PUBLICATION DRAFT

REPUBLIC OF ZAMBIA

MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

MSIPAZI LOCAL FOREST (No.73) MANAGEMENT PLAN

2024-2034

APPROVAL PAGE

MSIPAZI LOCAL FOREST No. 73 - FOREST MANAGEMENT PLAN

Notice of completion

This Forest Management Plan has been prepared in accordance with the requirements of section 40, Part IV of the Forests Act, 2015. National and local enquiries were conducted as required to obtain representation from the local community, Chief and other stakeholders in the prescribed manner. Further, consultations were conducted with holders of rights and the local community in the area and account taken of their submissions.

In accordance with section 43 of the Forests Act, 2015, I therefore cause notice of completion to be published in the Gazette.

Director of Forestry

Date:_____

Registration of the Forest Management Plan

Following receipt of notification from the Director of Forestry, that the Forest Management Plan has been notified in the Government Gazette in accordance with the provisions of section 43 of the Forests Act, 2015, I therefore cause this Forest Management Plan to be registered and approve a notice of registration to be published in the Government Gazette.

Minister for Green Economy and Environment

Date:_____

FORESTRY DEPARTMENT

FOREWORD

Forests provide essential functions and services to the local community and the country at large, conserving and protecting biodiversity, social and livelihood wellbeing. Zambia has adopted a participatory approach to forest management allowing community based natural resource management in respect to forest management between the Forestry Department whose function is to control, manage, conserve and administer Local and National Forests, promoting partnership with communities and civil society organizations. This forest management approach is driven by the need to promote sustainable use and management of forests across the country and reduce forest degradation and deforestation. The high demand for forest resource products and services due to increase in human population, and the ever-changing environmental conditions have highlighted the need to hasten the partnership approach to the management of forests in a planned manner. It is for this reason that Msipazi Local Forest Management Plan (MLFMP) is formulated.

Signature:

Director of Forestry

Date: _____

ACKNOWLEDGEMENTS

The development of this Forest Management Plan was made possible through support from the Zambia Integrated Forest Landscape Project (ZIFLP). The Forestry Department would like to recognize and appreciate the effort of His Royal Highness Chief Mpezeni of the Ngoni speaking, Headmen and the community around Msipazi Local Forest for the commitment to support this plan and importantly the sustainable management of Msipazi Local Forest.

In addition, the Provincial Forest Office, Eastern would like to recognize and appreciate the efforts of the participants in the consultation workshop for their valuable contribution to the development of the Forest Management Plan.

The production of the FMP would not have been possible without the input from ZAMSTATS and officers of the Forestry Department, Eastern Province. The contribution of the members of the forestry inventory, livelihood data collection, analysis and reporting teams who made it possible to generate the needed information to develop this forest management plan is acknowledged. Local community contribution was vital in both the livelihood and biodiversity surveys as well as in the participatory discussion. His Royal Highness' contributions during the awareness meetings leading to livelihood survey for the development of the FMP are also highly appreciated.

The Forestry Department acknowledge the financial support of the World Bank and its partners through the Zambia Integrated Forest Landscape Project (ZIFLP) in the development of the draft FMP. Finally, since it is not possible to mention each person engaged in the development of the FMP, the contribution of all persons who participated directly or indirectly in the preparation and completion of this document is appreciated.

EXECUTIVE SUMMARY

Forests, woodlands and trees are among the nation's most important natural heritage resources. The vision of the National Forestry Policy, 2014 is to attain sustainable forest management at all types of forests to enhance forest products and services that will contribute to mitigation of climate change, income generation, poverty reduction, job creation and protection and maintenance of biodiversity. The Policy encourages participatory forest management anchored on the active participation of local communities, traditional institutions, private sector and other stakeholders in the management and utilisation of forest resources at all levels of decision-making, implementation, monitoring and evaluation.

This Forest Management Plan has been prepared for Msipazi Local Forest with the aim of equipping the management team and other interested stakeholders with a capable tool of directing the approach to be followed, guiding the process of partnerships with key stakeholders and addressing the challenges facing the management of the forest at present. Adjacent communities can play an important role in the rational utilisation of the existing forest through participation in decision-making, active management, protection and benefit sharing. Thus community collaboration is an imperative so as to protect the remaining forest cover of Msipazi Local Forest from degradation in order for it fully contribute to local and national development as well as for the benefit of the future generations of Zambia.

Translating Policy into practice

This management plan translates national policies into a well thought-out strategic framework to guide the preparation of annual operational programmes for effective and efficient management of this Local Forest. The management plan will regulate forestry activities for a period of 10 years through the application of prescriptions that specify targets, actions and control arrangements. In this respect this plan will form part of the general forest management system that regulates protection, silviculture practices, conservation, monitoring and other relevant operations to ensure sustainable management of the forest.

Community based natural resource management is core to this Forest Management Plan. Through promoting community involvement in the management of Msipazi Local Forest, rights to forest products and uses of the forest will be negotiated whilst agreeing obligations and other responsibilities for protection and management activities with local communities. This is intended to achieve the parallel goals of ending open access,

promoting enhanced forest management, whilst unlocking the full potential of sustainable forest use for economic development in the local communities. Surrounding communities have both the most to lose from its destruction and most to gain from its good management. The Community Forestry approach followed in Zambia provides an incentive mechanism and capacity development process to make this a reality.

To ensure effective implementation, including monitoring, this plan has been prepared using up to date and accurate information on the reserve covering: location and extent; ownership and rights; topography, climate and soils; flora and fauna; potential income and other benefits; challenges and opportunities for sustainable management. This forest management plan has the purpose not only of setting out approved management objectives and specified actions, but equally important, communicating these to the resource users and other stakeholders who are concerned with the implementation of the plan.

The Forest Management Plan was prepared through a consultative, interactive and participatory strategic planning process involving all key stakeholders. The data collection and consultation process was financed through the Zambia Integrated Forest Landscape Project (ZIFLP) a Zambian Government initiative in the Ministry of Green Economy and Environment.

Forest resource & community well being assessment

During 2019 and 2021, the Forestry Department undertook forest resource assessments, engaging surrounding local communities and their traditional leaders as part of the enquiries for preparing this forest management plan in accordance with the Forests Act, 2015. In parallel, ZAMSTATS undertook forest livelihoods and economic surveys with communities surrounding the Local Forest.

Traditional leaders were consulted and approvals to proceed with data collection and subsequent participatory land use planning processes. Local stakeholder meetings were held with community representatives, local organisations and other Government Departments to raise awareness of climate change issues, the sources of greenhouse gas emissions in the Province, sensitise on the policy and legal framework, the proposed collaborative planning approach, issues affecting the specific forest areas and exploring opportunities for a partnership for management.

The information collected allowed assessment of the condition of the forest, the value of the forest both economic as well as biodiversity value in terms of species

diversity and abundance. Past management, exploitation as well as current management and pressures on the forest can be seen in the species abundance and size distribution in the areas assessed. These as well as the current Policies and development priorities can guide the short, medium and long term management of Msipazi Local Forest.

The inventory results indicate a total standing volume for all species in Msipazi estimated at 10,121m^3 (33m^3/ha), with a total bole volume estimated at 4,302m^3 (12.1m^3/ha). Total Biomass for trees ≥5cm DBH is estimated 15,822 tonnes with an above ground carbon estimate of 8,962 tonnes. A basal area figure of 4.04m^2 per hectare is a low figure for the type of forest by over a factor of 10. This confirms the status of Msipazi Local Forest as a secondary forest following past and most likely current high levels of exploitation of large sized trees. Further, there is great need to bring the plantation areas under sound management and prepare site specific management plans for the plantation compartment and sub compartments. Current levels of planting are not considered viable for commercial timber or sustained pole production in the short and medium term.

Summary socio economic analysis

The livelihood survey conducted in 2019 indicated that Msipazi Local Forest is surrounded by approximately 14 villages namely, Chiundama, David, Kachikoti, Kamphala, Kunkuli, Lulaka, Magunda, Monastry, Msipazi parish, Mtowe, Nyungwa, Wanga, Wemba and Yonke villages with a total population of 2,137. These households depend on farming as their main occupation; the principal crops grown are maize, sunflower and groundnuts from land holdings ranging between 0.25ha to 6ha. Almost all households use firewood as their energy for cooking. The survey revealed that 100 percent of all the households were willing if called upon to voluntarily support management of the forest reserve with Forestry Department. At time of survey, there were no squatters within the forest.

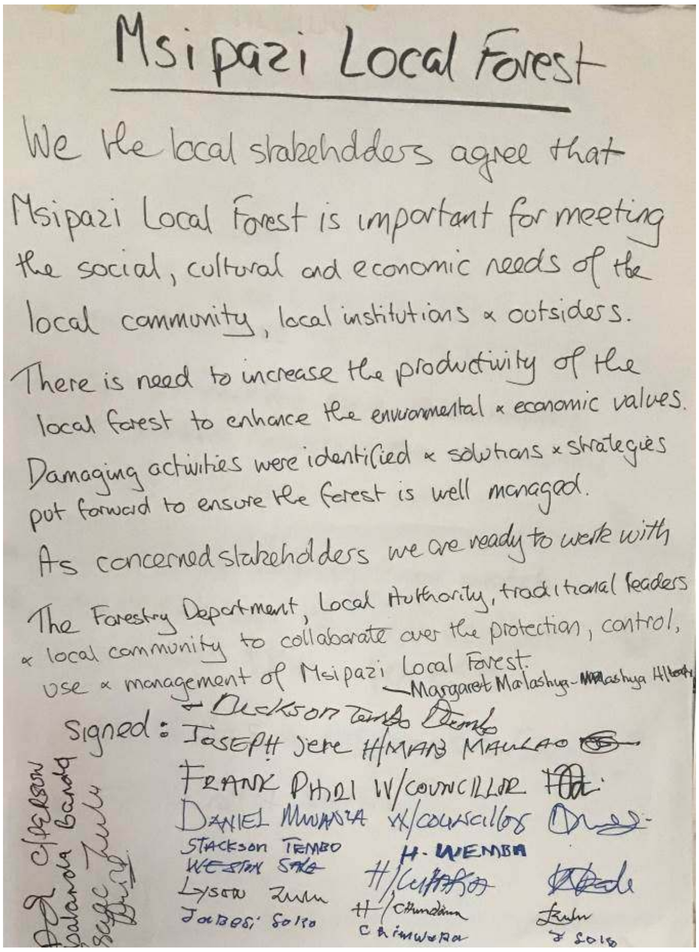
Forest change & issues analysis

A consultation meeting of stakeholders for Msipazi Local Forest was held on 26th May, 2022 at Jemita Lodge, in Chipata. Participants were requested to review the uses and users of the forest, the issues that are contributing to forest loss and forest degradation, but importantly to propose local solutions to these issues. Utilising forest cover imagery, participants were able to relate to the areas of forest and forest loss through agriculture and settlement across the forest and surrounding areas. This was used to focus discussion on issues, identifying different zones of use and management, possible

strategies and priorities for management as well as agreeing permitted and non-permitted activities within each of the identified zones.

Making a commitment to work together for change

As a statement of concern, but interest to work together with the Forestry Department, the Local Authority and Traditional leaders, stakeholders agreed the need to collaborate over the protection, sustainable use and management of the protected forest area and a declaration of intent was signed pledging to collaborate in the sustainable management of Msipazi Local Forest.



The declaration confirmed that Msipazi Local Forest is of importance for meeting the local social, cultural and economic needs of the surrounding communities as well as of environmental importance, primarily through securing local water resources. The stakeholders requested to work in partnership with the Forestry Department and others to safeguard the forest.

At the consultation meeting of stakeholders for Msipazi Local Forest held on 26th May 2022, at Jemita Lodge, in Chipata district, the stakeholders signed a joint declaration.

Objectives and management actions

Based on the policy and legal framework and the consultation process conducted, the General Objectives for the management of Msipazi Local Forest are:

(a) To secure forest resources of local and national importance

(b) To protect and restore ecosystems, particularly the protection of land and water supplies of local and strategic importance;

(c) To ensure the sustainable utilisation of forest resources and other natural resources within the protected area;

(d) To ensure full participation of all stakeholders at all levels of society for sustainable forest resource and ecosystem management through appropriate incentives and benefit sharing mechanisms

(e) To meet the social, cultural and economic needs of the local community and wider society involved in management of the Forest in a gender equitable manner.

Proposed management actions

The following management actions proposed for Msipazi Local Forest reflect the statutory purpose of the Local Forest as set out in section 19 of the Forests Act no 4 of 2015.

Forest Conservation through Community Participation and Livelihood Development

Community empowerment is central to participatory forest management for the effective coordination and sustainable management of forest resources. This Plan recognizes that communities surrounding Msipazi Forest Reserve are key stakeholders in the conservation of this forest as well as beneficiaries from its sustainable management. This action aims to meeting the social, cultural and economic needs and thereby improving the livelihoods of the communities around Msipazi Local Forest. This will be achieved through promotion of community forestry and the establishment of a community forest management group to partner over the management of Zones 2 and 3 of the Local Forest, as well as a development zone (4) in the immediate surrounding area to promote greenhouse gas emission reduction interventions;

Forest Protection, Restoration, Management and Conservation of Biodiversity

Msipazi Local Forest is an important forest ecosystem containing different plant species and fauna. The forest is surrounded by an increasing population which is highly dependent on it for subsistence and increasingly economic needs including collection of mushroom, wild fruits, caterpillars, honey, firewood and poles. The level of unsustainable use is anticipated to intensify with increasing human populations resulting in higher levels of resource exploitation and degradation. Protection of this forest habitat is therefore essential to ensure the continued ecosystem services and local livelihood needs.

Without considering the needs of local communities, gaining their support, and working with them, rather than against them, forest protection and management goals and objectives will not be reached. Consequently, the strategy will be to work together with communities to develop joint protection systems in return for agreed levels of utilization within the capacity of the forest to meet subsistence needs whilst safeguarding the environmental aspects including conservation of biodiversity.

Forest plantation establishment and management

Forest plantations are important for the supply of poles, timber and wood energy. Due to its proximity to the urban areas of Chipata, the demand for construction timber and wood energy will increase over time there by increasing the pressures on Msipazi Local Forest. Investment in the plantation area is therefore critical in order to meet future demand. This will require rehabilitation of plantations from which the timber products will be derived. Silvicultural operations are core to maximise the production potential of the demarcated plantation areas. Activities will include site preparation, planting, maintenance operations, production forecasting, harvesting and marketing with subsequent replanting/ regeneration. These will be detailed in an annual plan of operations to be prepared by the Officers responsible for the management of the Local Forest. Such operations are expected to create employment and income generation opportunities in the local communities.

Safeguards & other crosscutting issues

In implementing the above management actions, cross cutting issues as well as other environmental and social safeguards processes will be mainstreamed in all aspects of forest management. Specific activities as well as the annual workplan and operational plans should include a process of social and environmental screening. These should be reviewed and updated in accordance with the type of activity being planned and general screening reviewed annually. A Grievance Redress Mechanism will be operational at the District and Provincial level to allow a mechanism for grievances to be raised, documented and addressed. Documentation and tracking is core to this issue. Women shall be integrated into all aspects of management of Msipazi Local Forest and empowered through equal participation in decision making, governance and benefit sharing.

Contribution to Emissions Reduction in Eastern Province

Improved management of Msipazi Local Forest through the proposed interventions will directly address the need for emissions reductions through promotion of Sustainable Forest Management. This centres around expansion of community forestry and strengthening collaboration in the management of this and other protected forest areas in the Province. Carbon sequestration will also be achieved through plantation forestry and locked in timber products.

Delivering sustained results

The expected outcomes of participatory management through local stakeholder involvement in the management of this and other protected forest areas will be to reduce emissions in the Eastern Province. Strengthening sustainable land and forest management practices, creating increased incomes and resilience of local communities, conforming to national strategies will reduce the effects of climate change. Implementing the proposed management actions should result in improved local livelihoods and local economic development, improved availability of major forest products whilst sustaining the key ecological functions of the Local Forest and its surrounding area.

Definition of Terms

Above ground Biomass- refers to vegetation above the soil, including stem, stumps, branches, bark, and foliage

Basal Area- is the measure of cross-sectional areas of a tree trunk at breast height, typically measured in square meters per hectare

Below ground Biomass This is one of the carbon pools including biomass of the roots and organic matter

Biomass- refers to the total mass of living organisms in a particular ecosystem or biological community

Bole height - The distance from the base of a tree to the base of the living branch that part of the tree crown

Bole volume- refer to the amount of wood contained in the trunk or stem of the tree, typically from the ground level up to a point where the trunk reached a certain diameter or height. It is used in forestry inventory

Community Forest - refers to forest management that has ecological sustainability and local community benefit as central goal

Fauna- refers to the animals in particular region or ecosystem it includes all animal species that inhabit a given area from tiny insects to and microorganisms to large mammal and birds

Flora- refers to the plants, trees, flowers and other living organisms that are classified as part of the plant kingdom

Regeneration- refers to the process of renewing a forest or woodland to replace those that have been harvested or lost due to natural causes

Topography- refer to the physical features of a particular area of land, including its elevation, shape and relief.

