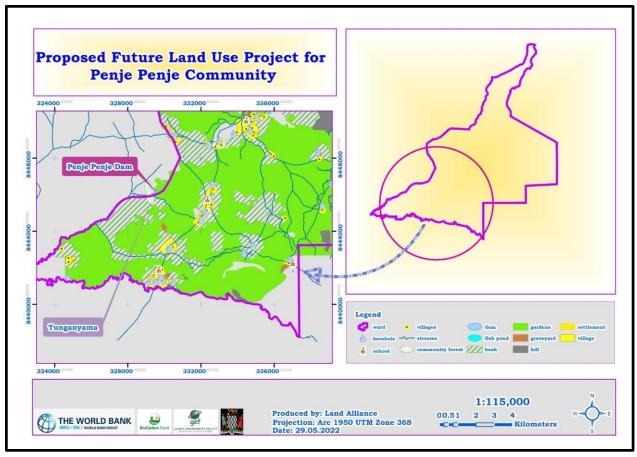


Figure 20: Future Land Use Map for Penje-Penje Community Meeting

7.4 Nyaluwilo Community Meeting

The fourth validation and zoning meeting was held in Nyaluwilo community with the representation of 3 villages, namely: Jeston2, Chipela, Mphando. The total number of participants was **45** (representing, 22 women and 23 men). The community propose one area for forest, proposed the construction of dam and fish ponds. The rationale on proposed development was built on the problems that were identified during the first village meetings conducted in the area as a means of mitigating the climate change as well as improving their welfare by identifying alternative sources of livelihood. The table below shows the proposed areas of development and the land coverages:

S/N	Proposed Development	Area (Ha)
1	Forest (One Site)	0.05
2	Dam (One)	0.36
3	Fish Ponds	0.25

Table 11: Land Reservation for Nyaluwilo Community Meeting

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

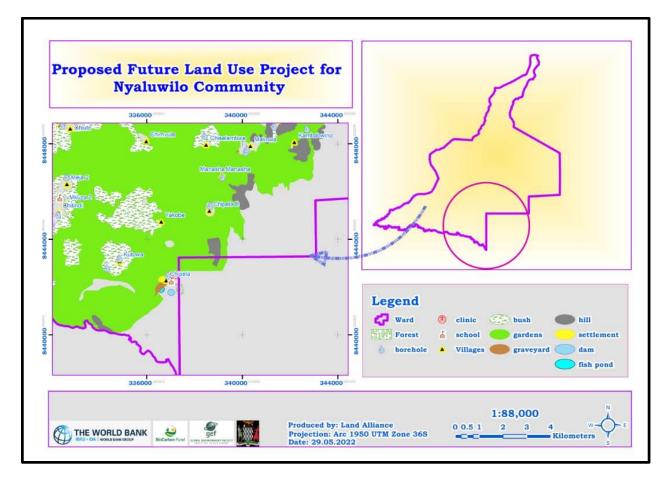


Figure 21: Future Land Use Map for Nyaluwilo Community Meeting

8. FRAMEWORK OF THE PLUP AND ENVIRONMENTAL MANAGEMENT PLAN

The environmental assessment of Mawanda 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.

Environmental protection of the natural resources in the area plays a critical point in as far as sustainable development is concerned. The rise in human population poses a threat to the natural environment to such an extent that it creates a negative impact on the environment. Some of these which result from human activities include poor farming practices, industrialization, and construction of road network, overgrazing, deforestation, charcoal and un sustainable timber production, cropping on hillsides, cutting of logs to fence their gardens or homestead and use in the breweries, bush fires, illegal mining and other related activities. This state of affairs demands that measures are taken to enhance environment protection. For instance, the Sandwe Game Management Area in Lusangazi and the community managed forests, rivers, mountains and other notable natural resources need to be properly managed. The major contributing factor to environmental degradation is lack of alternative sources of energy, low income for most rural communities, expansion of agriculture and unsustainable agricultural practice.

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.

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S/N	Aspect	Description	Impact	Mitigation Measure
1	Soil Erosion and Degradation	By the year 2030, the population of both Petauke and Lusangazi will increase to over 410,702 people. Currently the people of Petauke	Clearing of land for agricultural expansion, settlements, etc. increases the soil erosion potential.	Revegetate cleared and abandoned areas
		(including Mawanda ward) are dependent on crops and wood fuel which will increase drastically. That will mean more pollution and more carbon for the forests to deal with, and by 2030 these forests being currently cut down will no longer be there to process the carbon dioxide.	Crop cultivation methods have an impact on the soil quantity and quality leading to soil degradation.	Adoption of climate smart agriculture Reduce land clearing to avoid unnecessary exposure of bare ground to the elements of the weather
				Making live fences to their gardens or homestead.
2	Habitat Destruction	Clearing of land for agricultural use around water bodies, which leads to drying of streams. Cutting of trees for charcoal production.	Clearing of land for agricultural use around water bodies leads to drying up of streams.	Enhance community sensitization.
			Crop cultivation methods have an impact on the soil quantity and quality leading to soil degradation.	Support tree planting around hills and discourage cultivation along river banks 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 Restrict bush fires and minimise cutting down of trees. Undertake forest conservation activities such as community forest management. Restrict locations of dams and cultivating along river banks.
4	Air Pollution	Decreased Air Quality	Dust is anticipated during the construction phase of the identified investments as well as from vehicle movements and vehicle emissions are likely to cause air pollution.	Revegetate bare areas with exotic trees. Water down cleared areas to reduce dust emissions. Regulate vehicle movements and speed.
5	Resource Use Conflicts	Sabotage to investments and lack of ownership	Dam construction investments may cause conflict between those with different water needs such as farmers and pastoralists, fishery, household use, etc.	Formulation of by-laws
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 investments projects and forest conservation.	Communities must identify project areas in consultation with their leaders. Communities must use Free Prior Informed Consent (FPIC)

Table 12: 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 in Penje Penje	At least 2 dams constructed	Number of dams constructed
for Animals and	Supply for animals and	and Mawanda areas		
Irrigation	irrigation			
Inadequate Trading	To promote investment and	Construction of market at	At Least one (1) market	Number of markets constructed
Areas	access to goods and services	Makale	constructed	
Inadequate	To create connectivity	Installation of communication	At least each	Number of communication
Telecommunication	between the rural and urban	towers by Telecommunication	Telecommunication	towers installed
Towers	communities for easy	Companies	Company should put up a	
	dissemination of information		tower (Zamtel, MTN and	
	such as COVID prevention and		Airtel).	
	other pandemics			
Soil Degradation	To Promote Environmental	Tree planting exercise and	Plant at least 5,000 trees	Number of trees planted.
	Protection and Conservation of	promote natural vegetation		
	Natural Resources	growth		
		Creation of Community Forests	Create at least 4 Community	Number of Community Forests
		at Tunganyama, Makale, Chikwa	Forests	created
		and Kapoyo		

Poor Agricultural Practices	To promote agricultural productivity	Adoption of Climate smart Agriculture	At least 75% of local farmers adopt the CSA technique	Percentage adoption of CSA
		Deployment of extension workers	At least 1 extension workers deployed	Number of extension workers deployed
Poor State of Roads and Related	To promote spatial growth and improve transport system	Rehabilitation of roads	Rehabilitate all roads	Number and length (KM) of roads rehabilitated
Infrastructure		Construction of culverts and bridges	Construct culverts and bridges across all streams	Number of culverts and bridges constructed
Inadequate Health Facilities	To increase the number of health facilities	Construction of health facilities	Construction of at least one (1) health facility at Chitindi Mini-Hospital	Number of health facilities constructed
		Construction of health staff houses	At least 3 staff houses for the health facility	Number of staff houses constructed

Long Distances to	To attain a high quality	Construction of new classroom	Construct at least 5	Number of classroom blocks
secondary Schools	education standard by	blocks	classroom blocks in the ward	constructed
	increasing the number of		(1 per primary school)	
	schools and reducing the	Construction of secondary	Construct at least 2	Number of schools constructed
	teacher to pupil ratio in all	schools	secondary schools in	
	schools within the ward		Mawanda and Makale areas	
	-	Construction of Teachers and	Construct at least 25	Number of staff houses
		Staff houses	teachers and staff houses	constructed
Lack of Alternative	To enhance human	Establishment of a skills training	At least 1 skills centre	Number of skills centres
Livelihood Sources	development through skills	centre	established	established
	training and empowerment			
	programs	Train farmers in fish farming, bee	Train as many people as	Number of people trained
		keeping and mushroom	possible	
		conservation Techniques		
		Establishment of value addition	At Least 2 value addition	Number of value addition plants
		plants	plants established in the ward	established

Table 13: PLUP Implementation Plan

9.1 Capital Investment Projects

Priority Projects	Quantity	Unit Cost (K)	Total Cost (K)
Dam Construction	2	ТВА	ТВА
Construction of health Post	1	500,000	500,000
Construction of a school	2	1,000,000	2,000,000
Construction of Staff Houses	28	200,000	5,600,000
Road Rehabilitation	3	ТВА	ТВА
Construction of classroom blocks	4	450,000	1,800,000

Table 14: 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.

Mawanda Ward PLUP is envisaged to be implemented in line with the Petauke/Lusangazi 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.

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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 Mawanda 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 Petauke/Lusangazi DMT team. Additionally, the PLUP analysed the current situation in Mawanda Ward, and issues pertaining to Land Use Planning were identified, with 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 Mawanda 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

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(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

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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: Mawanda 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 Mawanda 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.

Resource/development	Rules	Penalty to offenders
Water Resources	No farming activities around the dam and other water bodies, the buffer zone of 50m shall be applied.	Direct report to HRH Sandwe.
	No illegal fishing on the dam. No disposition 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.	Face the punishment.
	No cutting down of trees around the dam.	
	No farming activity to be done around the buffer zone of the dams and streams.	

GOVERNANCE RULES FOR MAWANDA WARD

Forest	No cutting down of trees in forest area	Face punishment from HRH Sandwe.
	No charcoal burning in the forest	
	No cattle grazing in the forest	
	No farming activities in the forest area	
	No fire burning in the forest	
	No fetching of firewood without permission in the forest.	
Trading area	No building of a house in the trading area	Offenders' land rights will be revoked by HRH Sandwe.
	Only the development committee recognised by the chief has the right to allocate plots.	Offenders will be reported to the chief
	No farming activities are allowed in the trading area	
Expansion of agricultural area	Anyone wishing to expand the field should 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
Telecommunication Towers	No vandalism of Telecommunication Towers.	Inform the chief and report to
	No farming within the radius of 20m of the Telecommunication Towers.	the police.