ACRONYMS

CFMG	Community Forest Management Groups
CSA	Climate smart agriculture
DBH	Diameter at Breast Height
EA	Enumeration Area
FD	Forestry Department
FMA	Forest Management Area
FMP	Forest Management Plan
GHG	Green house gases
HFO	Honorary Forest Officers
MLFMP	Msipazi Local Forest Management Plan
MGEE	Ministry of Green Economy and Environment
MOE	Ministry of Energy
NGO	Non-Governmental Organization
PAPI	Paper Assisted Personal Interviews
REDD	Reducing emissions from deforestation and forest degradation
USAID	United States Agency for International Development
ZAMSTATS	Zambia Statistics Agency
ZIFLP	Zambia Integrated Forest Landscape Project

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Summary Cost of Forest Management Plan Implementation by: Programme

Cost (ZMW)

Programme	**Cost**
1. Forest protection	264,491
2. Biodiversity Conservation and Environmental education	157,982
3. Forest Conservation through Community participation and Livelihood Development	197,204
4. Human resource development	146,193
5. Infrastructure development	1,700,738
6. Research, Monitoring and Evaluation	521,106
Total	**K 2,987,71**

Cost breakdown is provided in Annex VII

Msipazi Local Forest Management Plan

1 INTRODUCTION

Msipazi Local Forest Management Plan (MLFMP) is prepared in response to the National Forestry Policy of 2014. It has set forth clear guidelines to ensure adequate protection and sustainable utilization of forests, by promoting the development and use of forest and non-forest products by involving all interested key stakeholder's particularly local communities around the forest reserve in the management of the forests and non-forest products in line with provisions of the Forests Act No. 4 of 2015.

Purpose of the forest management plan

The purpose of the forest management plan is to guide the rural communities, traditional and local leadership, and key stakeholders in collaboration with the Forestry Department during the exploitation and management of the forest resources of the Msipazi local Forest in a sustainable approach and manner.

The plan will serve as a legal document to guide utilization and management of resources by local communities and key stakeholders around the forest and the Forestry Department through the Green Economy and Environment (MGEE).

This Forest Management Plan aims to contribute towards the Goal of the National Strategy for REDD which is to reduce deforestation and forest degradation for sustainable natural resource management, improvement of livelihoods and achievement of a green economy.

Duration of forest management plan

The duration of the FMP is ten (10) years. In theory, this means that ten years from the date that the plan is approved and adopted. In practice, however, because of the adaptive nature of forest management in the Province, and the need to be flexible and adjustment from lessons learned along the way, the plan may be adjusted every year during the first few years of implementation. In other words, the plan should be dynamic, and lessons learned are incorporated as they become obvious

Developmental Objectives

The Development Objectives for this Forest Management Plan are aligned with the objectives of the National Forestry Policy, 2014, which include:

Objective 1: To manage the country's forest resources in order to maximize productivity and the development potential of the forest resources:

Objective 2: To empower local communities and traditional leaders in order to ensure adequate protection and management of forests:

Objective 3: To improve the role of forests in addressing climate change in order to contribute to reducing its impact through mitigation and adaptation measures:

General Objectives

The General Objectives for the management for the Forest Reserve include:

(a) To secure forest resources of local and national importance

(b) To protect and restore ecosystems, particularly the protection of land and water supplies of local and strategic importance;

(c) To ensure the sustainable utilisation of forest resources and other natural resources within the protected area;

(d) To ensure full participation of all stakeholders at all levels of society for sustainable forest resource and ecosystem management through appropriate incentives and benefit sharing mechanisms

(e) To meet the social, cultural and economic needs of the local community and wider society involved in management of the Forest in a gender equitable manner.

2 GENERAL DESCRIPTION

Location Details

The Msipazi local Forest located along the Chadiza/Chipata road is dominantly rural forest area surrounded by villages. Its 22Km from the central administrative Centre of Chipata.

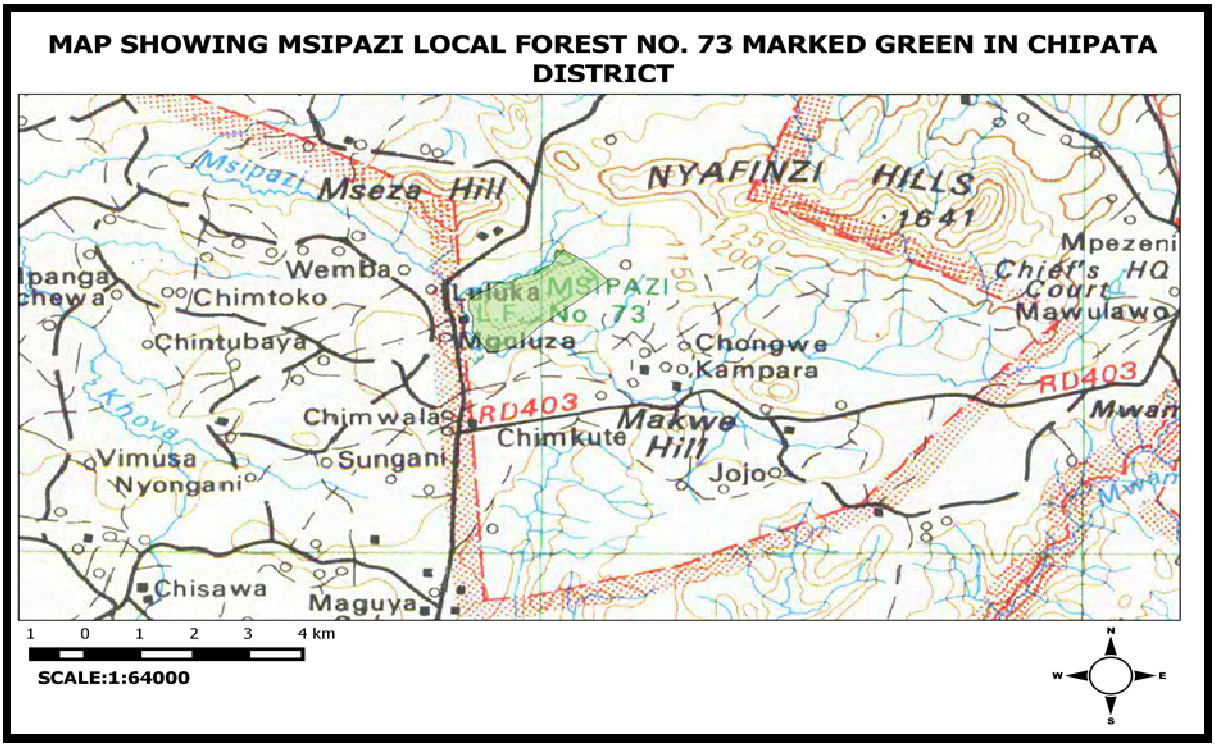


Figure 1: Location Map of the Local Forest

(A detailed description of the forest boundary is shown in appendix1)

Msipazi Local Forest No. F.73 covers a land area of approximately **284** hectares in extent with total perimeter of 7Km, forms part of the forest estates in Eastern Province.

A detailed description of the gazetted forest boundary is provided in Annex 1.

Ownership and control

Msipazi Local Forest No. P. 73, was originally declared a forest reserve and gazetted under Statutory Instrument No. 187 of 1968. It is a protected forest area with the designation of "Local Forest" covered by section 19 of the Forests Act no 4 of 2015. The area is under the jurisdiction of the Forestry Department, Ministry of Green Economy and Environment through powers bestowed under the Forests Act No. 4 of 2015 of the Laws of Zambia.

Physical Environment

Topography, Geology & Soils

Msipazi Local Forest lies on a relatively flat land at an altitude of about 1117m above sea level. The area is surrounded by two rivers, which are Kasambagowa on the Eastern part and Msipazi River on the Northern part of the local forest. Geologically the area is located on Precambrian metamorphic rocks characterized by gneisis with igneous intrusion of syenite. Soils are well-drained, deep-to-deep, fine loamy and clay soils having a clear clay increase with depth. Sandy soils are found in some places of the forest and impacts species selection in plantation management.

Rainfall & Temperature

The rainfall usually lasts for 5 to 6 months starting from November to March and the peak months are December and February. The rainfall amount ranges from 900 to 1000mm.

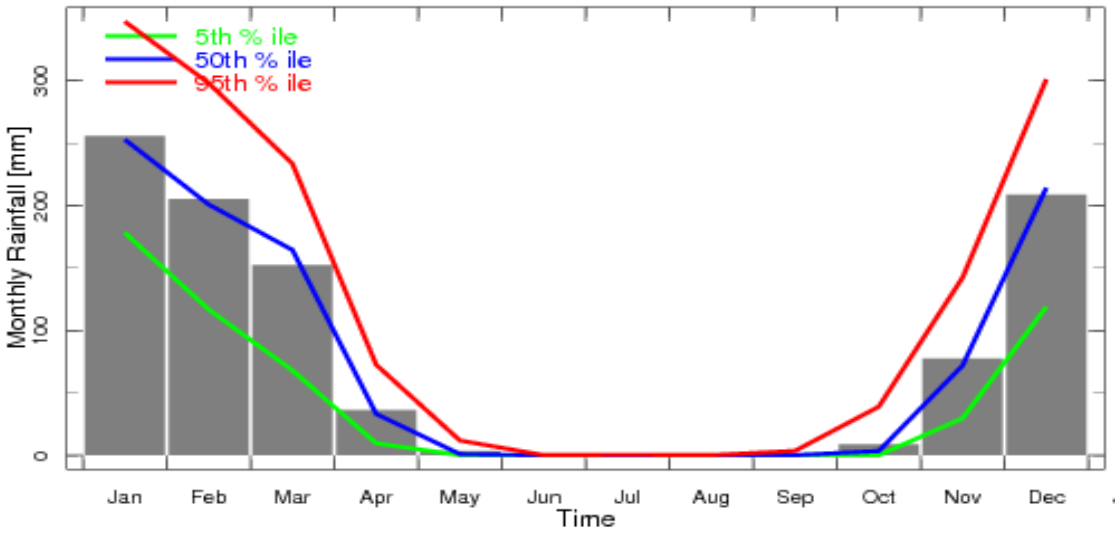


Figure 2: Monthly rainfall *Source: The Zambia Meteorological Department*

Normally, temperatures are very high, especially during the dry months, which occurs between August and December. The maximum average monthly temperature is between 27C and 34 C. The highest maximum temperature occurs in October. The lowest average temperature is between 21^{0}C and 23^{0}C during the cool dry season occurring especially between May and June.

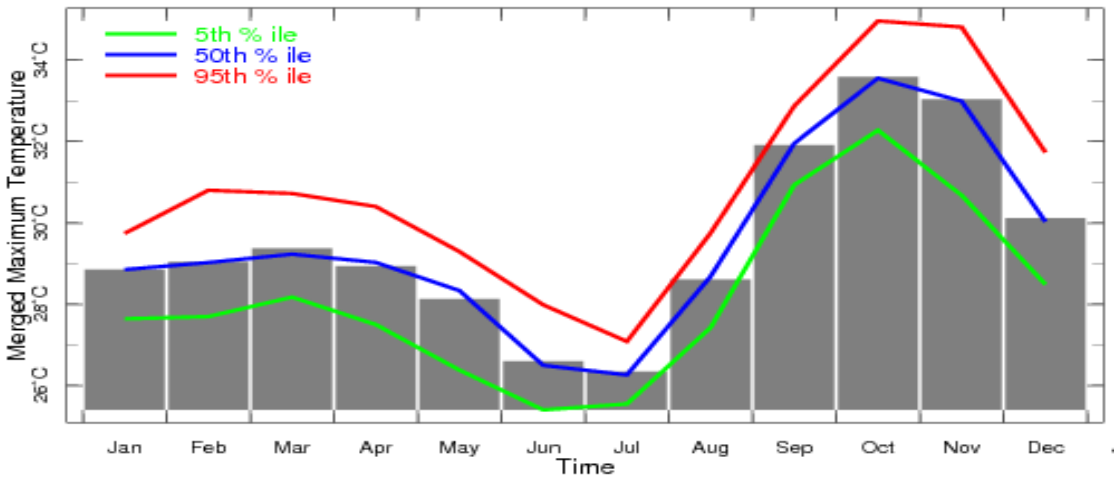


Figure 3: Monthly temperature Source: The Zambia Meteorological Department

Biophysical Environment

Vegetation Type

Msipazi Local Forest is a homogeneous forest. The vegetation type is miombo woodland on the plateau with a diverse tree flora including *Julbernardia paniculata*, *Isoberlinia angolensis*, *Brachystegia boehimii*, *Brachystegia floribunda*, *Parinari curatellifolia* and many other species with *Brachystegia speciformis* being the dominant species.

Plantation forest:

Msipazi Local Forest was earmarked for the establishment of *Eucalyptus grandis* plantation. A timber plantation started in 1965 with a total area of 50 hectares was developed but the project could not continue with its annual planting due to lack of operational funds. Due to this reason, there exists patches of *Eucalyptus grandis*. Through the Zambia Integrated Land Forest Project (ZILP) in Chipata, 30 hectares of land was prepared and planted as plantation in Msipazi.

Past commercial exploitation of Msipazi Forest plantation for timber and poles has significantly contributed to its present degraded condition as there are no more plantation trees to be considered viable for commercial timber or pole production and this is therefore not an important management objective, except for a relatively small area totaling about 20ha which already has established young plantations of *Eucalyptus tetroconis* ,*khaya nyasica* and *Emelina arborea*.

The local community has been involved in supporting plantation establishment as paid laborers.

The best strategy that is workable is to understand the factors that have led to poor performance of plantation species and put corrective actions in place.
There is great need to bring plantation areas under sound management and prepare site specific management plans for plantation areas, hence the preparation of this Forest Management Plan.

Figure 4: Plantation extension

Fauna

In both reconnaissance survey and the forest inventory, there was no physical observation of major wildlife in Msipazi Local Forest. However, an indication of their presence was recorded through observations such as footprints and droppings as well as through oral interviews with some community members. Animals such as Monkeys, Guinea fowls and impala are present. Smaller animal species such as squirrels, birds, Snakes, rabbits and Lizards were encountered during the surveys.

Infrastructure and communication

Infrastructure is the key to any development and order to achieve the forest management objectives for Msipazi Local Forest a certain level of infrastructure is required. Roads, vehicle and buildings are essential to sound management of the forest. However, they cannot be maintained without considerable financial expenditure since the forest itself yields very little in terms of direct revenue.

Road and Track network: Chadiza-Chipata gravel road provides access to Msipazi Local Forest exists. The cleared boundary around the forest reserve and some firebreaks in the exotic plantations, which equally act as access ways exist in the forest reserve.

Buildings: Houses and office block at Msipazi local Forest are old and need renovations because they are not good for human habitation. The renovation or construction of these structures should be a priority.

Bridge: Bridges are recognition of a national's infrastructure. Bridges play an important role in connection people, goods and transport. The damaged bridge at Msipazi Local Forest has limited the monitoring activities that happens in the plantation especially during rain season. There is need to expedite the works of the bridge to easy the works of the station.

ZIFLP is currently supporting provision of a borehole, water tank and reticulation system.

3 PAST MANAGEMENT

Msipazi Local Forest was formerly a farm number D33 for the Diocese of Fort Jameson now Chipata. It is about 22km from Chipata town. This Local Forest was gazetted in 1961 under S.I No. 187 of 1968 as contained in the provisions of the Forests Act section five 5. In 1964 there was boundary making between the Catholic and Forestry Department for the same Forest Reserve. In 1965 beacon were erected around Msipazi Local Forest. This local forest covers a total area of 284 hectares. From 284 hectares, 145.2 hectares was marked for plantations, while 138.8 hectares was for indigenous forest. In 1965, plantations were formulated in Msipazi Local Forest. With the map of plantations as seen on the appendices.

In 1975, Msipazi Local Forest was offered a certificate of title by Ministry of Lands which was renewed in 2005. In 1980's, expansion of plantations in Msipazi Local Forest continued.

The reservation proposal of establishing Msipazi Forest Reserve/plantation was based on the following consultations:

 A series of meetings held with His Royal Highness Chief Mpezeni, the Councillor, farmers and all communities living around Msipazi on 8th May, 1960 proposed that, Msipazi be gazetted as a forest reserve. Further meetings held at district level during district development Committee meetings and Chipata Rural Council meetings in December 1960 with the view to discuss gazetting of Msipazi Forest Reserve. Initially the proposal was for plantation establishment with a view to:

- ✓ Employment Creation.
- ✓ Supply of plantation poles to Chipata Central Business District (CBD).
- ✓ Creation of market of various farm products to people who will be staying in Msipazi camp.

Two minutes notes were found in the Msipazi file, one was write in 1959 and the second was submitted to the Chief Conservator of Forests in 1960.

The first pilot project for a plantation was established in 1965 with 20 hectares of *E. grandis* and 20 hectares for *Khaya Nyasica* planted for coppice at 3.16m x 3.16m spacing, though heavy mortality was experienced. The objects of management were to supply poles and manage the plantation area in such a way to recover the direct capital and recurrent costs for the period 1973 – 1993. Secondly to conduct investigations into

the nature, locality and level of demand for plantation produce and into economic methods of distributing and selling produce.

A total of 12 compartments were established totalling 50 ha over the period 1970 to 1982.

In April, 1975 the whole reserve was fenced to ensure the forest was secured

- ✓ 7 staff houses and a well was dug.
- ✓ All weather road was constructed
- ✓ Other management activities of boundary clearing, ploughing, squaring, weeding and planting continued.
- ✓ Assessment to make a road through the plantation was done and it reviewed that were affected with the tree volume of 392m³.

Following the internal restructuring of the Department under the Public Service Reform Programme (PSRP) in 1997 affected manpower as a number of officers were laid-off especially staff who managed forest stations. The reduced manpower especially from 2004 and onwards dynamics changed: Economic downturn, increase in population, high poverty levels.

Msipazi Local Forest received support from USAID through the Forest Resource Support Programme (FRSP). The project provided resources to delineate forest boundaries, to erect beacons on the boundaries, to conduct forest patrols inside and outside the reserve, to enhance extension services and the production of information materials for communities living around protected forest areas help in promoting forest management and hence combating climate change. The project also helped in digitizing the maps of the reserve.

With the coming of the Zambia Integrated Forest Landscape Project (ZILFP), expansion of plantations continued in Msipazi. During 2020/2021 tree planting season 10 hectares of land was cleared for planted establishment which was planted with *E. tetroconis* on 5 hectares and the other 5 hectares *khaya Nysica (*Mubaba) was planted. In 2022/2023 tree planting season another 10 hectares was planted with *khaya nyasica* and *Gmelina arborea*. There was enrichment planting of 10 hectares in indigenous areas in 2022/2023 tree planting season in which *E. tetroconis* was planted.

4 GROWING STOCK

Assessing the growing stock of the forest is important in terms of ensuring Sustainable Forest Management. In basic terms, assessment is needed to ensure that the removal of trees and forest products does not exceed the rate of replacement in terms of growth and abundance. This is the basic principle of sustainable forestry otherwise the forest will be depleted and degraded.

A forest inventory was conducted by the Forestry Department in 2019 with financial support from the Zambia Integrated Forest Landscape Project. The following section provides the results and analysis from the data collected. A systematic sampling system was used to determine the location of the sample plots, measurement of trees and soils followed the Department's Guidelines and the software *forestcalc* (version 6.4.1) used to process the data to provide the summary information contained in this chapter. The information collected allows assessment of the condition of the forest, the value of the forest both economic as well as biodiversity value in terms of species diversity and abundance. Past management, exploitation as well as current management and pressures on the forest can be seen in the species abundance and size distribution in the areas assessed. These as well as the current Policies and development priorities can guide the short, medium and long term management of Msipazi Local Forest.

Tree species abundance

The inventory data indicates that there are over 40 different types of tree species that include tree seedlings in the forest. The table below provides a summary of the forest inventory and will be described in the sections below;

Species	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Vol (m^3)	0.0	0.5	0.5	0.3	0.5	0.4	0.2	2.5
Bole (m^3)	0.0	0.2	0.1	0.1	0.2	0.2	0.1	0.9
Density (SPH)	0.0	39.3	7.9	2.3	0.3	0.5	0.1	51.6
Basal area (m^2)	0.0	0.1	0.1	0.1	0.1	0.1	0.03	0.4
Biomass (tons)	0.0	0.8	0.7	0.5	0.7	0.7	0.3	3.7
Carbon (tons)	0.0	0.4	0.4	0.2	0.4	0.3	0.2	1.9
Saw log Vol (m^3)	0.0	0.0	0.0	0.0	0.07	0.4	0.2	0.7
Firewood Vol (m^3)	0.0	0.04	0.1	0.07	0.1	0.0	0.0	0.4
Pole Vol (m^3)	0.0	0.09	0.1	0.04	0.1	0.0	0.0	0.4
Fruit Vol (m^3)	0.0	0.09	0.07	0.1	0.0	0.0	0.0	0.3
Medicinal (m^3)	0.0	0.2	0.07	0.07	0.1	0.0	0.0	0.4
Other Vol (m^3)	0.0	0.07	0.09	0.01	0.03	0.1	0.0	0.3
Seedlings	0.0							5,695

Table:1 stratum total for all species

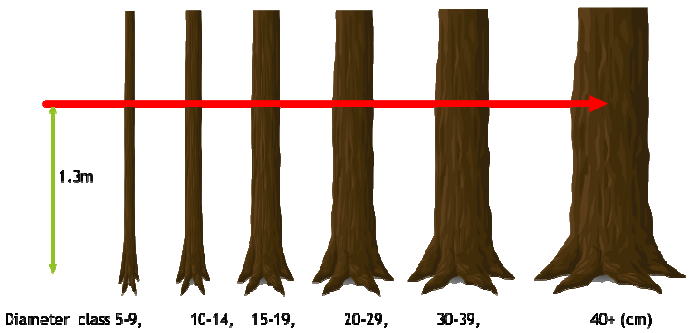
The inventory data indicates that there are over 40 different types of tree species that include tree seedlings in the forest. However, the ten most frequent species are shown below.

Top Ten Abundant Species In The Forest Reserve

Species	Local Name	Species Code
Afzelia quanzensis	Mupapa	13
Albizia adianthifolia	Mutanga	15
Brachystegia boehmii	Muombo	46
Brachystegia floribunda	Musamba	48
Brachystegia longifolia	Muombo	49
Brachystegia utilis	Tsamba	55
Dalbergia melanoxylon	Mukelete	101
Dalbergia nitidula	Mchindula	102
Diplorhynchus condylocarpon	Mchindula	114
Erythrophleum africanum	Kayimi	127

Tree and Sampling Distribution by Size Classes

Size Class Distribution is a way to describe the structure of a forest by categorizing the tree population by size of the tree through measurement of each tree, its diameter-at-breast-height (DBH) in centimetres and allocating each measured tree into a size range as means to assess the tree population. Trees below 5cm are counted, not measured. The actual distribution of measured trees into various classes is then compared to a suggested "ideal" benchmark as an indicator of forest health and sustainability. The presence or absence of trees in various size classes informs the manager of past management, current stocking and the future growth potential of the forest.



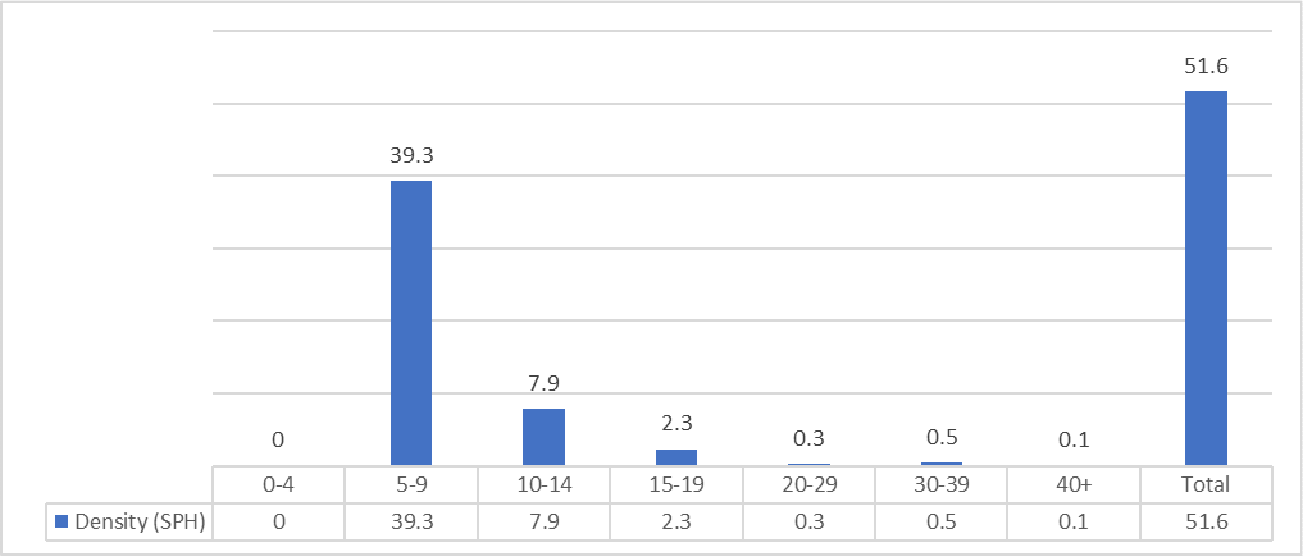


Figure 4: Density by diameter class/ha for all species

The density or number of stems by diameter class per hectare is 51.6 with higher in diameter class 05 – 14 and less from 20 and above. The outcome indicates that there is a lot of tree harvesting.

Basal Area

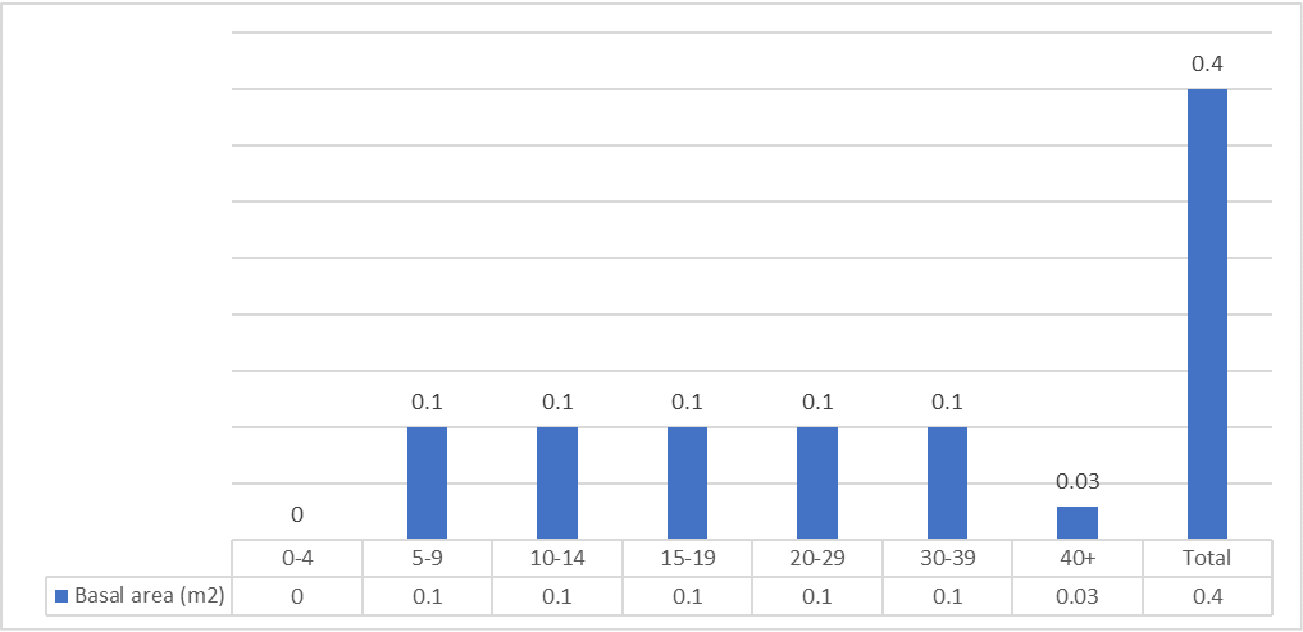


Figure 5: Basal area (m2) by diameter class/ha for all species

Basal area (m2) by diameter class/ha for all species

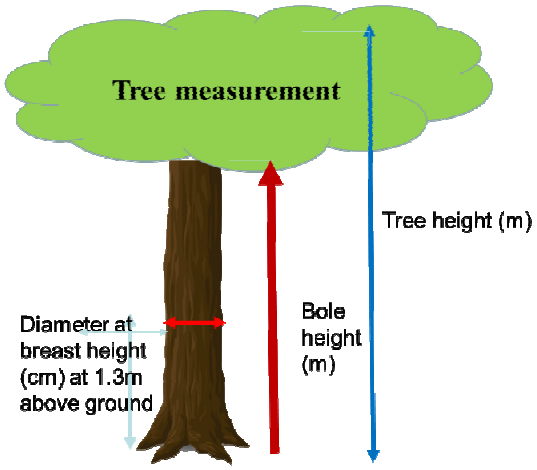
Forest condition is further assessed by the amount of area occupied by the stems of trees, termed basal area. This is measured by determining the cross-sectional area of a tree at breast height (1.3m), summing up all the measurements and expressing this as a figure of square metres, either in their size class categories or as a total per hectare.

The basal area by diameter class per hectare for all species for Msipazi is 0.4 with equal distribution of 0.1 in diameter class 05 - 39.

Total Volume, Biomass and Carbon estimate of all Species

Calculating volume of the standing trees of DBH > 5cm is a further measure of the condition of the forest, site quality and previous management and exploitation. Tree volume to different heights is measured and calculated by individual trees and summed to give a total volume estimate per hectare. An estimate of the volume in a stand or plot is important for forests quantification and management decision making. The amount of merchantable wood in cubic metres (m^3) in a tree, as well as across the forest, was estimated while the trees are still standing using the methods of forest mensuration. Tree bole volume is based on the timber height relating to the parts of the tree that could be cut and sawn. Stand volume based on tree height is important for providing an estimate of total wood biomass resource. An assessment of carbon stocks was then estimated using the methodological framework developed by the IPCC.

The total volume by diameter class per hectare is 2.5 cubic meters with higher in diameter class 5-14 and 20 -39. The outcome indicates that there is heavy illegal tree harvesting.



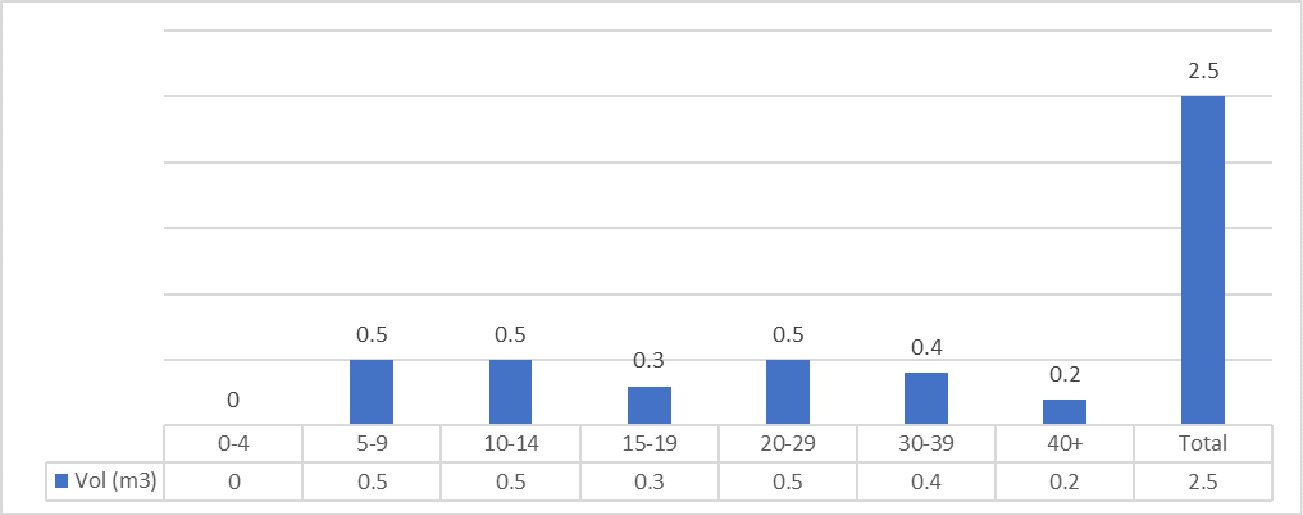


Figure 6: Volume (m^3) by diameter class/ha for all species

Bole Volume (m^3)

The total bole volume by diameter class per hectare is 0.9 cubic meters with higher in diameter class 20-39. The outcome indicates that there is illegal harvesting of trees as it situated within the boundaries of villages.