Table 15: Offences and Penalties

Annex 2: Proposed Future Land Use Map

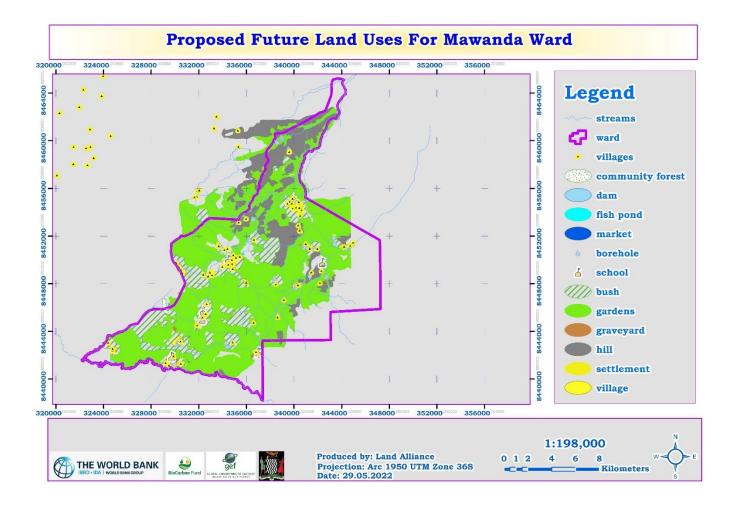


Figure 22: Future Land Use Map for Mawanda Ward

Annex 3: Meeting Attendance Registers

Indunas Meeting

	LUSANGAZI D	DISTRICT		
MAWANDA	Attendanc	e list		
1			CONTACT	
S/N NAME	VILLAGE NAME	NRC	NUMBER	SIGNATURE
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First Village Meeting

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SERIAL NO.	NAME	GENDER	VILLAGE	CELL PHONE NUMBER	NRC NUMBER	
1	LANRENCE J. PHILI	M	CHINAKA .			
2	LAZALO MNONZA	M	KAKWEKWE			
8.	SPIDER NAWNI	m	SICHILIMA .			
4.	LIFAKI CHIZOMBE	M	MONSEZA			
5.	GEORGE TEMED	M	CHIAMPSO	0956 986696		
6.	SAMUEL SALALA.	M.	CHIKUPU	0954497200	355009/53/1	
7		+ M-	CHIMANZA		387363/33/1	
8		100	KALINDA.	0764893205	266338/54/1	
	NELDON MIBELE		CHIMVULE	-	-	
	· TIMOTHY PHIRI	M	CHIMULAME	095542393	7 -	
11		A.		A 095543365		

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	PROGRAMME	GENDER	VILLAGE	CELL PHONE NUMBER	NRC NUMBER	SIGNATURI
RIAL D.	NAME					
2.	MOSES MWANER	10	CHIMANEN	0753446368		
		N.	CHIAN KHAMAR	0764005322	101525/53/1	-
3-	PATRICK ZULL	M	CHIMEWANNER	1 1000000	578581/05/1	-
4.	JAPHET NJOBVU		LILANI		252880/95/1	
5	LAWRENCE PHILI	M	CHRIGEN A N			
16	PATRICK BANDA	M.	CHILENSH	0957838968	226871/53/1	
			C limit in south	0955559321	224276/5311	_
17	SCOFFERT BANDA	M.	C. Han C. KURMARIA	10-550258	249704/53/1	
18.	MILLION MEAFNABR	M.	CHIMKHAMBE	9. 0955 5523 58		
19.	GIFENSE TEMBO	M	CHIMTORE		-1	
		M.	CHIMIKUAM	61 0957208085	368705/53/1	
20.	BRIGHT LUNDA			.00253204	5: 181359/53/1	
21	JOINANI W. NJOBU	M				
22	LINKSON PHIRI	M.	NYATUDON	100 095744683	1 188623 /01/1	

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SERIAL NO.	NAME	GENDER	VILLAGE	CELL PHONE NUMBER	NRC NUMBER	SIGNATURE	
2.3.	MOSES M. DAKA	M.	SAILI	0956542506	207026/53/1		headana
	JUSTIN BANDA.	M.	CHONINAMER.	0954868960	178962/53/1		
25.	MACY NYENDINA	F.	CHIMASI	0953245638	218965/53/1		
26.	THULIKUNI TEMBO	F.	CHIMIKLANIG		167200/53/1		
27	LYAESS PHIRI	F.	CHINTKUAMBA.				
28	ROSEMARY TEMBO	F.	CHIMKWANBA		256413/53/1		
29	MARTHA MUMANZA.	F.	Снікара	0953438614	290084/53/1		
83	MORRIAM BANKA	F.	СНИМКОДАМЕА		348758/53/1		
	WARGHA PHIRS	P.	NYATUONDO				
32	AGNESS BANDA.	F.	CHIMIKWAMB	0956544410			
	BENTRICE ZULU	F.	CHIMMUANER				

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34	CARLESS NEOBUU	F	CHIMKWAMBA				
35	TRANSE LUNGU.	F.	ATHET YON DO.				
36	MARCARET ZULLI	F.	CHIMIKEJAMISA.		345785/53/1		
37	NEMA TEMBO	F.	CHIPAN TAU.				HEADWOMA
38	TIWA PHIRI	F.	NTATION BO.				
39	SARAH TEMBO	F.	CHWIKLAMEA.	09 54 49 8781	256380/53/1		
40	RUTH NJOBYU	F.	CHERANDA -		409867/53/1		
41	ALAIDA BANDA	F.	CHIMANISA		337009/53/1		
42	PAULINA TEMBO	F.	CHIMKUANEA				
45	VIDLET KOPA.	F.	CHIM K JANBA	0968186663.	355016/53/1		
44.	NEHA DAKA.	F.	CHI PANZAUE	0762083965	336723/53/1		