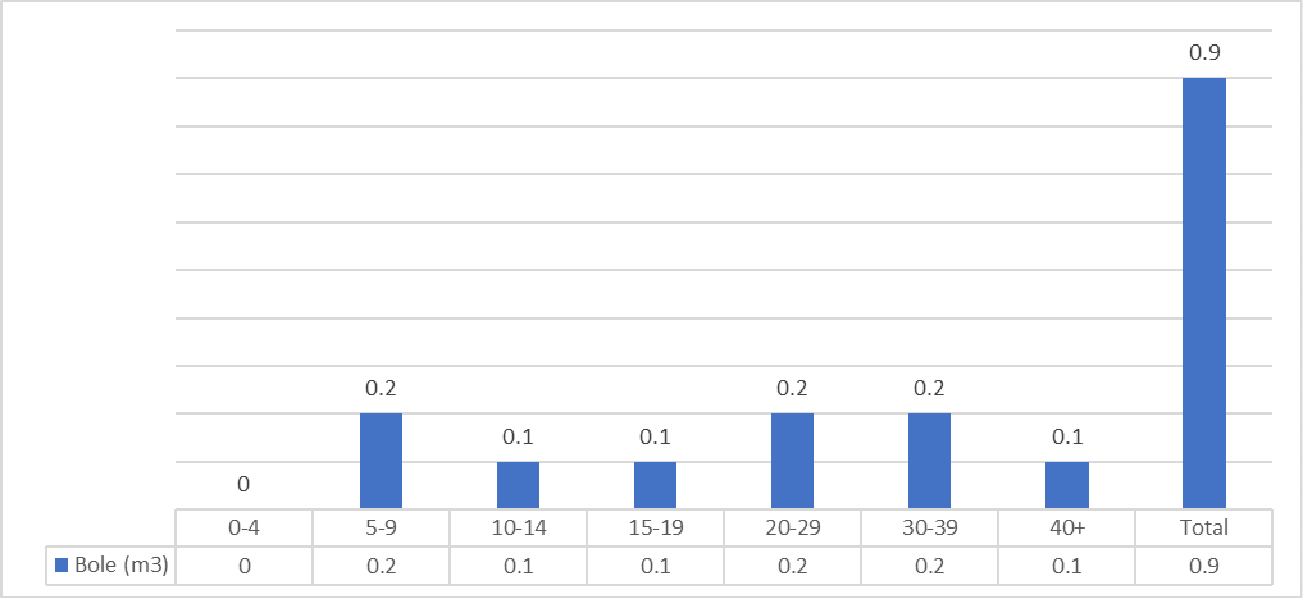


Figure 7: Bole volume (m³) by quality diameter class for all species

Volume of all species by merchantable quality

Trees in Msipazi Local Forest are relatively straight, about 90% of the trees assessed are straight and 3% are bent and 7% are crooked.

No	Description	Volume	Explanation
1	Straight	17.014m³	The entire bole length of these trees are straight
2	Slight bend	0	The bole length of these trees are slight bend but are sawable
3	Crooked	0.275m³	These trees have bad form, they are crooked and cannot be sawn

Presence of Commercial Tree Species

Based on the inventory data, species used for high valued sawlogs such *Brachystegia bussei, Pterocarpus angolensis and Dalbergia nitidula* were identified. Medium valued are *Brachystegia boehmii* and *Julbenadia globiflora,* are not abundant in the forest. The harvestable volume is low. Therefore, Msipazi Local Forest in its current condition cannot sustain large scale logging operations or timber concession.

Volume of all species by use

No	Description	Volume(M^3)	Explanation
1	Sawlogs	4.697m^3	These are merchantable trees with the average diameter of 30cm dbh and above and are of exceptionally high valued suitable for timber production
2	Poles	2.843m^3	These are tree species with relative straight bole length with the average diameter at breast height of 5cm to 29cm
3	Fruits	1.893m^3	The tree species include all fruit bearing either edible or not edible
4	Medicinal	1.893m^3	All medicinal plants
5	Firewood	2.647m^3	These include all dead and or diseased trees which can be used for firewood
6	Others	2.102m^3	These include all tree species which are not classified in any of the above categories

Table 2: Trees in Msipazi Local Forest in terms of forest product categories.

Biomass and carbon above ground

The total biomass and carbon stocks (tons) by diameter class for all species respectively of 0.4 and 3.7 estimates methodological framework applied is that developed by the IPCC documented in the 2006 guidelines for national greenhouse inventories volume 4, chapter 2 and 4. The correlation of total biomass and carbon both above and below ground is in the figure below is within the IPCC requirement of half of biomass constitute carbon stock.

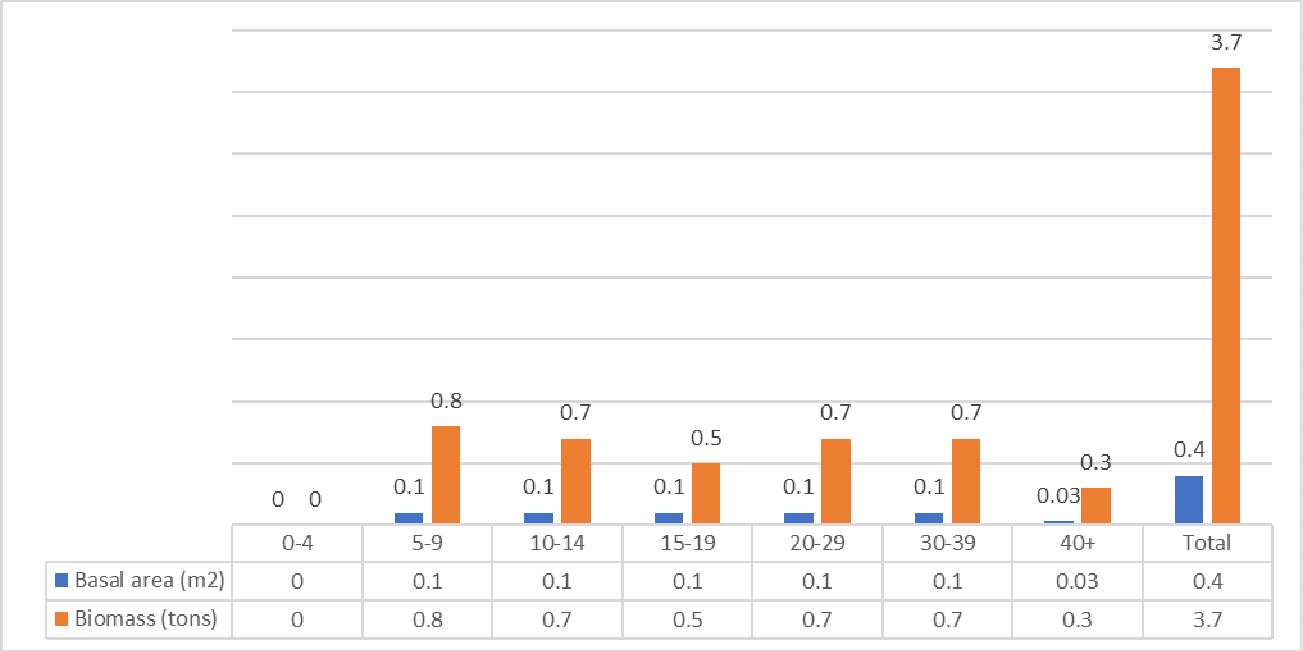


Figure 8: Biomass and Carbon above ground by diameter class/ha for all species

There are 5 timber species considered by the local communities and the timber industries to be high valued found on the price list for the Forestry Department as the commercial trees particularly as saw-logs and these are tabulated on the table below.

No	SPECIES	LOCAL NAME
1	*Ptercarpus angolensis*	Mlombe, mukwa
2	*Pericopsis angolensis*	Mbanga, Mwanga
3	*Faurea saligna*	Chipepe
4	*Brachystegia speciformis*	Mputi , Mputu
5	*Julbenadia paniculata*	Mtondo

Plantation Area

In view of the systematic sampling system followed, the plantation areas were not assessed separately. Currently a relatively small area totaling about 30ha consists of newly established young plantations of *Eucalyptus tetroconis, Gmelina arborea* and *Khaya nyasica*. Under previous management regimes resources to establish and maintain the plantation area were limited. The involvement of the local community has been in supporting plantation establishment as paid labourers.

There is great need to bring the plantation areas under sound management, prepare site-specific management plans for the plantation compartment, and sub compartments. Firstly there is need to understand the factors that have led to poor performance of plantation species and put corrective actions in place. Current levels of planting are not considered viable for commercial timber or sustained pole production in the short and medium term. A separate study and preparation of a plantation management plan is highly recommended.

Number Of Compartment And The Year Species Planted

COMPARTMENT NO	SPECICES	AREA (Ha)	YEAR PLANTED	PURFORMANCE
1,2,3	**(Research)** *Eucalyptus grandis/ Gmalina arborea*	30	1980's	Diseased/Health (Anthracnose disease)
4	*Eucalyptus grandis*	20	2011	Diseased/Health
10	*Eucalyptus tetroconis*	10	2020/2022	Health
11	*Gmalina arborea*	5	2022/2023	Health
12	*Kaya nyasica*	5	2022/2023	Health

Table 3: Compartment List

Compartments Map for Msipazi

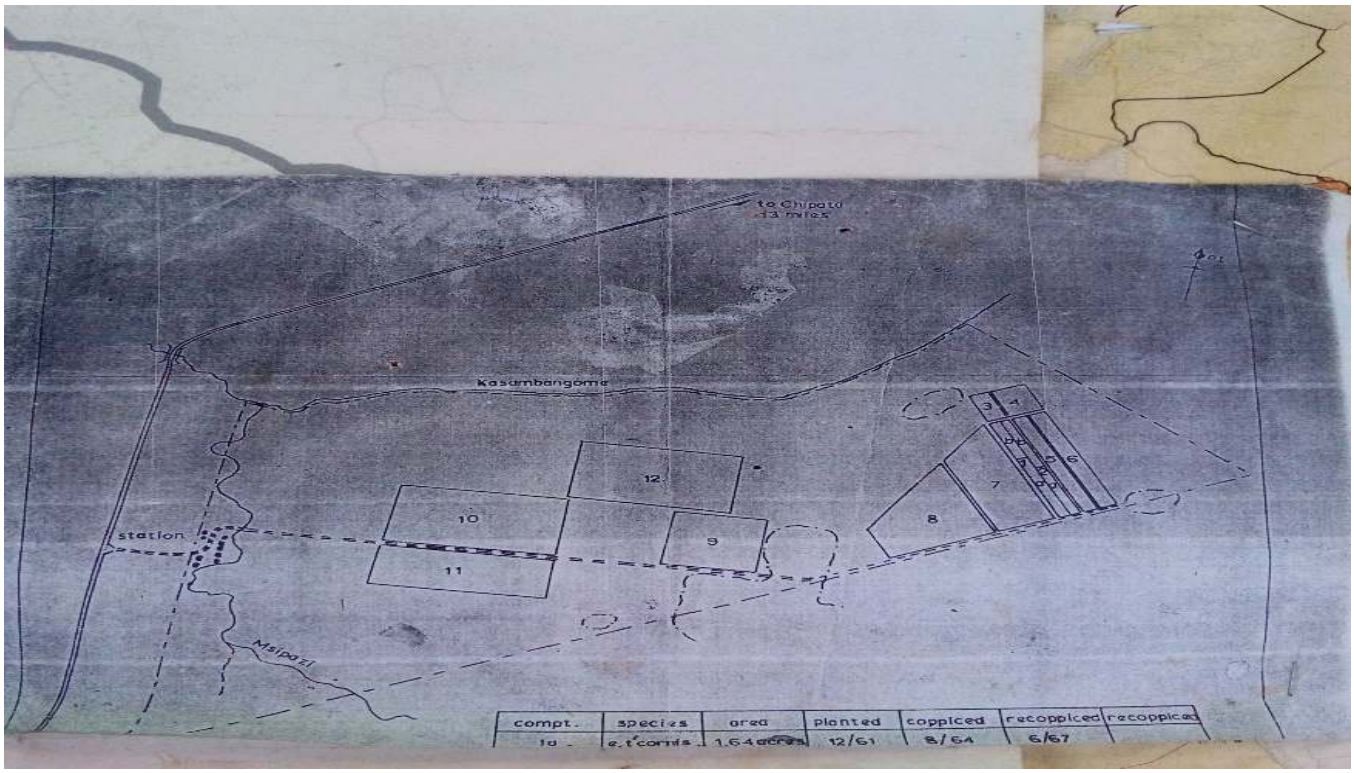


Figure 9 Compartment Map

5 STAKEHOLDER DEMOGRAPHICS

Introduction & Methodology

A Forest livelihood survey was conducted by the Zambia Statistics Agency (ZAMSTATS) Eastern Regional office, between October and November 2019. The main objective of the Forestry livelihood Survey is to measure the well-being of the Msipazi Local Forest population and to measure the utilisation and management of trees resources. In addition, to determine the benefits the surrounding communities derive from forest reserve.

The demographic characteristics of any area are important in understanding the living conditions of the people through the impact they have on the prevailing situations. Furthermore, data on the demographic characteristics provide background information and the necessary framework for the understanding of other aspects of the population, including economic activities, poverty and food security.

Considering the household population distribution of Msipazi Local Forest can be translated as having an average size of the household membership of about 5 per household.

The systematic sampling method was used to select households from each Enumeration Area (EA). The method assumes that households are arranged in a straight line and the following relationship applies.

Let K = N/n Where:

N = total number of households assigned sampling serial numbers

n = total desired sample size to be drawn from an EA

K = Sampling interval in each EA calculated as K = N/n

The 2019 forest survey was Paper Assisted Personal Interviews (PAPI) collected. All the field questionnaires were checked for completeness by the field supervisors. After data collection, all questionnaires were submitted for data entry using statistical software SPSS, Version 20.

After data entry was completed, the data were subjected to extensive checks on their validity and consistency in order to facilitate analysis using statistical package SPSS version 20, which was done by Mr Mully Phiri and Dr Richard Kaela.

Household and Population dynamics

Msipazi Local Forest as at 2019 livelihood survey was surrounded by approximately 30 villages as indicated in Annex: III with a total population of 1,224. The main ethnic groups in the area are the Ngonis and the Chewas. The forest adjacent population are mostly small-scale farmers who utilize the forest for some of their livelihood requirements. The main crops grown are Maize, Sunflower and groundnuts. There are no squatters within the forest.

The land tenure of the population surrounding the Msipazi Local Forest is mostly under customary land tenure system and not state land as the households have no title deeds or letter of allotment. The sizes of the land occupied by households ranges between 0.25ha to 6ha.

Level of Education.

Education is one of the fundamental factors that enhance the well-being and quality of life for persons and for entire society. Education, therefore, has profound effect on the population's welfare in terms of health, employment earnings, poverty levels and nutrition.

Education levels of the head of households in the Villages/Localities surrounding the Msipazi Local forest reserve was found to be mainly primary level that contributed 58 percent, while tertiary contributed the lowest indicating about 1.2 percent. The rest being No formal education and secondary education indicating 4.4 percent and 36.3 percent respectively. As shown in the figure below:

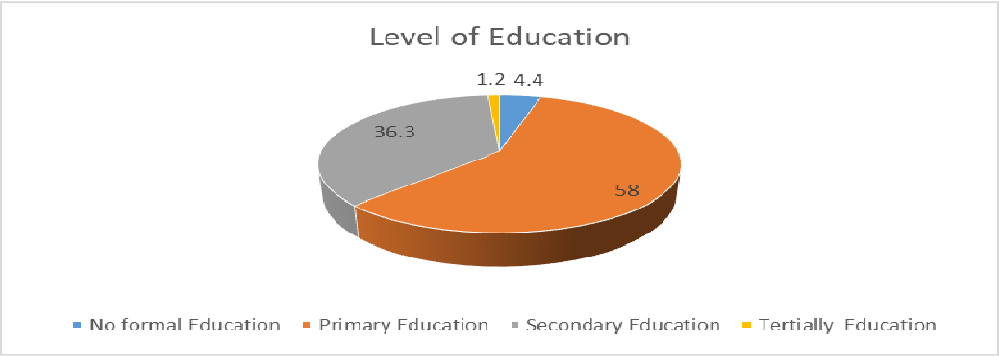


Figure 10: Level of Education of household heads of localities surrounding the Msipazi Local Forest reserve

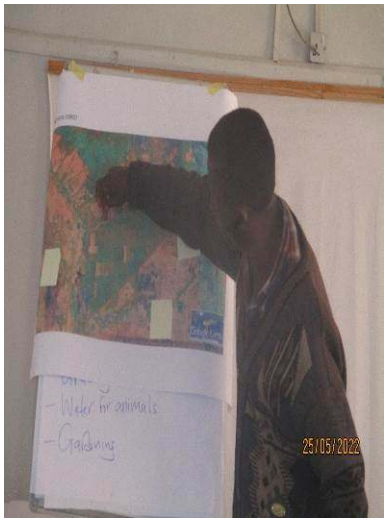
Economic activity

The population around Msipazi depends on farming as their main occupation. The results showed that 100.00 percent of the household population surrounding Msipazi forest

reserve had farming as their main occupation, while the rest of economic activities contributed (0 percent).

Utilization and zoning of forestry resources by stakeholders

At the consultative meeting held on 6th April 2022, the stake holders identified the uses of the forest reserve and zoned the Msipazi Local Forest as below:



The zones were identified for the following:

Zone 1.

- Forestry plantation
- Forest nursery

Zone 2.

- Mushroom harvesting
- Fruits
- Controlled harvesting of timber, poles, firewood
- Beekeeping

Zone 3.

- Fish farming
- Water points for livestock

Types of Energy Used For Cooking

Almost all households in the localities surrounding Msipazi Local Forest reserve use firewood as their energy for cooking. The livelihood survey revealed a percentage of about 99 percent using firewood as energy for cooking, while 1 percent using electricity as cooking energy.

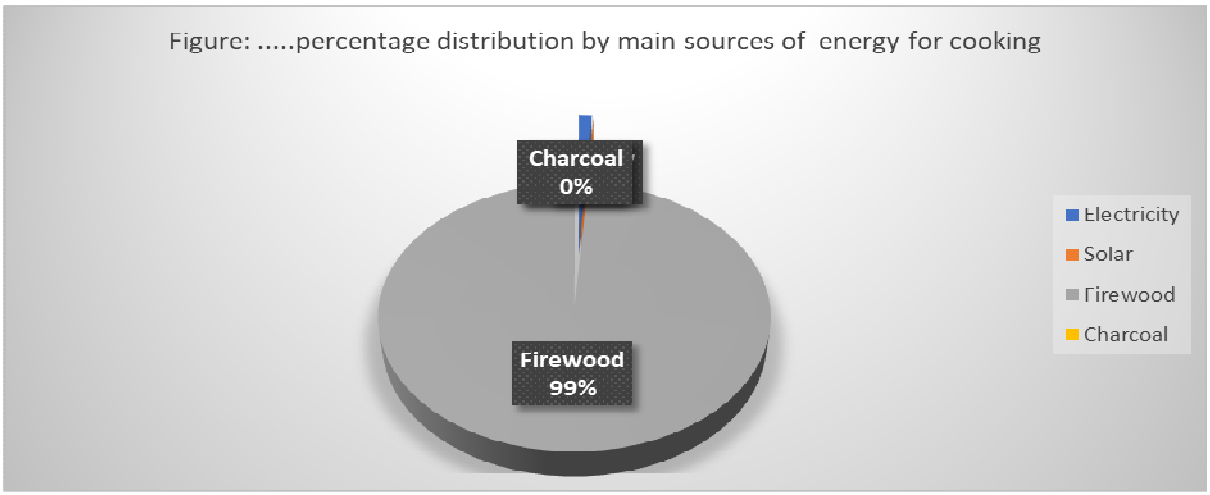


Figure 11; Energy sources for cooking

Main tree resources used by households for Firewood

The main tree resources used for firewood by households in the localities surrounding the Msipazi Local Forest are as shown in the table below.

Main type of trees used for firewood
Brachystegia boehmii
Brachystegia specitormis
Julbernardia paniculata

Table 4: Main Tree Resources Used by households surrounding the Msipazi Local Forest

Note, these species are therefore under serious threat for wood energy and mitigation measures are required in the management plan.

Non wood Forest products

The main non wood forest products used by households surrounding the Msipazi Local forest reserve are as shown in the table below.

Main type of non-wood forest products used by households

Fruits Honey Mushroom

Land Ownership and Use

The livelihood survey for the communities surrounding the Msipazi Local Forest revealed that most of the land owned by the households was for Agricultural activities which indicated 48 percent, followed by other uses at 15 percent, fallow land 18 percent, Land maintained as natural forest 14 percent and land used for growing trees at 5 percent.

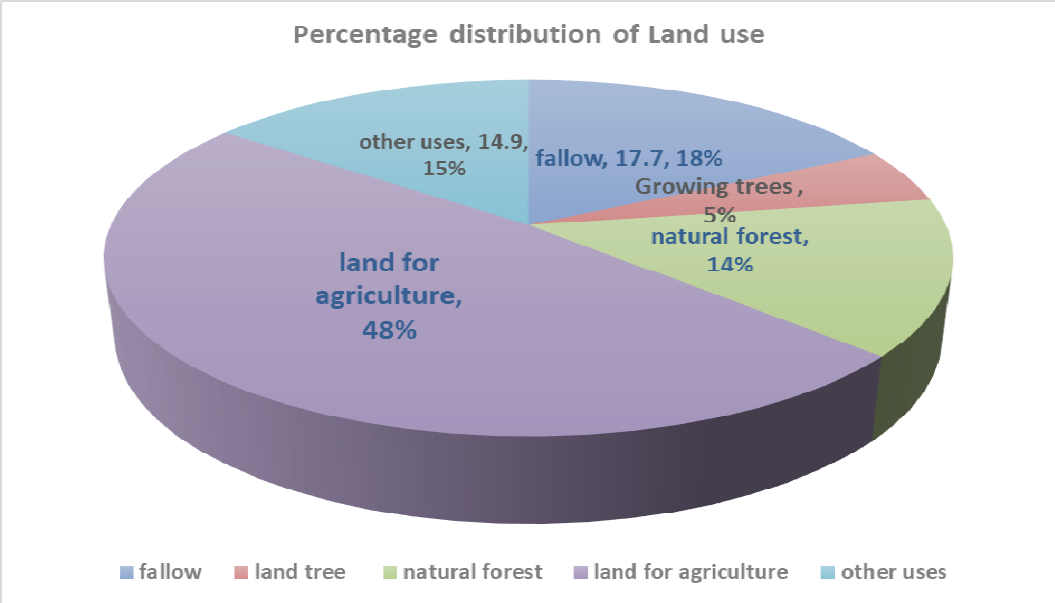


Figure 12: Land Ownership and Use

Willingness of community to participate in forest management

The livelihood survey revealed that 100 percent of all the households surrounding the Msipazi Local Forest were willing if called upon to voluntarily support management of the forest reserve with Forestry Department and other stakeholders in the community.

6 PROPOSED MANAGEMENT ACTIONS

The following management actions proposed for Msipazi Local Forest reflect the statutory purpose of the Local Forest as set out in section 19 of the Forests Act of 2015. These include:

> **19.** Subject to the other provisions of this Act and any other written law, all land comprised in a Local Forest shall be used for the conservation and development of forests for— Purpose of Local Forest
>
> *(a)* the security of forest resources;
>
> *(b)* the protection of ecosystems, particularly the protection of land and water supplies of local strategic importance;
>
> *(c)* the utilisation of forest resources at the local level; and
>
> *(d)* meeting the social, cultural and economic needs of the local community.

Zoning

This management plan recognizes the 3 zones identified during the stakeholder consultation of May 2022, which identified use of the forest, the main users of the forest, issues affecting Msipazi Local Forest, local solutions and permitted activities. The third zone covers the immediate area surrounding the Local Forest to act as a buffer, which will the focus of development and emissions reductions related activities.

Zone 1: Plantation production zone

Zone 2: Indigenous forest sustainable use area

Zone 3: Development buffer zone

Figure 13: Zoning of Msipazi Local Forest based on community consultation

The following management approaches are proposed for the identified zones:

Zone 1: **Production forestry:** In order to fulfil its regulatory mandate of establishing plantations and securing forest resources for the local economy, this zone will be managed by the Forestry Department. The plantation zone will be managed for the supply of wood products, timber, poles and wood energy to the nearby urban area of Chipata and support local enterprise development. The plantation production zone includes the recently upgraded tree nursery, water reticulation system, office and forest staff housing. The need for market analysis mentioned in the 1982 forest management plan is still relevant and therefore should be updated to inform the product supply planning of forest products and appropriate commercial species.

Zones 2 **Community forest areas** to meet the social, cultural and economic needs of the local community. This zone will be managed in partnership with the local community following the community forestry approach as set out in the Forests (Community Forest Management) Regulations, 2018, and the National Guidelines for Community Forestry, 2018. This will be covered by a Community Forest Management Agreement, management plan and local resource use rules which set out both rights and obligations for control, protection and management of the identified forest area. Annual workplans will be

developed by the community with technical guidance from the Forestry Department to ensure the sustainable management of these zones.

Zone 3: Development buffer area: This is the area immediately surrounding the reserved forest area where farming and settlements are located. These will be the focus for forest extension activities, creation of community and household woodlots, use of energy efficient stoves, promotion of agroforestry and other climate smart agricultural activities.

Core forest management actions

The identified management actions are described as follows:

Action 1: Forest Conservation through Community Participation & Livelihood Development

Community empowerment is central to participatory forest management for the effective coordination and sustainable management of forest resources. This Plan recognizes that communities surrounding Msipazi Local Forest are key stakeholders in the conservation of this forest as well as beneficiaries from its sustainable management. This action aims to meeting the social, cultural and economic needs and thereby improving the livelihoods of the communities around Msipazi Local Forest. Within this management action, the following interventions will be undertaken in Zones 2 and 3 of the Local Forest as well as extension services and activities in Zone 4, the areas surrounding Msipazi Local Forest;

- Promotion of community forestry and the establishment of a community forest management group;
- Forest enterprise development (based on stakeholder consultations to be further developed through the CFM process). These may include:
    - Beekeeping using improved hives;
    - Mushroom collection and processing;
    - Community management of wild fish stocks through local harvesting rules;

This management action will be operationalized and results measured as follows:

Specific Objectives	Strategy	Actions	Responsible	Indicator
1. Enter into partnership with clear roles and responsibilities with surrounding communities	Promote community forestry approach	Conduct CFM Steps 1-7	FD	Signed CFM agreement. Annual work plan reports from the CFMG
2. To contribute towards meeting social, cultural and economic needs and improving the livelihoods of forest-adjacent communities.	Forest resource condition is developed and improved through management actions emphasizing the use of best practices.	Training forest-adjacent communities in sustainable forest enterprises, such as beekeeping, and other non- wood forest enterprises	FD/NGOs	Forest enterprise activities developed and producing income.
3. To reduce carbon emissions from deforestation and forest degradation by ensuring community benefit from carbon credits.	Establish an incentive benefit sharing mechanism through the carbon trading scheme to be established by Government in Eastern province	Stake holder participatory awareness meetings (Traditional leaders, Government, NGOs and the community)	FD/NGOs	Tonnage of GHG sequestered increased thereby income shared to community is improved year on year.
4 Reduce forest dependency by local communities.	Promoting diversification of activities, particularly on-farm activities such as agroforestry and establishment of	Involve local communities in woodlot establishment.	FD/ Adjacent communities	Number of people dependent on the forests reserve reduced by half at mid term review

	wood-lots, to create alternative Sources for forest products.			

Table: 5 Management action

Action 2; Forest Protection, Restoration, Management & Conservation of Biodiversity

Msipazi Local Forest is an important forest ecosystem containing a number of different plant species and fauna. The forest is surrounded by an increasing population which is highly dependent on it for subsistence and increasingly economic needs like collection of mushroom, wild fruits, caterpillars, honey, firewood and poles. The level of unsustainable use is anticipated to intensify with increasing human populations resulting in higher levels of resource exploitation and degradation. Protection of this forest habitat is therefore essential to ensure the continued ecosystem services and local livelihood needs. In addition, awareness of the importance of ecosystem services, conservation of biodiversity and climate change mitigation services of Msipazi Local Forest is low among the adjacent communities. Forest protection is therefore key in the sustainable management of forest resources. Traditionally, patrolling has been relied upon as the main protection activity but, despite these efforts and in view of the staffing levels, it has not been possible to control the level of unregulated use. Experience has shown that adequate levels of forest protection cannot be achieved through confrontation and conflict between the managers and forest-adjacent communities. In practice, both local people and the government have a mutual interest in conserving the forest, and utilizing forest products in a sustainable way. Without considering the needs of local communities, gaining their support, and working with them, rather than against them, forest protection and management goals and objectives will not be reached. Consequently, the strategy will be to work together with communities to develop joint protection systems in return for agreed levels of utilization within the capacity of the forest to meet subsistence needs whilst safeguarding the environmental aspects including conservation of biodiversity.

In order to achieve this the following activities will be undertaken;

- Fire management, boundary and firebreak maintenance.
- Joint forest patrols (FD/HFOs).
- Promotion of agroforestry and woodlots in surrounding villages (Zone 4).
- Promotion of energy saving cook stoves and production biomass for energy (Zone 4).
- Promotion of environmental education to create wider awareness of the forest, its importance, and the need for its conservation (review Biodiversity Conservation actions to be included here explicitly).
- Promotion of environmental standards for forest operations, use of chemicals and other hazardous substances to health and safety of employees and communities.

This management action will be operationalized and results measured as follows:

No	**Specific Objectives**	**Strategy**	**Actions**	**Responsible**	**Indicators**
1	To protect the Local Forest from late fires	Encourage early burning within and outside the forest by involving local communities.	-Conduct prescribed and early burning. -Training the local communities on fire management techniques -Sensitizing the local community on the importance of early burning.	FD/ Adjacent communities	Area in hectares of controlled burning
2	To secure the boundary and define the extent of the boundary and prevent possible encroachment	Involve forest adjacent communities in Forest protection and management.	-Carry out annual Boundary maintenance. -Beacon maintenance - Erection of sign post on roads	FD/ Community	Distance in km of forest perimeter cleared

			entering the Forest		
3	To conserve and enhance the biodiversity of the forest reserve.	Enhance understanding of the forest ecosystem.	-Awareness on biodiversity with regard to indigenous knowledge. -Promote local participation and ownership through meetings.	FD/NGOs	
4	To ensure protection against pests and human damage	Frequent monitoring of forest resources	Inspections for diseases and pests and detection of possible illegalities.	FD/ Community	Hectarage of forest protected from pests and human damage
5	To significantly reduce levels of illegal forest product harvesting.	Involve the local communities in the management of forest resources in order to create a sense of ownership. Engage honorary forest Officers/guards	-Conduct sensitization meetings. -Conduct forest patrols.	FD/ community and other security wings	Number of illegal harvesters/ activities reduced
6	To significantly reduce levels of tree cutting for wood energy.	Promotion of energy efficient Cook stoves and Alternative energy sources.	Training community members in construction of Permanent energy cook stoves. Provide incentives to people using the improved cook stoves.	FD/ DoE/ community	Volume of wood cut for energy reduced by 30% by mid term review
7	To reduce carbon	Promote CSA	Partnership with	FD/ Agric/	Tonnage of

	emissions from agric soils and dependency on inorganic fertilizer	through Agroforestry	MoA and others in training communities in CSA and agroforestry. Establishment of agroforestry tree nursery species in Msipazi nursery.	CSO's/ community	GHG emissions in the forest reserve reduced by 15% by mid year review.
8	To improve forest cover in the fringe areas of the forest reserve	To Provide Forest extension services.	Promotion of agroforestry and Woodlot establishment for communities surrounding the forest. Training the communities in assisted natural regeneration	FD	Hectarage of forest in the fringe areas increased year on year.
9	Improve local awareness of biodiversity and its value.	Seek greater participation of local communities in research and other biodiversity activities Such as eco-tourism, with the result that biodiversity values will become of more direct relevance to them.	1.Conduct research that documents and utilizes the indigenous knowledge of Forest-adjacent communities. 2.Promote local participation and benefits from eco-tourism as a means of creating better awareness of biodiversity	FD/Forestry Research	Levels of community participation in forest management activities is sustained over time.

Table: 6 Management action results measure

Action 3: Forest plantation establishment & management

Forest plantations are important for the supply of poles, timber and firewood. Due to its proximity to Chipata urban, the demand for construction timber and wood energy will increase over time there by increasing the pressures on Msipazi Local Forest. Investment in the plantation area is therefore critical in order to meet future demand. The programme will involve the rehabilitation of plantations in Zone 1 from which the products will be derived. The following shall be the interventions which will be employed;

- Production forecasting, market analysis and development for a plantation management plan;
- Nursery management as a tree seedling production facility for the Reserve and wider distribution;
- Silvicultural operations to maximise the production potential of the demarcated plantation areas. Includes site preparation, planting, maintenance operations, harvesting and marketing with subsequent replanting/ regeneration;
- Employment and income generation in the local communities.

These will be detailed in an annual plan of operations to be prepared by the Officers responsible for the management of the Reserve. This management action will be operationalized and results measured as follows:

Specific Objective	**Strategy**	**Activity**	**Responsibility**	**Indicators**
1. To promote nursery management as a tree seedling production facility for the plantation and	Expand and manage the existing tree nurseries.	Resource mobilization for nursery establishment	FD/NGOs/ Community	Number of seedlings raised in the forest nursery increased year on year.

wider distribution				
2. To increase productivity in demarcated plantation areas	Undertake Silvicultural operations to maximise the production potential of the demarcated plantation areas.	Resource mobilization on site preparation, planting, production, harvesting and marketing with subsequent replanting/ regeneration	FD/Community	Hectarage of plantation area increased year on year.
3. To improve livelihoods of the local community adjacent to the forest	Create employment for income generation to the communities around the forest.	Silvicultural and forest protection operations	FD/Community	Income of local community adjacent to the forest increased

Environmental and social safeguards and other crosscutting issues

The Forestry Department shall ensure that the management of Msipazi Local Forest is carried out in accordance with the Environmental and Social Standards (ESSs) in relation to national policies as well as international standards and agreements, both multilateral and bilateral as appropriate. Existing requirements are set out in the National Strategy to Reduce Deforestation and Forest Degradation, 2016 as well as new requirements that may come into force through the Eastern Province Jurisdictional Sustainable Landscapes Programme. In implementing the indicated management actions, these safeguards and other cross cutting issues will be mainstreamed in all aspects of forest management. In view of the participatory approaches applied in the development of the FMP and follow-up actions to promote community forestry it is expected that this FMP will have a positive impact upon local livelihoods and to provide support for the development of more sustainable or alternative livelihoods, where needed.