	TENDANCE LIS PROGRAMME	т		D/	АТЕ	
SERIAL NO.	NAME	GENDER	VILLAGE	CELL PHONE NUMBER	NRC NUMBER	SIGNATURE
35	LOVENESS PHIRI	F.	CHIMIKUAMBA.	0950 388148	355045/53/1	
36	VERONINA ZULU	F.	CHIMENS)		223521/53/1	
37	RECHERL MUANER.	F.	NATIONDO		251409/53/1.	
38	GRACE BANDA	F.	CHIMANASI		448401/53/1	1.5
39	AHTHONY PARALIKI	M	LTC	0999 299942	102471/10/1	Adaman
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1 Phillimon Muanza	Markale Community	-	A.Beneli
2 ANRARASON BANRA	M'sapenda		TINJOBU
3 TISINAGI NOBYU	Makale Community	0772091982	C. ZUIU
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19 Milika Lulu	Ramba buino	-	n. hun
20 FLizebeth Bonda	Markarle Comm	1	
21 HELEN Dalka	markade Comm		HIDRIZE
22 Elizabeth makwende	makenty Comm	0978 7689 78	E. makwanda
23 GEoge Tembo	musapendia	0955079092	G. Jento
24 John Fundi	mulenga	0976 790351	SAT'de
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28 michael Banda	Kamba busino		M. Banda
27 Moses Temba	Kamba proino	0950187722	
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32 Grandisi Derka	Chizalita.A		9 perma
33 Amose miti	nulunger	0770770709	A. Miti
34 ISaac munitor	markate Comm	0972 836326	
35 John merula	musaginda	0956149513	M2 box
36 Odrine Jombo,	Makale community	0971770080	Rales,
37 Bunda Mennedy	\sim	045754560	the for
39 Rathison Phim	nuscipenda		B. Phi -

	LUSANGAZI D	ISTRICT		
	Attendance	list		
S/N NAME				
TATAME	1.000 -	1	CONTACT	1
40 Cht Stallingus Pano	VILLAGE NAME	NRC	NUMBER	SIGNATURE
40 Christo 20.01 into	a musapenda	-		
40 Christe Pher naking	of morbally Connis	4		L. Roue
HATAMOS U- THE	- Alle all and a		0956544774	C. makino
112 11 agrin manine	Markerle Onne		0432 4033 10	m. fhis
	markell Comm		0953439900	1 in Kall
45 Moffel Makwen DI			0976992290	Think
48 ALFRAD MWGNZA	- manare Com		0955350197	the life
47 Dominick Chilufo	malade com		0953659422	A. MWCHNZO
HB Natting David	a fit com			D. Chiluf
Ha Michael Tulu	nusapenda		6975278262	N. Dr. L
SO BRASON DAVA	nusapenda		0953666090	M. Tul
51 Someson Phile	musapenda		097 4447716	B. d. Ka
- at i - pour	musependa		0955482076	5 Ohie
52 Adman Banda	makale Community		095720804	R Por
Za Wold bandal.			09/53 440524	AB- 1
SASTEDIJEN MABUKU			09 09	Mendal
58 Gravino Tempo		and the second second	0936542433	S. MATON
56 Redson Agkg	Magenda		0953865890	G. Tembo
ETELISH Katumb	Makowa		0157208096	R. Daka
33 VINCENI PHILI	Matale Community		0477329851	AN
75 110 Cave.	MARKOLLA		0977308500	Min
59 BANDA CHARLES 60 DALLA OLIVER	MALLOWA		0777626928	Common .
UC Dimi	nusapenda		0152537735	Dec-
61 glick Lugar		107533/19/1	0978572996	Allan-
Manya Sung		1 - Postill	64114151611 6	Kendle:

Fem

FRIDA-7 STURAMUSE	LUSANGAZI OFFICES	0971683155	

		Diama		ENDANCE LIST				
	S/			NG PLUP WITH THE	COM	MUNITY		
	131	14/	AME	VILLAGE		ONE NO.	SIGNA	
		to contract the second s	VERONICA	CITIZINOI	095	5554199	V. BOD	Da.
	-		STELLA	CHITINDI			5 . M.	wanza
		3 TEMBO	MILLIAM	CHIINDO	095	6456095	103	
	4		MARY	MWELWA	09	57489910	141	da
	S	MILLANZA	MOREEN	CHITINOI	09	51648744	Aller	(and
	6	ZULU	MORGEN	CHIGINDI			m	Zolo
	7	TEMBO	VAIRETY	MWELWA			12.	Tombo
	8	BANDA	JUDITA	CHITINDI	1		15	bando
	9	JULU	MAINESI	CHIGINDI			NA	. Zula
	10	MULI	SOYCE	MISAEL			H	mub
	11	MWALE	EMELI	CHIGINDI				EI Minoule
t	- 1	ESTIFER	Jury	CHISINDI				E ZULU
F		GIFI	Jur	CHITINDI	0	953348	515	Quela
F	101		h	CHI INDI	1	0955449	1086	Abaubo
F	- top	ROSEMARY		CHIGINDI				Jogce
	15 !	JOYCE	JULU	Y.				A. pour
T		FINESI	BANDA	MUKUZA				B. 80
Juni		GATRICE	BANDA	MUKUZU		1		
L	TE	CAIPICE						

F	18 CHRISTIN		MAMESA			
-	20 CHRISTIN		MESA			ungu
F		Durai	MWELWA		G. TEN	
	- CONTAILE	A MWANZA	MWELWA		FF	Nanza
E.			MWELWA	0954646238	Ga	Nanza
	Prinson		CHITINDI	0975768360		Banda
	24 NAPHITAL		KATUMPHA	0956543013	Iven	man
	25 MADALIT		CHIMNSI	0956958897		BEVU
	26 BORN FAC		MWELWA	095614987		
	7 EVANS	NGOMA	CHIGNDI	101		
2		BANDA	MWELWA	0768981207	E.P	Boudg
29		CHISENGA	MWELWA	095459772	-	
30	GEORGE.	K. SANDWE	MWELWA	0977114116		Eg cho
31	MORRIS	MWALE	NJALA			A Mwale
32	SHABRECI	K DAKA	CHALINDI			5.DAKA
33	SAIBACK	MUMBA	MWELWA	09574898		3 NIU MBA
34	CHILUFYA	MWALE	FUWE	09504717		C. Myals
35	EPHRAIM	JULU	MUSELWA	09561499	180	: Un
	PETER	PHRI	MATULINO			PRi
	PATRICK	PHIRI	MISAGL	09546450	32	R-
	EVISON	MBEWE	CITITINDI			1. mb

			ATT	ENDANCE LIST				
		INCENI	PTION MEETI	NG PLUP WITH THE	COM	MUNITY		
	SI		IAME	VILLAGE	PH	ONE NO.	SIGNA	TURE
	-		VERONICA	CITIZINOI	095	5554199	V. BOD	a l
		2 MRUANZA	STELLA	CHITINDI			5 . M	Hanza
		3 TEMBO	MILLIAM	CHIGINDO	095	6456095	R	2
	4			MWELWA	09	57489910	191	da
	5	1	MOREEN	CHITINOI	09	51648744		and a
	6	ZULU	MOREEN	CHIGINDI			m	Zolo
	7	TEMBO	VAIRETY	MWELWA			12.	Tombo
	8	BANDA	JUDITH	CHITINDI			15	bauda
	9	JULU	MAINESI	CHIGINDI			NI	, Zulu /
	10	MULI	SOYCE	MISAEL	1		H	mul
	11	MWALE	EMELI	CHIGINDI				ErMuoale
		ESTHER	Junu	CHISINDI				E ZULU
ł		CIFI	Jun	CHITINDI		29533489		Quela
H	15			CHI INDI		0955440	1086	(aduanda
+		ROSEMARY	JULU	CHIGINDI				Juge
F		JOYCE	<u> </u>	MUKUZA				A. pau
	16 1	FINESI	BANDA	MUKUZU				B. Ba
T	17 12	BEATRICE	BANDA	Mukuru				
-								

t	18 CHRISTINI 19 GRADYS		MAMESA			
T	20 CHRISTINI	TEMBO	MESA		C. Lu	
T	21 JESINAL	Direi	MWELWA		G. Tems	
F	22 TRY WEL	A MWANZA	MWELWA		J MW	adka
F	23 DAVISON		MWELWA	0954646238	G. Chi	anza
F	24 NAPHITAL		CHITINDI	0975768360	D.B.	
	25 MADALIT		KATUMPHA	0956543013	Ivan	
	26 BORN FAC		CHIMNSI	0956958897	MINE	RVU
	-		MWELWA	095614987		
		NGOMA	CHINNDI		I Description of the	90Ma
	8 NELSON	BANDA	MWELWA	0768981207	N.F	Boudg
5		CHISENGA	MWELWA	095459772	0	Serga
30	GEORGE.	K. SANDWE	MWELWA	0977114116	Q	Q cho
31	MORRIS	MWALE	NJALA		Ma	9
32	SHABRECH	K DAKA	CHATINGI			·DAK
33	SAIBACK	MUMBA	MWELWA	095748989	87 5	S NIUMB
34	CHILUFYA	MWALE	FUWE	09504717	99 0	C. Myal
35	EPHRAIM	JULU	MUSELWA	09561498	180	. Um
	PETER	PHRI	MATULINO			PR:
	PATRICK	PHIRI	MISAGL	09546450	32	R-
	EVISON	MBEWE	CITICINDI			1. m

4 4 4 4 4 4 4 4 4 4 9	SHAMWANI	MOUTE BANDA TEMBO TEMBO TULU PHIRI BANDA NGOMA	MWELWA MWELWA MPINBO MATULIND MISAEL CHITINBI CHITINBI CHITINBI MWELWA MWELWA MWELWA MWELWA	0953348586 0955919143 0950820259 095334941	F. TOMET F. July P. July P. July P. Bonde
	1	GERE	CHIGINBI	07766446	
53	GACKSON	MWANZA	MESA	0954648	
52	SAMESSIACK	SON PHIRI	MUKUZA	0956545	926 5
SS	HENCRY	TEMBO	CHIGINDI	0953881	2280 14
56 1	GERMAN	LUNGU	MPINDO		Cf.
57]	SHAC	JULU	MISAEL	0956030	1003 1

ATTENDANCE LIST

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	INCENP	FION MEETI	NG PLUP WITH THE	COMMUNITY
F	<u>S/N</u> NA		VILLAGE	
-	58 SAIBACK	MULI	CHIGINDI	PHONE NO. SIGNATURE
-	59 RICHARD	BANDA	CHITINDI	S. Muci
-	60 LAMEER	TEMBO	MUKUZA	R Bandak 1. Tambo
	61 KAUSEN	NJOBVU	MUKUZA	k nJobye
	52 ANDERSON	MUULA	CHIGINDI	A MULLA
	B STEVEN	BANDA	MUKUZA	The second secon
	ANDERSON	PHIRI	CHIGNDI	0955284888
6	25 BORNFACE	NJOBYU	CHIGHNB1	095049286B Buc
6	B YESANI	PHIRI	CHILINDI	0955343629 V. Philip
69	TYSON	GEMBO	MWELWA	T.Tembo
69	WYSON	MUMBA	CHITINDI	6. mamba
70	10- 101	MBEUSE	CHIGINBI	S. mbeue
72	EMMANUEL	TEMBO	MURUZA	0957830126 Tanka
22	CHARLES	BANDA	MESA	0955313909 &
74		BANDA	CHINNDI	0956586243 Beela
	RAPHAEL	BANDA	CHITINDI	1 H
	SAMSON	BANDA	CHIGINDI	S. bourde