In brief, safeguards will ensure:

- Gender equity and empowerment including addressing issues of gender based violence. Women shall be integrated into all aspects of management of Msipazi Local Forest and empowered through equal participation in decision making, governance and benefit sharing. Gender equity shall be pursued to ensure that both men and women have the full range of opportunities and benefits arising from the management of Msipazi Local Forest. This aspect should be in line with the National Gender Policy and Climate Change Gender Action Plan. Further safeguards in relation to emissions reductions benefit sharing plan for Eastern Province should be adhered to.
- Environmental and social screening processes. Specific activities as well as the annual workplan and operational plans should include a process of social and environmental screening. These should be reviewed and updated in accordance with the type of activity being planned and general screening reviewed annually.
- A Grievance redress mechanism will be operational at the District and Provincial level to allow a mechanism for grievances to be raised, documented and addressed. Documentation and tracking is core to this issue.

Specific Objectives	**Strategy**	**Activity**	**Responsible**	**Indicator**
To ensure cross cutting issues are mainstreamed in all aspects of forest management for social equity wellbeing and empowerment through sustainable development	Ensure that all environmental and social impacts, risks and liabilities are identified and mitigated. Identify training needs. Promote ownership and access to forest products and services.	Awareness raising Short courses Exchange visits Refresher courses	FD/NGOs	All crosscutting issues mainstreamed in all forest management aspects. Zero grievances raised. Grievances addressed and closed within 3 months

Environmental Education

Environmental education is the key to ensuring the future of Msipazi Local Forest reserve. With improved understanding and appreciation of its importance especially amongst the surrounding local communities, there will be less pressure on this forest with regard to destructive activities. In the long term, improved environmental education will lead to a better understanding of the importance of conserving Msipazi Local Forest. The following interventions will be undertaken in order to create wider awareness of the forest, its importance, and the need for its conservation:

No	Specific Objectives	Strategy	Actions	Responsibility	Indicators
1	To create wider awareness of the forest, its importance, and the need for its conservation	1. To target a wider range of groups in the community through different actions including school children, and headmen.	-Conduct meetings and drama performances to assess community understanding on forest use and conservation. -Sensitization on Climate change through radio. - Produce pamphlets on the need for forest conservation. (Local language).	FD/MOE/NGOs	Number of awareness raising activities undertaken
		2. To encourage the involvement of local clubs and schools to use the forest conservation Clubs as an educational resource.	-Facilitate the formation of forest conservation clubs in surrounding schools.	FD/MOE	Number of awareness raising activities undertaken
		3.Strengthen	-Conduct	FD/Other	Number of

		school environmental education programmes	environmental talks in schools on forest conservation and climate change. Conduct study visits to other areas and projects to gather practical and potentially useful experiences from elsewhere.	Partners	awareness raising activities undertaken

Table: 7 Environmental Education

6.4 Infrastructure Development

In order to achieve the forest management objectives for Msipazi Local Forest, maintenance of infrastructure is required. To date, the forest itself yields very little in terms of direct revenue; the maintenance of infrastructure is an ongoing problem for forest management, where funds are always scarce. Maintenance of the track road connecting Msipazi to the main road is a major challenge. Similarly, maintenance of the existing good quality infrastructure (office, houses, water and reticulation system) is vital.

No	**Specific Objectives**	**Strategy**	**Actions**	**Responsibility**	**Indicators**
1	To maintain the infrastructure necessary to achieve the multiple objectives of forest management.	Maintain the existing infrastructure	1. Maintain the road network. 2. Maintaining of offices and staff housing units at the Forest Station.	FD/Maintenance/ Infrastructure	All infrastructure maintained to optimum standards

Table 8: Infrastructure Development.

7 STAKEHOLDERS ROLES AND RESPONSIBILITIES

All key stakeholders will be involved in the implementation of the Msipazi Forest Management Plan in line with the following roles and responsibilities:

Forestry Department

The Forestry Department (FD) have a key role to play in promoting sustainable forest management and shall inform all relevant government departments on the management plan and raise awareness on the programmes and activities. The Department shall facilitate the implementation of the FMP at District and local level with oversight from Provincial level.

Role of the Local Authorities

The Local authority have a key role to play to fully integrate the management plan into local development plans with good cross sectorial linkages. The Local Forest is a natural resource asset within the district boundary supporting local economic development and wider well being of the community.

Role of the Traditional Authorities

Traditional leaders play a vital role in providing mentorship and guidance to communities and helping resolve any conflicts and enforcement of customary laws relating to natural resource management. In terms of the community forestry approach, the chief plays a key role in providing consent to the process of recognition of the community and to the signing of the community forest management agreement between the community and the Director of Forestry. This agreement further reinforces the role of the traditional leaders in the oversight of the community forest management groups, including controlling access and use of the forest, hearing cases that cant be dealt with by the community, ensuring reporting and conduct of the election of office bearers is in conformity with the community constitution.

Role of communities

As key rights holders must take the lead in controlling access to the forest, ensuring benefits from sustainable use are maximized. Through the community forestry process roles, rights and responsibilities for controlling access and use as well as protection and

sustainable management are clearly defined. The local community are therefore core to the implementation of the management plan.

Role of Honorary Forest Officers

As community members nominated by their peers and appointed by the Minister, Honorary Forest Officers are key to the protection of the Local Forest and therefore play an important role in the implementation of the Forest Management Plan. The District Forest Officials and officers allocated responsibilities for the management of Msipazi Local Forest require to coordinate the work of the HFOs in enforcing community resolutions and bylaws and where necessary enforce the statutory laws provided by the Forests Act, 2015.

Role of Private sector & Civil society organization

Both private sector entities and civil society organisations can play a key role in providing services (both forest and non-forest) and promoting new investment, development of market linkages for community based forest enterprises. These can assist promoting economic value to the sustainable management of Msipazi Local Forest and therefore wellbeing of surrounding communities.

8 MONITORING AND EVALUATING IMPLEMENTATION

Monitoring and evaluation (M&E) of the management plan is essential since it provides a basis for observation, adjustment and improvement of the targeted activities and assessment of the achievements. The Forest Management Plan will be implemented by Forestry Department by involving local communities around the forest reserve. The Department will provide a forum for dialogue, consensus building, priority setting and balancing of the various interests involved. Monitoring and evaluation of this management plan will also be based on annual work plans that will be prepared for Msipazi Local Forest which will operationalise the management actions described in Chapter 6..

8.1 Monitoring

To ensure that implementation of the management plan is on course, FD will facilitate monitoring of activities and programmes in coordination with partners, stakeholders and community representatives in the MLFMP including the impact of the FMP on the wellbeing of the communities on the forest fringes. Implementation of the FMP will be monitored through a number of identifiable indicators as described in the management actions in Chapter 6. These will be subject to regular review during the plan period. Continuous monitoring during the implementation period will be maintained through preparation and submission of monthly, quarterly and annual progress reports.

8.2 Evaluation

The MLFMP implementation and impact will be evaluated at two points. Mid-term (5years) and at end of term (10 years). Evaluation will involve analysis of both activities and impact generated to sustainable management of the forest and the fringe communities as this will generate evidence to inform the development, focus and implementation of future management plans. Evaluation carried out will assess progress in the implementation of planned activities and achievement of objectives. The evaluation report will also provide essential information to revise the management plan.

8.3 Monitoring Responsibilities

The Provincial Forestry Office will undertake monitoring and evaluation of the implementation of the plan. The District Forestry Office will be responsible for submitting annual plans of operations, as well as monthly, quarterly, and annual progress reports to the Provincial Forestry Office.

8.4 Strategic monitoring indicators

Strategic monitoring indicators provide a measure of assessing whether set targets are progressively being achieved as described in the management actions Chapter. The lead implementing agencies represented by the Forestry Department will undertake monitoring and evaluation of the implementation of the plan.

Programme	**Indicator of Success**	**Means of Verification**	**Assumptions**
Forest Protection	Reduced incidences of forest crimes Reported. Performance of the local communities and honorary forest officers.	Records and reports.	The Plan is successfully completed and implemented with Cooperation from community Members
Biodiversity Conservation	Increase in species biodiversity.	Surveys on biodiversity, records, photographs and reports.	The Plan is successfully implemented Good working relationship between stakeholders Availability of resources
Community Conservation and Livelihood development	-Number of people - trained and practicing sustainable forest enterprises. -No. of woodlots established -Number and types of	Records, reports and photographs. -Community Visits.	The Plan is successfully implemented Availability of funds

	IGAs. -Crop and livestock yields.		
Environmental Education	Number of school conservation clubs formed. No. of awareness meetings and attendance. -No of trainings held/exposure visits	Records, monitoring & Evaluation reports and photographs.	The plan is successfully implemented with funds made available.
Infrastructure Development	Number and type of infrastructure Developed/ maintained	Records Monitoring and evaluation reports	The Plan is successfully implemented Availability of funds
Human Resource Development	Number of people employed Number of people trained. Number of community members involved in forest activities	records Monitoring and evaluation report	The Plan is successfully implemented Availability of funds

Table 9: strategic monitoring indicators

9 ANNEXES

Annex I: Declaration Order, Topographic Map & Inventory Map

SECTIONS 5 AND 6-THE LOCAL FOREST NO. P73:

MSIPAZI (DECLARATION) ORDER

Order by the Minister

***Statutory Instrument* 177 *of* 1973**

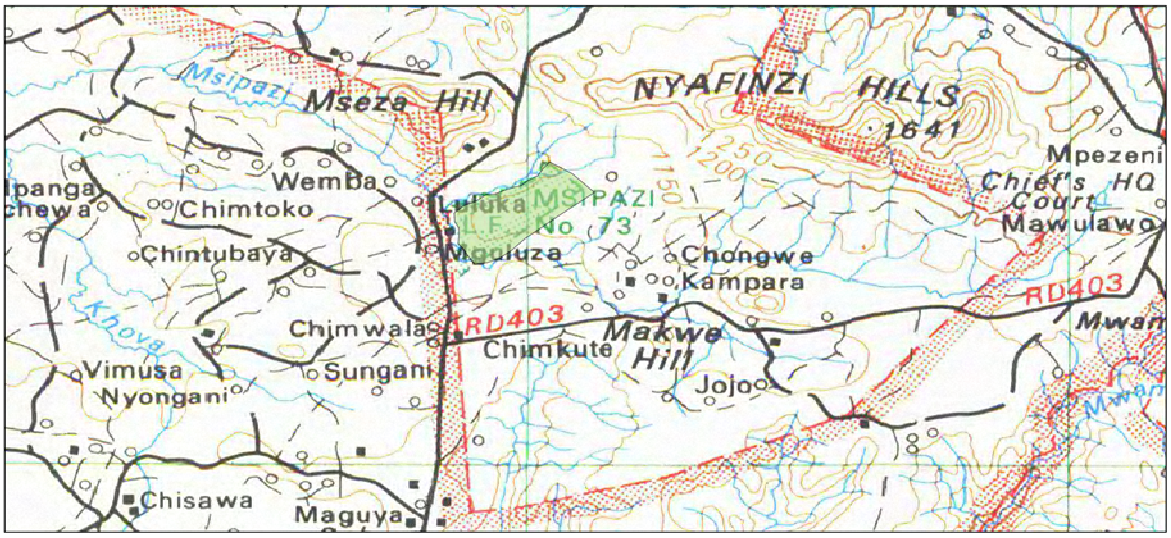
1. This Order may be cited as the Local Forest No. F73: Msipazi (Declaration) Order. Title

2. It is hereby declared that the area described in the Schedule hereto is a Local Forest.

SCHEDULE LOCAL FOREST NO. F73 : MSIPAZI

Starting at Beacon Z5, the south-western corner beacon of Subdivision
A of Farm No. D33, the boundary runs in a northerly direction on a bearing of 355 degrees 40 minutes 26 seconds for a distance of 1,549.237 metres to Beacon GS12A; thence continuing on the same bearing for a distance of 15.545 metres to the left bank of the Msipazi River; thence in an easterly direction along this river to its confluence with an unnamed stream; thence it follows the left bank of this stream in an easterly direction to point b on the left bank of this stream; thence in a south-easterly direction on a bearing of 118 degrees 14 minutes 10 seconds through Beacon GS10 for a distance of 1,109.9 metres to Beacon GX11; thence in a south-westerly direction on a bearing of 233 degrees 57 minutes 46 seconds for a distance of 3,239.63 metres to Beacon Z5, the point of starting. All bearings, which refer to True North, and all distances are approximate. The above described area, in extent approximately 284.828 hectares, is shown bordered green on Plan No. FR284 deposited in the office of the Surveyor-General, signed by him and dated 6th March, 1967.

MAP SHOWING MSIPAZI LOCAL FOREST NO. 73 MARKED GREEN IN CHIPATA DISTRICT



Annex II: Inventory Data

DENSITY OF SEEDLINGS

Species	Species Code	Density
Afzelia quanzensis	13	7,669
Albizia adianthifolia	15	14
Brachystegia boehmii	46	1,139
Brachystegia floribunda	48	43
Brachystegia longifolia	49	72
Brachystegia utilis	55	14
Dalbergia melanoxylon	101	38,668
Dalbergia nitidula	102	865
Diplorhynchus condylocarpon	114	2,711
Erythrophleum africanum	127	14
Euphorbia candelabrum	139	144
Faurea saligna	145	505
Faurea speciose	147	663
Ficus brachylepsis	149	216
Ficus wakefieldii	157	9,045
Garcinia huillensis	159	2,293
Grumilea buchanani	172	187
Isoberlinia angolensis	185	55,555
Julbernardia globiflora	188	10,854
Julbernardia paniculata	189	1,774
Khaya nyasica	190	87
Kirkia acuminate	192	72
Landolphia kirkii	193	260
Lannea discolour	194	851
Monotes africanus	221	9,247
Olax obtusifolia	226	361
Ozoroa reticulate	229	476
Parinari capensis	232	130
Parinari curatellifolia	233	15,150
Pericopsis angolensis	239	3,950
Phyllocomus lemaireanus	243	461
Pseudolachnostylis maprouneifolia	258	24,325

Rothmannia engleriana	272	548
Securidaca longipedunculata	280	29
Stereospermum kunthianum	287	389
Strychnos innocua	289	50,654
Strychnos pungens	292	43
Strychnos spinose	293	14
Swartzia madagascariensis	295	101
Syzigium guineense	297	72
Uapaca kirkiana	310	447
Uapaca nitida	311	288
Vitex doniana	321	332
Ximenia Americana	328	29
Xylopia odoratissima	332	159

Annex III Households Profile, 2019

Percentage Distribution of Households heads Sex, Age Group and Marital Status, 2019

Sex, Age Group	Never Married	Married	Separated	Divorced	Widowed	Total	Total Population
Total Forest Reserve	**19**	**310**	**11**	**40**	**86**	**466**	
Male	10	289	0	13	5	317	
Female	9	21	11	27	81	149	
Age Group	**19**	**310**	**11**	**40**	**86**	**466**	
16-19	6	0	0	0	0	6	
20-35	13	116	0	10	10	149	
36-50	0	145	5	25	31	206	
51 +	0	49	6	5	45	105	
Male	**10**	**289**	**0**	**13**	**5**	**317**	
16-19	0	0	0	0	0	0	
20-35	10	99	0	5	0	114	
36-50	0	143	0	8	0	151	
51 +	0	47	0	0	5	52	
Female	**9**	**21**	**11**	**27**	**81**	**149**	
16-19	6	0	0	0	0	0	
20-35	3	17	0	5	10	35	
36-50	0	2	5	17	31	55	
51 +	0	2	6	5	40	71	

Annex: IV Demographics of major forest fringe communities

Demographics of major forest fringe communities of Msipazi Local Forest

NAME OF COMMUNITY	POPULATION		TOTAL POPULATION
	MALE	FEMALE	
TOTAL	**1044**	**1093**	**2137**
CHIUNDAMA	3	6	9
DAVITE	52	32	84
FOREST CAMP	7	9	16
KACHIKOTI	147	139	286
KAMPHALA	119	127	246
KUNKULI	47	53	100
LULAKA	153	181	334
MAGUNDA	45	55	100
MONASTRY P.CAMP	3	2	5
MONASTRY.H.POST	3	9	12
MSIPAZI TRADING	78	89	167
MSIPAZI PARISH	2	7	9
MTOWE	156	139	295
MTOWE SCHOOL	3	2	5
NYUNGWA	8	13	21
PETER TEMBO	4	4	8
R AND D	3	1	4
ST.MARY'S FARM	13	15	28
TIKU FARM	8	12	20
TIWELEKO	8	9	17
WANGA	59	53	112
WEMBA	108	125	233
YONKE	15	11	26

Annex V: Stakeholder consultations

Forestry Department in Eastern Province initiated a process to prepare forest management plans for 13 forest reserves with support from Zambia Integrated Forest Landscape Project (ZIFLP). In accordance with section 41 of the Forests Act, 2015, a process of engagement with traditional leaders was conducted in order to gain support from the Chiefs in the preparation of the Forest Management plans before the proposed data collection activities and later local validation meetings. It was planned to meet their Royal Highnesses to gain consent and have an input in these Forest Management Plans.