	717 GAB		BANDA	CHIGINDI			0.1	
	78 OHAP		SANDA	CHITINDI			G bo	
			BANDA	MESA			Ba.	
	SD WILL		GEMBO	MESA				mide.
F	SOI SITAD		BANDA	MESA			W. Te	
F	SR BANI		BANDA	FUNE	De	153642498	Sift	1000
	83 FANU		PHIRI K	MPINDO		150180513	1	
	84 BENSO		LUNGU	CHITIN 61	0	953626754	Roto I	-
10	5 Ebur	and the second se	BANDA	CHITINGI	12	100 020104		
8	6 BETHER	L SI	AKALA	MUELWA				ANDA
8	67 EMEL	1	DHIRI	MWELWA				salcala
8	BEUNICE	N	JBNU	CHIGINDI				PHIRI
89	MEMOR	ly C	HIRWA	CHITINDI	10	0957013895		N20PMA
80	D JOYCE	- 7	ULU	MPINDO		095333769		Zulu
90	I ENELES	Kun	NUENDA	MUSELWA				Kinneendo
9P	NGAWST	7 SF	HKALA	CHIGINAN				L.Sakola
92	KALUBA	BI	ANDA	CHIGINDI				K. boundo
914	PATRICK	B	ANDA	MESA		09533646	563	PTEMB
945	HARRISO	N NK	(HOMA	MESA				H NKhomo
	CHRISTOP		OBVU	CHITINDI				C-N5610
	BENSON		NBD	MWELUSA		0957938	3442	Bure

98	6 Henery	BANDA			
100	I CROIVICD	MWANZA	MIGACL	1000	
100	SARA	LUNCU	MPINDO	0953223583 A	har 1
10	IREEN	BANDA	MPINDO		ANNALIZE
101	NELIA	MULLA	MESA	0953145994	Lucina
103	ALBERT	JULU	MESA	095543276	J MNILa
107	ELIAS	DAKA	MPINDO		got.
105	CHARLES	MBAO	CHIGINDA		Eles
106		CHULU	CHIGIN B1	0953864063	C Mm
1007	KEZIAS	2010	RUTOWA		S. Otherson
105	AZEDI	NKHOMA	MUKUZA		KZULU
109			MPINDO		A nichanua
-		LUNGU	MPINED	0955865618	Mahaoa
1109	MARY	DAKA	CHITINDI	0955628005	
1110	CATHERINE	MWANZA	MISAEL	095614979	59 Marza
IIR	MATHAR	PHIRI	MISAEL	09504640	170 M CHINEL
112	BUTH	PHIRI	MISAEL		R. Phin
1174	SELENIA	MUZIYA	CHIGINDI	095763123	9 S.MZIYI
	CHRISPINE	LUNGU	MPINDO		C. Lung
16	JANAOS	NATONGA	D.M.T	0979906531	4 date
		MAASDALIRE	DIMI	09776743	277 Armit
18	MOSES ,	MWALE	DMT	0973583	141

ATTENDANCE LIST

INCENPTION MEETING PLUP WITH THE COMMUNITY

		and the second sec	SIGNATURE SEX
S/N 1	NAME	VILLAGE	M
1	MARK BANDA	ALPHAN DO	M HEADM
2	PATRICK MASEKO	MPHAPDO	m
31	BANDA MATHAS	MPHANDO	m
4	RANDA BORNFACE	OGNAHMM	M
5	NELIONDOWE FABIAN	MITAN	M
6	NRHONDOWE MAICK	MPHANDO	M
7	JULY JEMES	MIHANDO	m
B	MKALE JAMES	MPHANDO	M
9	MWAXXA ASKOTA	JASTON	M
10	BANDA JAMES	2 2	M
	PHIRI JACKSON		M
12	PHIRI PATRICK		m
13	PETER PHIRI	124 TOWA	m
120	TULY KEFAS	12 MIDWA	M
15	BADDA STPHIN	CHIPELA	IVE
10	BANDA MAILO	JAStOR 2	

36 DANIAZIO BADDA	MPHANUDA	m
37 ZULUELEPHALA	ACHAHAM	- M
3\$ ZULL & THACKSON		m
39 ZULY JAMES	KHIOWE	m
(PO) PHIRI MABYLITO		m
41 BADDA JAPHET		m
42 BANDA MOBYLI	CHIPELA	M
23 CHIRWA JABECE		M
44 PHIRI RENENED	JSEJELE FARM	M
45 MWALE BEHARD	MPHADDo	M
246 SAKALA AMELINA	MPHANDO	F
67 BOPUS KHRISTINA	MPHANDO	ア
68 ZULY JENERT	MPHA NDO	ド
48 BANDO AMELINA	NTHANDO	F
Sozuzu Ruit	MPHANDO	T
SI ZUN 94 IMWAYO	JASTON 2	r
22 BANDA ELIZADE	MAANDO	F
53 BANDALECHO	MERSIDO R	5-
JQ BADDA JULIET	SAGTON 2	
55 MAZES NWALE	MIHANDO	7
SEMHATA ELIZA	JABTON 2	5

	1	ATTENDANCE LIST			
INCE	NPTION MEETI	ING PLUP WITH TH	HE COL	MIINITY	
		the second second	11 001	MMONITI	
S/N NAME					
		VILLAGE		SIGNATURE	
D+ BAP	DA TISYANE	MPHANDO		£	1
S& BAD	DA GIFFI	1 10000 222		F	7
O PHIRI	TISYANE	OCGAHTM		5-	
00BADI	JA ESTER	CHIPEID		5	1
OBAND	DA EMELIA	JASTODO	-	5	-
62M3EWE	ELIZABETH	JAGINO 7	_	F	-
23 TH12	1 LECILSIDA	TAGTON -	1,	F	
64 PHIR	IJSNART	DUNTOWA		0	
65 RHIR		MPHANDO		5	_
66 MUKANS				- F	
67 RAND	AASTECE			F	
68 David	A JOYCE	JASTON	2	F	
69 Cas	4 JOYCE	MPHANDO		F	
Ze Cos	TA CE BANDA	MPHANDO		F	
- Zuli	1 SALA	MPHANDO			- /-
+1 P1200	AANA	JASTON		F	

120	F
73 PHIRI EXELIYA MAANDO	F
TO DANDA FAYDES INTHANDO	F
75 BANDA A CILLINA MOHADO	
70 SAKALA KHUMBIZE RUTOWA	F
77 BANDA TIRIMAN MARADIDO	F
78 BANDA PATRICK JASIDN	IM
77 ZULL SAMSON CHIPELA	M
80 BANDO WILLIAM MPHANDO	M
81 NUHATA MOFTAT MAHADDO	M
BUZULUNAPHTALY CHIPELE	M
83 PAUL PHIRI JASTON	M
39 PHARI BREESS CHIPELA	M
85 BARBAFELESX JASTON 2	m
36 PHIR: WILLIAM LUTOWA	M
GOJORI MOM JAGTOD	F
38 BADDA ESTER MPHANDO	F
39 JULU OBSTER MPHANDO	M
1) JERE ZANGOSE JOASTON	F
TO NIALO TO TO DALLAND	5-
43 BADDA ANDULU MPHADDO	F
1000 000 000 000 000 000 000 000 000 00	M

Validation Meetings

			PETAUKE DISTR	ICT			
	VENUE:	MAKA	ATTENDANCE LIST FOR TO COMMUNITY MEET			62	
SNO.	NAME	GENDER (M/F)	VILLAGE/DESIGN ATION	DISTRICT	CONTACT NO.	EMAIL ADDRESS	SIG
	WESTON LOOA	m					14
02	CHRISTOPTER MARNENSA						
	RICHARD SAKALA		NKATUMBA I	Lung First			1.80
			MARKE COMMUNIST				
			MAKALO COMMUNITY		0953134288		
	AROMI DAKA		MARGLE COMMUNITY		0954607495		N-1
	GENERICE MANNIA	F	MAKALE COMMONTAL	105m 4921			E.P
	Grant Phini	F	MARGE COMMONT		09871221400		
	ALFRED JUMBO						
	STEVEN MAGUEY	m	MARALE SCAMMAY				
	POUL PHOL						
			MARALIE Communit				
	Arran Mini						
			MARAJE COMMUNIT				1.80
							M
		C					

			PETAUKE DISTR	ICT			
			ATTENDANCE LIST FOR TH				
			COMMUNITY MEETI	NG			
					127		
	VENUE:	MAKA	Le DATE:	13 105	126		
SNO.	NAME	GENDER	VILLAGE/DESIGN	DISTRICT	CONTACT NO.	EMAIL ADDRESS	SIGNATUR
		(M/F)	ATION				
		F	MARCA 2 COMMUNITY	LUSANSAZI	0953356383		
23			MARKALE COMPLET				-Inso
24	NINCENT PHIL			Lessantazi			
	ZULY GIFT	M	KAKALE COPPLING	ULUSAN GAU	097629875		Tort.
26	AGRIPIMA PHIRI	F	MAKALS COMMUNITY	LUCANGAZI			A. Auri
27	EDIRIA BANDA		MARALE COMPLICATE		09578332		2. BARG
29	JANET PHIRI	F	MAKALE COMMUNITY	LUSAN GAZI			T. Phuri
	CHULY WILLIAM	M		LUSANSPE.			
	BAMDA VIDAH			LUSANGAZ	095380007	4	V. BANG
	MUANZA MAXUEL	M	MAKALE VILLAGE	(LISAN GAZI	097071843		
	MATAKA JESSY	F	KAMBAWING V/4	LUDANGAZI	0951321166		
	ZULU MERSA)	tet	MAKALE COMMUNITY	LUSAN GAZI			A. Zuky
Bh.	PITIPI ACKRONY	M	MAKAKE COMMUNITY	LUSANGAZ			A. HIK
	ZULL AIFRED	M	PARALE COMMUNITY	LUSONGAT.			h. Luly
	SMALAFELL MUANZA	M	MAKALE COMMUNITY	LUSANCAN			E MWAN
St	JOSEPHY ZULY	M	MAKALE COMMINY	LUSAN GEZA			
	AFRED MINHAURI	M	MARKALE COMMUNITY	LUSANGAZ,	0953659422		A.MWAN
37	PHIRI PHIRICK		MAKALE COMMUNITY				P. Flori
46		Ŧ					Bul
12	PHIRI LINGILILANI	Ma		13415 23.104			
	DAVISON PHIRI	M	KAMBAHING V/GE	ULLANGR.			D. PHR