Therefore, the Chiefs under which Msipazi forest reserves fall were targeted with the following objectives.

- To provide a platform of getting the views of the concerned Chiefs, in relation to the respective developed forest management plans for forest reserves in their Chiefdoms.
- To collect and incorporate the agreed views from the Chiefs in the message pack for the local validation meeting.

Visitations

The Team was led by the National Project Coordinator Dr. Tasila. During the courtesy call the Project Coordinator gave the background of forest inventories conducted in Msipazi LF reserve and the interventions that ZIFLP is helping, the importance of the Luangwa landscape and the areas of intervention like, agriculture expansion through interventions like climate smart agriculture, support to Forestry department to continue protecting existing forest estates, support to nurseries, assisted natural regeneration and also support to establishment and management of Community forests.

The specifics of the visit were also made clear as to have an input from the Royal Highnesses in the development of the forest management plans.

At Paramount Chief Mpezeni's Palace the team was welcomed by the paramount chief himself, after introductions the purpose of the visit was explained from the background of forest inventories and social economic survey that were conducted in 2019 leading to the development of the FMP. Msipazi local forest falls directly under Paramount Chief Mpezeni.

In his noble response the Paramount Chief expressed great concern with the rampant cutting down of trees in his area. The paramount expressed support on the efforts being

made by the Forestry Department and other partners in curbing illegal activities in his area.

HRH Paramount Chief's submission to the FMP

The paramount Chief submitted that CFM is the way to go as most forest reserves are unmanned. He further offered to arrange for community meetings on CFM.

Paramount Chief Mpezeni with the Team pose for a photo in the palace

The Chiefs meeting was preceded by stakeholders Validation Meeting for Msipazi Local forest that was organized to validate the FMP for the Msipazi local forest
On 26th May,2022 The Stakeholders Validation Meeting for the MLF brought together 31 participants: 4 females and 27 males drawn from government departments, civic leaders, CSOs, private sector, CFMG and traditional leaders.

1. **Meeting the Senior Chief Chipata District**

At HRH Senior Chief Mpezeni Palace, the team briefed the Senior Chief about the upcoming validation meeting for FMP which included Msipazi LF and solicited for his input in the FMP. HRH made his position very clear on Msipazi local forest, he submitted that his desire is to practice community forest Management (CFM) in this forest reserve.

Annex VI: Stakeholder validation meeting

REPORT FOR THE MSIPAZI LOCAL FOREST MANAGEMENT PLAN STAKEHOLDERS' VALIDATION MEETING HELD AT JEMITA LODGE, CHIPATA DISTRICT FROM 24TH MAY TO 26TH MAY, 2022

1.0 Introduction:

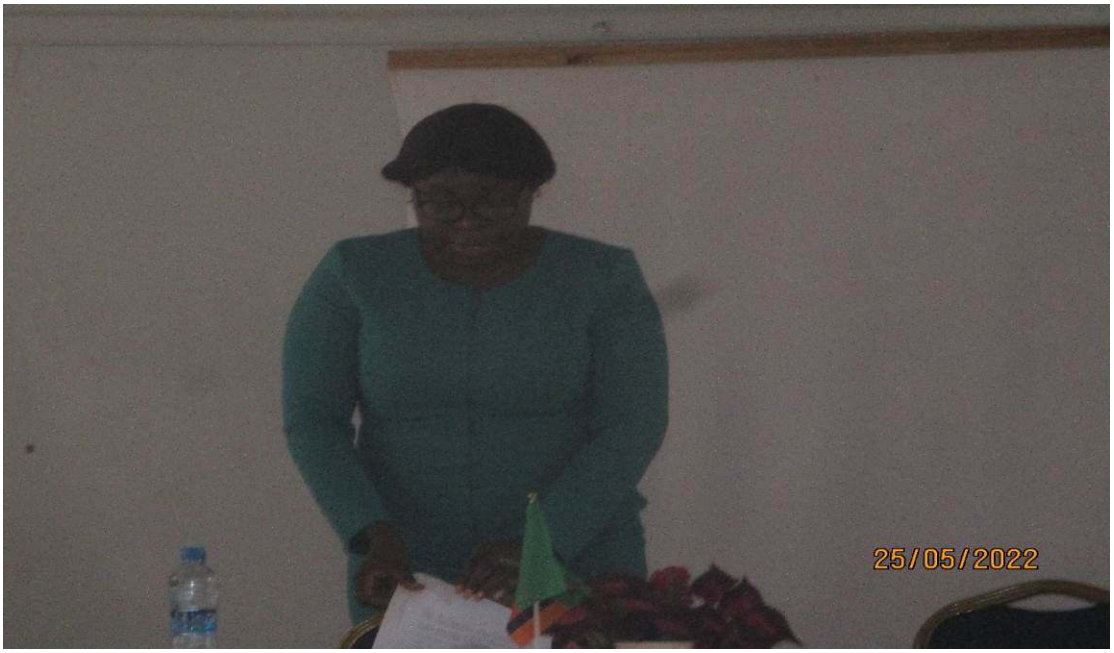
The Forestry Department in 2019 undertook a forest inventory exercise to take stock of the forest resources in Masupe local forest, Msipazi local forest and Lutembwe local forest, among others with the view of collecting data to inform the preparation of Forest Management Plans (FMPs). The FMPs are prepared to guide the community-government partnership in the management of protected forest areas (FPAs) in the Eastern Province. Following the forest inventory exercise, draft FMPs were prepared for all the FPAs in Eastern Province that were included in the Forest Inventory that was undertaken in 2019.

The Stakeholders Validation Meeting for Masupe, Msipazi and Lutembwe local forests was organized to validate the FMP which was developed by the Forestry Department.

The Stakeholders Validation Meeting in Chipata brought together 78 participants: 20 females and 58 males drawn from government departments, faith-based organisation, and traditional leaders.

Opening prayers were done by Mr. Loties katebe.

2.0 Official Opening: District Commissioners officially opened the Validation meetings for all three forest reserves i.e. Masupe, Msipazi and Lutembwe Local Forest.



3.0 Meeting's Expectations

Mr Katete facilitated the session on meeting's expectations. And the stakeholders brought out four main expectations:

i) learn how to manage their local forests
ii) why National Forests were established and what happens in the National forests
iii) what should be done to those who have settled in the forest
iv) importance and benefits of such forests

4.0 Workshop Objectives

Mr. Katebe presented the three workshop objectives namely: -

- Engage stakeholders to solicit their inputs on the draft FMP for three forest reserves i.e. Masupe, Msipazi and Lutembwe local forests.
- To avail stakeholders with the proposed programmes contained in the Draft FMP for LNF and hear their views.
- To provide a platform for stakeholders to consider the contents, of the FMP for LNF in line with the existing legal framework.

5.0 Structure of Meeting

The workshop had three main components presentations, group work and plenary discussions

5.1 Presentations

Three main context setting presentations were made by the workshop facilitators: i) Policy and legal context; ii) Natural Resources profiles; and iii) Socio-economic profile

5.1.1 Policy and Legal Context

The presentation on Policy and legal context was done by Mr. Alastair Anton, Community Forest Technical Advisor, and ZIFLP. The presentation covered the roles and functions of protected forest areas (PFAs); and why they are established. To enhance comprehension of the information in the presentation imagery was also used. Also highlighted in the presentation was a brief overview of the Zambia Integrated Forest Landscape Project (ZIFLP) and its significance in the sustainable forest management. The major highlights from the presentation were:

- The objectives of ZIFLP that is "To improve the landscape management and increase environmental and economic benefits for the targeted rural communities in the Eastern Province" was highlighted;
- The ZIFLP provided the Forestry Department with resources to enable it undertake its mandate and functions;
- Also highlighted in the presentation were the reasons that prompted government to implement the ZIFLP in Eastern Province which include the following on-going degradation, deforestation, unsustainable livelihood activities, low crop yields, increased adverse effects of climate change, and low community participation in forest management:
- The importance of forests in line with the legal framework were highlighted in the presentation such as soil conservation, carbon sequestration, water cycle and habitat protection;
- The ZIFLP was a REDD+ Project, to determine where Green House Gases (GHG) were being emitted and the sources of these emission, Green House Gases (GHG) baseline survey was conducted which revealed 3 main sources of GHG emissions in Zambia: degradation 46%, forestry loss to agriculture 16% and emissions from agriculture soils at 14 %. The underlying causes of the 3 main source of GHG emissions were also highlighted;

- Through ZIFLP government was not only intervening to arrest the situation but also to make the communities aware of the imminent consequences if no action was taken at national and subnational levels;
- An overview of selected of existing pieces of Forest legislation were shared such as the National Forest Policy 2014, National Strategy to Reduce Deforestation and Forest Degradation, National Forestry Act No 4 of 2015 among others. Contents such as vision, objectives and measures were also shared;
- Also presented were the policy and pieces of legal documents pertaining to LNF. It was highlighted that LNF was gazetted as a forest in 1953 to rain catchment area servicing Chipata, Mpika, Miyombe, Serenje Mkushi and Kabwe; supporting vegetation cover for Luangwa and Muchinga Eascapements, game management area, water catchment area for Luangwa valley drainage system, part of the trans-frontier conservation areas;
- The workshop was being held because sustainable forest protection and management required concerted efforts and that FMPs formulation was a legal obligation that needed to be done in a consultative and participatory manner;

Stakeholders' Observations and concerns

- It was evident that the forest was encroached, why were the permanent structures such as government schools allowed when they contravene PFA reasons.
  Political pressure has to a large extent contributed to the establishment of schools in PFAs contrary to the law. The underlying problem is the traditional leaders (headmen and indunas) allocating land in PFAs.

- Isn't issuing of concession licenses contributing to the forest degradation and deforestation?
  Ideally, tree harvesting for timber is selective and sustainable by nature through control and regulation. Today's tree harvesting with impunity, is what was threatening the existence of the forests in the country.
  The exercise of developing FMPs was intended to control access for sustainable harvesting of forest resources -both timber and non-timber products in line with existing laws and policies

5.1.2 Situation Analysis

The presentation on situation analysis focused on the two surveys- Natural Resources Profiles and the other on the socio-economic profile, that were undertaken in the national forests 2019 and the results.

a) Natural Resources Profiles- Forestry Inventory Results including Change Analysis

Mr. Jackson Mukosha, presented the situation analysis highlighting the natural resources profiles and inventory results and change analysis. Major highlights from the presentation included:

- Total number Protected Forest Reserves in eastern province was 73: 11 NFs and 62 LFs covering 469,142 ha which translates to 9.2% of the total surface area of the eastern province. the total boundary area covers 2,042.7km;
- LNF was initially gazetted in 1953 with total hectarage of, which was first altered in 1970 and later in 1978. The land surface area of LNF which is the Eastern Province was 84,840 while 289,960 ha falls in Chama in Muchinga Province;
- How volume was calculated/measured was demonstrated
- Also briefly explained was the history of FMPs in Zambia, were it was highlighted that there were two types: District FMPs and Plantation Management Plans.
- The sampling design used to select the sample plots in the survey was systematic sampling design through which sample plots were created and data was accordingly collected from all the sample plots;
- Parameters that were considered in the survey were highlighted and explained.
- 5 main timber species were recorded in LNF during the inventory
- Total CO_2 value was estimated at USD 24,006,788 for 6,001,697tons
- The summary of the findings of the survey were that: there was increased deforestation; LNF was one of the most highly encroached PFAs with agriculture encroachment covering 29,693ha.

b) Social-Economic Profile.

Mr. Muli Phiri from Zambia Statistics Agency made the presentation on Social-Economic Profile for Masupe, Msipazi and Lutembwe local Forests. Noteworthy highlights from the presentation included the following:

- The Province undertook the Socio-Economic Survey in three forest reserves namely; Masupe, Msipazi and Lutembwe local Forests in 2019 alongside the Forest Inventory.

- At the time of the survey villages surrounding Chipata National Forest with a total population of 1537 (1261 females and 724 males) and derived benefits from the forest.
- The survey involved a total of 350 (306 were male headed and 44 were female headed) households were.
- The main source of livelihood for 341 (97%) of the people surrounding the Forest were dependent on agriculture as their main source of livelihood while 3.1% depended on small business
- Majority 292 (83.43%) households depended on forest resources for traditional housing
- 100% of the total sample population's main source of energy for cooking and heating was firewood;
- Majority (97.7%) of the sample population's depended on rivers which had their sources in the LNF;
- As much as 343 households (98%) of the total population expressed willingness to protect and manage these local Forest reserves.

Stakeholders' observations and Concerns:

The stakeholders made several observations and raised some concerns notable among them include the following:

- The current status of the forest is very clear and its importance to the forest to the communities. The forest was the habitat for animals. Alteration of the forest threatened everyone and everything that depended on this forest.
- There were serious encroachments in NF & LF, there was therefore need to protect what was remaining of the forest to bring it back to its former glory at the same time find a lasting solution to the illegal settlements
- Sensitizations to change the mindset of the people for them to appreciate the grave consequences of deforestation was imperative
- There was need to provide sustainable/alternative livelihoods
- To resolve the inadequate human resource issue there was need to be re-introduce forest guards to police the NF & LF.
- Headmen, senior headmen and ndunas, sale land to people coming from other chiefdoms. It would be relatively easy to relocate the illegal settlers by telling them to return to their chiefdoms. The traditional leaders perpetuating the encroachments should be punished to curb the problem. Relocation

- There was need to stiffen laws,
- There was need to probe to find the underlying issues such as population growth that were leading to the problem which were not there in the 1950s
- Is there carbon value for areas that are restored? *Carbon value for restored places was higher value because they increase the carbon sinks and the effort for bringing more land and sustainable management*
- The Mphomwa model should be promoted as it also promotes local ownership
- Relocation of illegal settlers was a very contentious issue, in this regard consideration should be to ensure no further encroachments and restorations

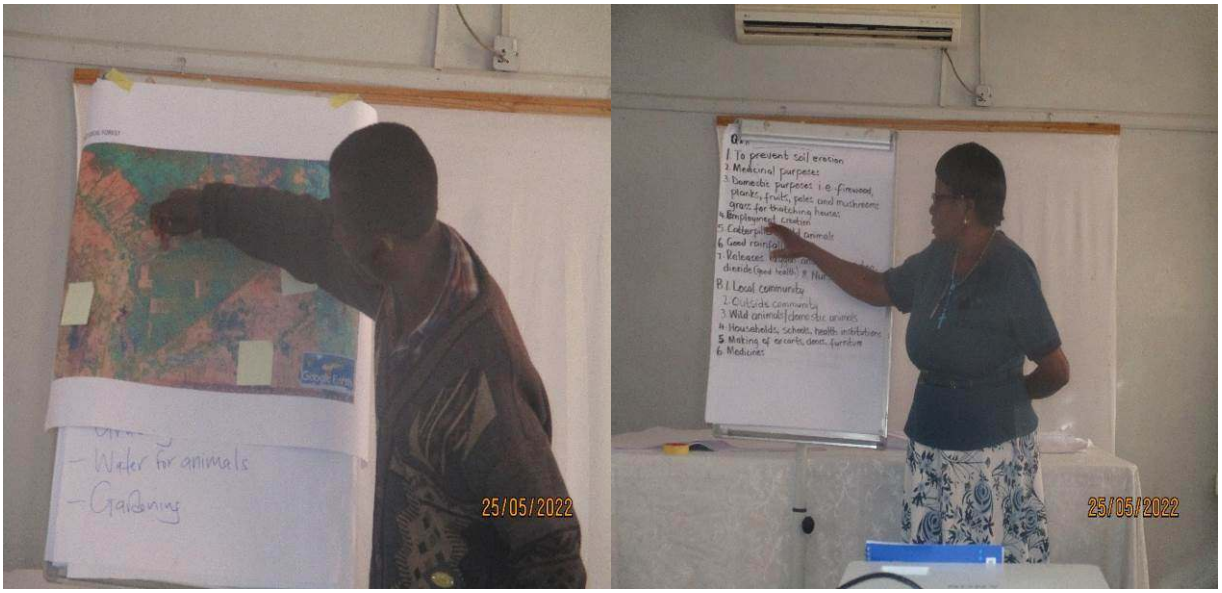
4.2 Group Work

Following the sharing of the information on NF's & LF current condition and livelihood survey (well-being), two groups were formed to discuss the issues and threats affecting the Protected Forest Area (PFA) and identify hot spots using the following guide: -

- Identify issues and suggest possible solutions;
- Identify priorities and strategies;
- Identify uses of the forest and map where they were most prevalent
- Agree on broad zones for the forests based on the strategies that make
- Who should be involved;
- How we should work together

4.2.1 Group Presentations

The Groups made presentations to facilitate agreement of the strategies and partnership for management.