			PETAUKE DISTRI	E PLUP			
	VENUE:	KALS		13105	122	***	
NO.	NAME	GENDER (M/F)	VILLAGE/DESIGN ATION	DISTRICT	CONTACT NO.	EMAIL ADDRESS	SIGNATURE
	BANDA DAINA		MARKALE COMMUNITY	LUSPINGAT	695338958		D.BHAT
+0-	ZULU EMMA	E	MARKALE CUMMUNITY				E. Tuly
NS	SOMILE SAKALA	F	MAKALE COMMUNITY	LUCANGER			SSAKALA
K	THEN BANDA	M	MAKAE COMPANY	LUSANGAZI	0954112654		D. BAMA
	Debarah Navalizya	F	Malhale campunite				Divalori
18	Flacence Tuly	É	maildle community	Lusandaki	07200057		F. Zuler
	Bolips K. Blaby		Munyarthe VIGE	Lusangelle	045413313		Babere
	TEMBO ABISONY	M		CLESMA GATZI			A.ISMBO
51	ALICE POMPAMARI	F	MAKACE Community				A PONOM
	SFRIDAN TEMBO	F	MAKALE COMMUNEY	LUSANGE	D		E. Temb
	BETIMA ZULL		MARCALE COMMUNIC	y LUSANGAZ			B. Luthe
	- PORCITY MALANZA	F	MAKALE COMPHANT	ULLSAN GAD			D. MUNIANY
	RAVEDAH PHIRI		MAKRE COMMUNITY				REPHRI
06	PORGITY PHIRI	F	MLENGA V/GE	LUSMACAT			Dother
	SUSEN LUNGY	F	MARKALE VISE	CLE CAN GAZ			S-CUNCA
50	JUDITHY PHIRI	E	KAMIBIKING X/GE	LUSANGAZ			
	UJUSTIN'S THIRI	M	MORCHE COMMUNITY		09505380		1. THIR
be		m	Referika tone	Detemike			
	Ester Phiri		Receives Jonas Council		0785969735		
			FORESTRAT				TR

	VENUE: PE	NJE-PI	PETAUKE DISTR ATTENDANCE LIST FOR TH COMMUNITY MEETI NOT AR SCHOOL DATE	HE PLUP NG	300-	warde i tion a	nc-d
SNO		GENDER (M/F)		WARD	CONTACT NO.	EMAIL ADDRESS	SIGNATUR
01	MWALE LAWRENCE	m	-	Min. 200200	R.C		1
02	MUMMA TAMES	m		MAWANDA I			dente.
03	N GOMA EVANS CINTIND	1 m	SENIUR HEADMAN	MAWANA		-	G-Mun
05	DANOR DAVISON	m	-	MANANDA	5475768360		EINOD
	MULLA MAXWELL	m	*	MAWANBA	1.0000000		D Surla
and the second second	TEMED FRANCIS	m	-	MAWANDA	0950820259	-	Fland
	MULI SAIGACK	m	~	MAWANDA			S. Mul
07	LUWAMOD ROJEMAKY			MAMANDA	5455 400001		Alato
200 A 100	MWANZA EUNICE	F		MAWANDA	045656304		and the second second
	PINKI TAMIRA	F	-	MAWANDA	0750577153	-	T. P
2.000	BANDA BETINA	F	-	MAWANDA	095333482	17 -	
	EUNICE TEMPO	P	-	MAWANNA			Bibon
	JOBUL PAULO	m	-	MAWANDA			E.TEn
	EMBO VINCENT	12		MAWANDA			P. No
	hwan zh catherint	F	HEADWOMAN MILLA	MAWOMBAN	545614978	-	U. TO.
	ANDA JULIANA	F	-	MAWANNA		- 19	- Par-
10	ANDA JUDITH	F	100 C	MAWANDA	-11308K5		0.0
	WILL ELINA	F	-	MAWANOF	-	-	A al
M	NGLANLI BENADETI	F	-	MANDAN	-		E
	YEA MARY	e		MAWANDA	093543385	3 -	Banga
and the second	MBU VIDA	F	-	MAWANDO	0767352813	+ -	m
1	the first of the f	1	and the second	MAWANDY	Master Color	11	N T

1		PETAUKE DIST ATTENDANCE LIST FOR COMMUNITY MEE	THE PLUP	Valida	inda Wo Ilión an	urd J
	GENDE (M/F)	POSITION	TE: 16-05- WARD		EMAIL ADDRESS	
23 MUULA ADESI	F				ANALE ADDRESS	SIGNATURE
23 BANOM JUSTINA	F	-	MAWANDA			-
24 BANDA BETI	F	-	MAWANNO			Bula
36 BANDON BLEWING	F	-	MASHNON			Burn
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MAURAM when PETAUKE DISTRICT ATTENDANCE LIST FOR THE PLUP COMMUNITY MEETING VENUE: MAALLETTO DATE: 101 2022 SNO. NAME GENDER POSITION / VILLAGE WARD CONTACT NO. EMAIL ADDRESS SIGNATURE (M/F) 1 HIZAGEDY BRADA mpinningo 2 Dizeliah Pitral mauran 0950490517 mauran 0955265529 3 FLAREDI AMOR meltonoo + nucles stances 5 moxis 2002 6 motion sution + molinario MALANTA 0953317972 F mpAno MANDO 0755537151 Mandon 0716173311 m TT KOTEL m 7 Euge PADERE GANDA MALADA 0772091845 m methosox 8 TELX BANDA maurin m 4 1900 mulenga JE STON TI 三月水水 moushon m MPHADDO 10 HISIYANC Photi MawaNDa -F-B min F II TISIYEAJE BANDA MPHANDO I -mulenga MawaNDa MPHANDO F 12 Poll Phizi T. Phin mawanDa m 13 LOKED Phiti 14 SILON ZUILL MPHANOL MawaND4 0=773091812 T Burdo Chipela A M mawanda P. Phit M - Envi 15 ElePhoto Zulu Mawanda 0770761644 M MPHENDO mawanda 0955353763 16 Longami Banda Jaston 2 N mawanda 095586269 17 moffeti Banda ChiPela A M mananda 0955332471 15 ARCKISOD Phili Taston 2 M 19 Amelina Sakala mawarda F APE MPHANDO 30 Buth Banda mawanda F MPHANDO 31 Holiyet Phin marcianda F AA SASTOD -2

MAWANDA WARD

PETAUKE DISTRICT

ATTENDANCE LIST FOR THE PLUP COMMUNITY MEETING

VENUE: NYRLAWILD DATE: 16/05 / 3023

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