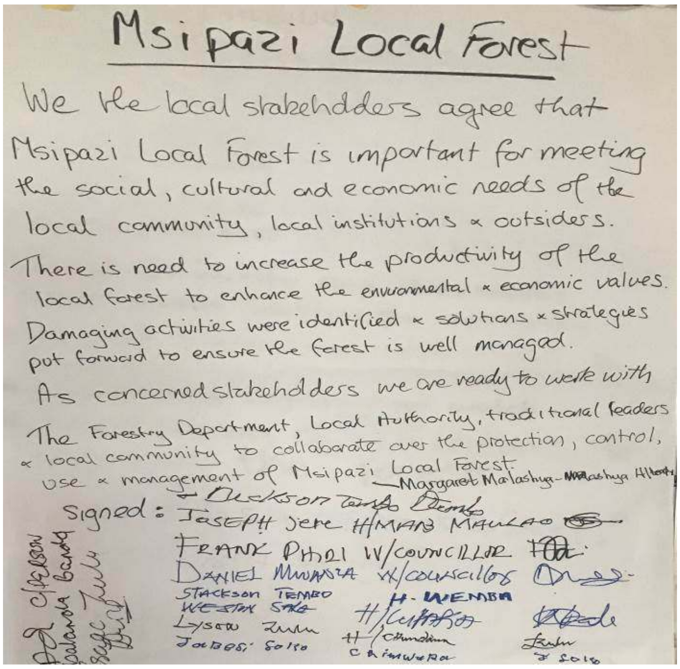
5.0 Next steps

Mr. Anton facilitated the session on management institutional arrangements. The stakeholders agreed to the form a Management Institutional structure called "Local Community Coordinating Committee". Below were the agreed next steps/ way forward

- Forestry Department team to capture the issues, strategies and recommendations from the meeting and report the Permanent Secretary, Provincial Forestry Office and the Forestry Department Headquarters and accordingly update the draft FMP for NF & LF.
- Representatives of the Chiefs to report the proceedings of the meeting to their respective chiefs
- Plans developed to take forward recommendations and secure resources
- Form the NF & LF coordinating Committee
- Undertake community sensitization

6.0 Collaboration Declaration Pledge

The stakeholders signed a joint declaration pledging to collaborate in the sustainable management of the Local Forest. Below are the contents of the Declaration Pledge:


Msipazi Local Forest

We the local stakeholders agree that Msipazi Local Forest is important for meeting the social, cultural and economic needs of the local community, local institutions & outsiders.

There is need to increase the productivity of the local forest to enhance the environmental & economic values.

Damaging activities were identified & solutions & strategies put forward to ensure the forest is well managed.

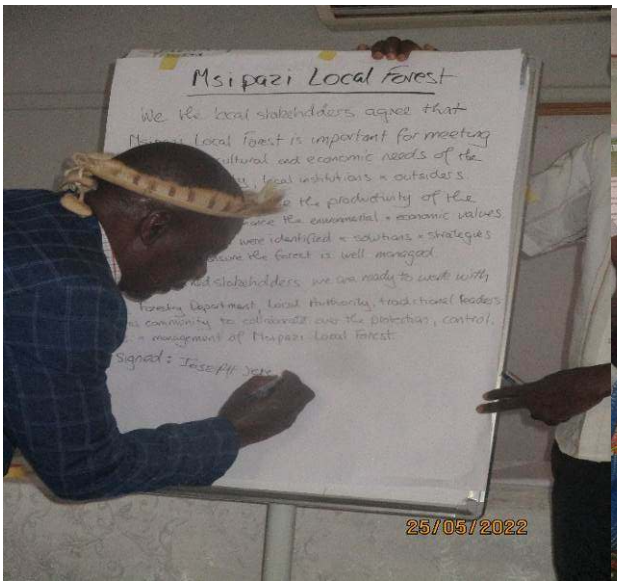
As concerned stakeholders we are ready to work with The Forestry Department, Local Authority, traditional leaders & local community to collaborate over the protection, control, use & management of Msipazi Local Forest.

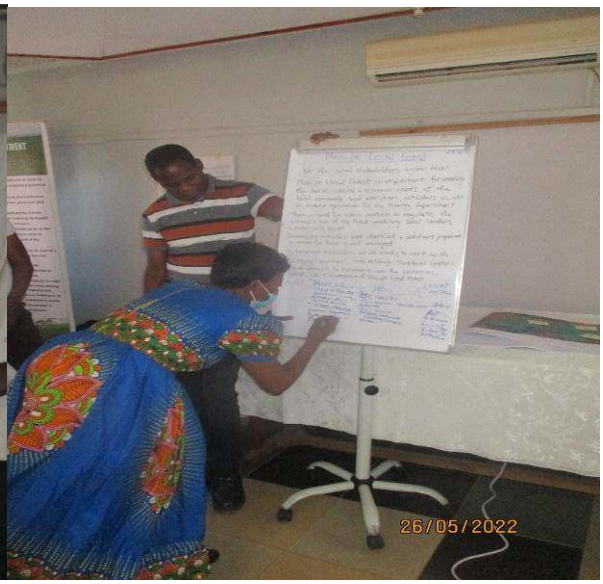
Signed: Margaret Malashya
Dickson Tembo
Joseph Jere H/MAN MAULAO
FRANK PHIRI W/COUNCILLOR
DANIEL MWANZA W/COUNCILLOR
STACKSON TEMBO H. WEMBA
WESTON SAKA
LYSON ZULU
JOBBES SOLO CHIMWERA

"We the interested stakeholders of LF are concerned with the prevailing situation. LF are a forest of local and national importance. There is need to restore and increase the socio-economic and environmental values for the current and future generations.

Permitted and prohibited activities have been identified should be widely adopted through community sensitization and enforcement.

As concerned stakeholders we are ready to work in partnership with: the Forestry Department, Local Authorities, Traditional Leaders to collaborate over the protection, control, use and management of protected forest reserves.





7.0 Closing Remark and Prayer

Mr Katebe thanked everyone for attending the workshop and contributing through their inputs in perfecting the FMPs.

Annex VII: References

References that were used in the collection of information for this Forest Management Plan included the following:

- Fanshawe D.B (1971), The Vegetation of Zambia, Forest Research Bulletin No. 7 Ministry of Rural Development, Republic of Zambia, Government Printer, Lusaka, Zambia
    - Hollingworth, L.T D. Johnson, G. Sikaundi, S. Siame, (2015) Fire Management Assessment of Eastern Province, Zambia. Washington. DC: USDA Forest Service.
- ILUA II (2006) Integrated Land Use Assessment Phase 1- Field Manual.
  The Food and Agriculture Organization of the United Nations and the Forestry Department, Ministry of Lands and Natural resources, Lusaka, Zambia
- ILUA II (2008) Integrated Land Use Assessment Phase 1- Report for Zambia.
  The Food and Agriculture Organization of the United Nations and the Forestry Department, Ministry of Lands and Natural resources, Lusaka, Zambia

  ILUA II (2014) Forest Biophysical Field Data Entry Booklet; Forestry Department, Ministry of Lands and Natural Resources, Lusaka, Zambia
- ILUA II (2016) Integrated Land Use Assessment Phase II- Report for Zambia.
- The Food and Agriculture Organization of the United Nations and the Forestry Department, Ministry of Lands and Natural resources, Lusaka, Zambia
- ILUA II (2016) Integrated Land Use Assessment Phase II- Technical Report for Eastern Province.

Annex VIII: Cost of Implementing and funding Cost Estimates

The various prescribed activities are outlined and their corresponding estimated costs are indicated in the following tables:

Table 1. Forest Protection and Management

Specific Objective	Prescribed treatment	Unit of Measure	Quantity	Frequency	Unit Cost	Total Cost Year 1	Total Cost Year 2	Total Cost Year 3	Total Cost Year 4	Total Cost Year 5	Total Cost Year 6	Total Cost Year 7	Total Cost Year 8	Total Cost Year 9	Total Cost Year 10
To secure the boundary and define the extent of the boundary and prevent possible encroachment.	Carry out annual external boundary maintenance in accordance with the boundary maintenance schedule.	Km	7.2	1	600.00	4,320.00	4,752	5,227	5,750	6,325	6,957	7,653	8,418	9,260	10,186
	Forest beacon maintenance	No.	14	1	75	1,050.00	1,155	1,271	1,398	1,537	1,691	1,860	2,046	2,251	2,476
	Erection of sign post on roads entering the Forest	No.	6	1	300	1,800.00	1,980	2,178	2,396	2,635	2,899	3,189	3,508	3,858	4,244
To significantly reduce levels of illegal forest product harvesting.	Conduct sensitization meetings	No.	4	1	2,000.00	8,000.00	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864
	Conduct forest patrols	No	10	3	800	24,000.00	26,400	29,040	31,944	35,138	38,652	42,517	46,769	51,446	56,591
To protect Forest Reserve from late fires	Conduct prescribed and early burning.	284Ha	1	1	4000	4,000.00	4,400	4,840	5,324	5,856	6,442	7,086	7,795	8,574	9,432
	Training the local communities on fire management techniques	No	2	1	2,500.00	5,000.00	5,500	6,050	6,655	7,321	8,053	8,858	9,744	10,718	11,790
	Sensitizing the local community on the importance of early	No.	2	1	2,000.00	4,000.00	4,400	4,840	5,324	5,856	6,442	7,086	7,795	8,574	9,432

	burning.														
To ensure protection against pests, fire, and human damage for the sustainability of forest resources	Inspections for diseases and pests, and detection of possible illegalities.	No	2	1	15,000.00	30,000.00	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738
To improve forest cover in the fringe areas of the forest reserve	Woodlot establishment for communities surrounding the forest.	No	20	1	1,500.00	30,000.00	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738
Subtotal						**112,170.00**	**123,387**	**135,726**	**149,298**	**164,228**	**180,651**	**198,716**	**218,588**	**240,446**	**264,491**

Table 2. Biodiversity Conservation and Environmental Education

Specific Objective	**Prescribed treatment**	**Unit of Measure**	**Quantity**	**Frequency**	**Unit Cost**	**Total Cost Year 1**	**Total Cost Year 2**	**Total Cost Year 3**	**Total Cost Year 4**	**Total Cost Year 5**	**Total Cost Year 6**	**Total Cost Year 7**	**Total Cost Year 8**	**Total Cost Year 9**	**Total Cost Year 10**
To conserve and enhance the biodiversity of the forest reserve.	Promote local participation and ownership through meetings.	No	2	2	2,000.00	8,000.00	8800	9680	10648	11712.8	12884.08	14172.488	15589.737	17148.71	18863.58153
Improve local awareness of biodiversity and its value.	Awareness on biodiversity with regard to indigenous knowledge through drama.	No.	2	2	2,500.00	10,000.00	11000	12100	13310	14641	16105.1	17715.61	19487.171	21435.888	23579.47691
To create wider awareness of the forest, its importance, and the need for its conservation	Conduct meetings and drama performances to assess community understanding on forest use and conservation.	No	2	1	2,500.00	5,000	5,500	6,050	6,655	7,321	8,053	8,858	9,744	10,718	11,790

	Sensitization on Climate change. Produce pamphlets on the need for forest Conservation. (Local language).	No.	2	1	2,500.00	5,000	5,500	6,050	6,655	7,321	8,053	8,858	9,744	10,718	11,790
	Facilitate the formation of forest conservation clubs in surrounding schools.	No	2	1	2,000.00	4,000	4,400	4,840	5,324	5,856	6,442	7,086	7,795	8,574	9,432
	Conduct school quiz on forest conservation/climate change.	No	2	1	5,000.00	10,000	11,000	12,100	13,310	14,641	16,105	17,716	19,487	21,436	23,579
	Conduct study visits to other areas and projects to gain practical and potentially useful experiences.	No	1	1	25,000.00	25,000	27,500	30,250	33,275	36,603	40,263	44,289	48,718	53,590	58,949
Subtotal						**67,000**	**73,700**	**81,070**	**89,177**	**98,095**	**107,904**	**118,695**	**130,564**	**143,620**	**157,982**

Table 3. **Forest Conservation through Community participation and Livelihood development.**

Specific Objective	Prescribed treatment	Unit of Measure	Quantity	Frequency	Unit Cost	Total Cost Year 1	Total Cost Year 2	Total Cost Year 3	Total Cost Year 4	Total Cost Year 5	Total Cost Year 6	Total Cost Year 7	Total Cost Year 8	Total Cost Year 9	Total Cost Year 10
To contribute towards meeting subsistence needs and improving the livelihoods of forest-adjacent communities.	Training forest-adjacent communities in sustainable forest enterprises such as beekeeping, gardening and other non- wood forest enterprises	No	3	2	10,000.00	60,000.00	66000	72600	79860	87846	96630.6	106293.66	116923.03	128615.33	141476.8615
Reduce forest dependency by local communities	Involve local communities in woodlot establishment.	No.	4	1	4,000.00	16,000.00	17600	19360	21296	23425.6	25768.16	28344.976	31179.474	34297.421	37727.16306
Subtotal						**76,000.00**	**83,600**	**91,960**	**101,156**	**111,272**	**122,399**	**134,639**	**148,102**	**162,913**	**179,204**

Table 4. **Human Resource Development.**

Specific Objective	Prescribed treatment	Unit of Measure	Quantity	Frequency	Unit Cost	Total Cost Year 1	Total Cost Year 2	Total Cost Year 3	Total Cost Year 4	Total Cost Year 5	Total Cost Year 6	Total Cost Year 7	Total Cost Year 8	Total Cost Year 9	Total Cost Year 10
To Improve skills for effective management	Short courses Exchange visits, Refresher courses	No	1	1	30,000.00	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738
To build capacity in the local members for effective performance	Training.	No.	2	2	8,000.00	32,000	35,200	38,720	42,592	46,851	51,536	56,690	62,359	68,595	75,454
Subtotal						**62,000**	**68,200**	**75,020**	**82,522**	**90,774**	**99,852**	**109,837**	**120,820**	**132,903**	**146,193**

Table 5. **Infrastructure Development**

Specific Objective	Prescribed treatment	Unit of Measure	Quantity	Frequency	Unit Cost	Total Cost Year 1	Total Cost Year 2	Total Cost Year 3	Total Cost Year 4	Total Cost Year 5	Total Cost Year 6	Total Cost Year 7	Total Cost Year 8	Total Cost Year 9	Total Cost Year 10
To establish and maintain the infrastructure necessary to achieve the multiple objectives of forest management.	1. Lobby for Maintenance the access roads to forest reserve.	Km	1	1	30,000.00	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738
	2. Lobby for structure building and maintenance in the first year		8	1	200,000.00	1,600,000									
Subtotal						**1,630,000**	**33,000**	**36,300**	**39,930**	**43,923**	**48,315**	**53,147**	**58,462**	**64,308**	**70,738**

Specific Objective	Prescribed treatment	Unit of Measure	Quantity	Frequency	Unit Cost	Total Cost Year 1	Total Cost Year 2	Total Cost Year 3	Total Cost Year 4	Total Cost Year 5	Total Cost Year 6	Total Cost Year 7	Total Cost Year 8	Total Cost Year 9	Total Cost Year 10
To conduct research to enhance regeneration potentials of important tree spp.	Identify the important trees based on demand for the research and their locations in the reserve.	No.	3	3	4,000.00	36,000	39,600	43,560	47,916	52,708	57,978	63,776	70,154	77,169	84,886
	Lay plots at the identified locations.	No	3	3	5,000.00	45,000	49,500	54,450	59,895	65,885	72,473	79,720	87,692	96,461	106,108
	Regeneration potentials of the identified trees would be observed.	Ha	0	0	0	0	0	0	0	0	0	0	0	0	0
continuously conduct research on community interactions in forest reserve	Identify all forest fringe communities.	No	0	0	0	0	0	0	0	0	0	0	0	0	0
	Socio-economic survey would be conducted forthe forest fringe community with assistance from CSO	No	1	1	70000	70,000	77,000	84,700	93,170	102,487	112,736	124,009	136,410	150,051	165,056
To attain improved understanding of the forest and its usage, in conformity with the Management Plan.	Implement the Management plan and monitor activities	No	1	1	30,000	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738
	Evaluate the implementation	No	1	1	40,000	40,000	44,000	48,400	53,240	58,564	64,420	70,862	77,949	85,744	94,318
Subtotal						**221,000**	**243,100**	**267,410**	**294,151**	**323,566**	**355,923**	**391,515**	**430,666**	**473,733**	**521,106**

REPUBLIC OF ZAMBIA

Ministry of Green Economy & Environment

The Zambia Integrated Forest Landscape Project is a Government initiative which provides support to rural communities in the Eastern Province to allow them to better manage the resources of their landscapes so as to reduce deforestation and unsustainable agricultural expansion; enhance benefits they receive from forestry, agriculture, and wildlife; and reduce their vulnerability to climate change.

Simultaneously the project is creating the enabling environment for emission reduction purchases to be done through the subsequent phase - the Zambia Eastern Province Jurisdictional Sustainable Landscape Programme (EP-JSLP).

The ZIFL- Project is a product of cooperation between the Government of Zambia, the World Bank & partners.

Forestry Department

Supported by:

Zambia Integrated Forest Landscape Project

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