Publication Draft

REPUBLIC OF ZAMBIA

MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

SASARE LOCAL FOREST: F88

MANAGEMENT PLAN

2025-2035

APPROVAL PAGE

Sasare Local Forest No.F88 - FOREST MANAGEMENT PLAN

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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

Forest resources are important because they provide essential functions and services to the community and the country at large, for conservation of biodiversity, and supporting social and livelihood wellbeing. Natural resources management trends in all the corners of the global are moving away from the predominantly earlier practiced protective plan and control, management approach to more collaborative and participatory forest management approaches. Zambia has adopted participatory Forest Management (PPM), and Community Forest (CF) approaches to forest management allowing for co-management of Zambia's forest resources and communities, partnering organisations and institutions. The change in forest management approach is driven by the need to promote sustainable use and management of forest resources in the country. The high demand for forest products and services has rendered the present use and management of forest resources unsustainable, this is because of increase in human population, and the everlasting social-economic and environmental conditions around the country. I is for this reason that the Sasare Forest Management Plan (SFMP) has been 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 efforts of their Royal Highnesses, Headmen and the community around Sasare Local Forest for the commitment to support this plan and importantly the sustainable management of the Local Forest.

In addition, the Forestry Department, Eastern Province, 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 Plan would not have been possible without the input from ZAMSTATS present and past officers of the Forestry Department. 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. Their 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 Sasare 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. These in the case of Sasare Local Forest are extreme and if not addressed immediately may result in the loss of the forest and the functions it was reserved to protect. Adjacent communities can play an important role in the rational utilisation of the existing forest through participation in decision making, active management, and protection and benefit sharing. Thus community collaboration is an imperative so as to protect the remaining forest cover of Sasare 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 Sasare 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 the purpose of 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 Sasare Local Forest.

In view of the current condition of the forest, the inventory results indicate a total standing volume for all species in Sasare Local Forest estimated at (5.09m^3/ha), with a total bole volume estimated at 2.31m^3/ha). Total Biomass for trees ≥5cm DBH is estimated 7.54 tonnes per hectare with an above ground carbon estimate of 3.77tons/ha. A basal area figure of 1.09m^2 per hectare is a low figure for the type of forest by over a factor of 10. This confirms the status of Sasare Local Forest as a forest not achieving optimum growth potential.

Summary socio economic analysis

The livelihood survey conducted in 2021 indicated that Sasare Local Forest is surrounded by several farming blocks and villages within and outside the forest. 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 83 percent of all the households were willing if called upon to voluntarily support management of the forest with Forestry Department. At the time of survey, there were serious encroachment in the reserve including community schools within the forest.

Forest change & issues analysis

A consultation meeting of stakeholders for Sasare Local Forest was held on 18th December, 2023, at Nyika Lodge, in Petauke District. 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.

Stakeholders' observations and Concerns

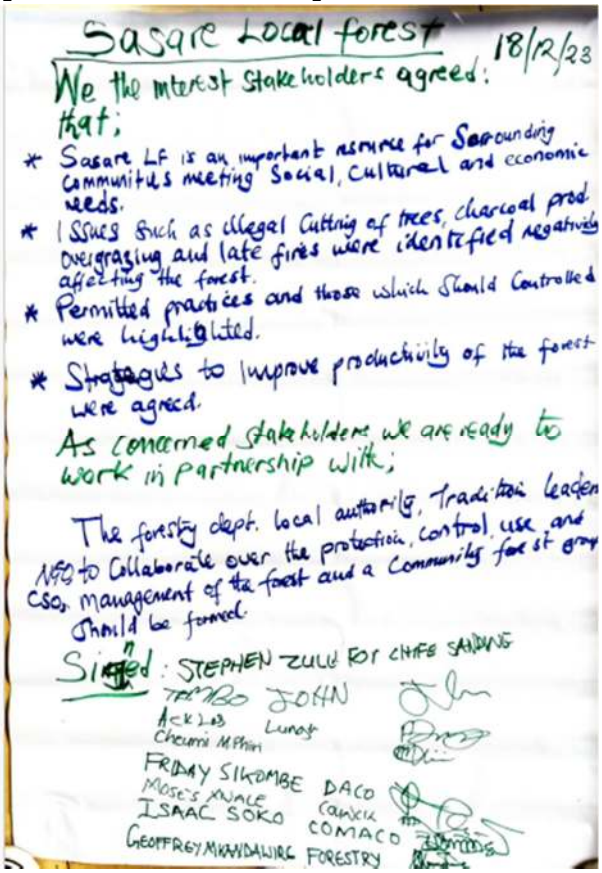
The stakeholders made several observations and raised some concerns notable among them include the following:

- The forest is important to the surrounding communities as well as a habitat for animals. Forest loss threatens everyone and everything that depends on this forest.
- There are serious encroachments in SLF, therefore there is need to protect what is remaining of the forest as well as bring it back to its former glory at the same time find a lasting solution to the illegal forest activities.
- Need to change the mindset of the people for them to appreciate the grave consequences of deforestation as well as 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 SLF and need to stiffen laws.
- The community forestry model should be promoted as it also promotes local ownership

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, Traditional leaders, and stakeholders agreed that there was 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 Sasare Local Forest.

The declaration confirmed that Sasare Local Forest is of importance for meeting the local social, cultural and economic needs of the surrounding communities. The stakeholders requested to work in partnership with the Forestry Department and others to safeguard the forest.


Sasare Local forest 18/12/23

We the interest Stakeholders agreed:

that;

* Sasare LF is an important resource for Surrounding communities meeting Social, Cultural and economic needs.
* Issues such as illegal Cutting of trees, charcoal prod. Overgrazing and late fires were identified negatively affecting the forest.
* Permitted practices and those which Should Controlled were highlighted.
* Strategies to improve productivity of the forest were agreed.

As concerned Stakeholders we are ready to work in partnership with;

The forestry dept. local authority, Traditional leaders to Collaborate over the protection, control use and CSOs management of the forest and a Community forest group Should be formed.

Signed: STEPHEN ZULU FOR CHIEFS SAMANJE

JOHN

Lunaz

FRIDAY SIKOMBE DACO

MOSES MVALE

ISAAC SOKO

COMACO

GEOFFREY MKANDAWIRE FORESTRY

Objectives and management actions

Based on the policy and legal framework and the consultation process conducted, the General Objectives for the Management of Sasare 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.

These in the case of Sasare Local Forest are urgent and if not actioned immediately may result in the loss of the forest and the functions it was reserved to protect.

Proposed management actions

The following management actions which are proposed for Sasare Local Forest reflect the statutory purpose of the Local Forest as set out in section 12 of the Forests Act of 2015. The actions are intended to address and reverse the degrading factors threatening the current existence of the Local Forest.

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 Sasare Local Forest are key stakeholders in the conservation of this forest as well as beneficiaries from its sustainable management. This aims to meeting the social, cultural and economic needs and thereby improving the livelihoods of the communities around Sasare 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 the forest.

Forest Protection, Restoration, Management and Conservation of Biodiversity

Sasare 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.

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 work plan 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 Sasare Local Forest and empowered through equal participation in decision making, governance and benefit sharing.

Contribution to Emissions Reduction in Eastern Province

Improved management of Sasare Local Forest through the proposed interventions will directly address the need for emissions reductions through promotion of Sustainable Forest Management. This centres on 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

CAPI	Computer Assisted Personal Interviews
CFMG	Community Forest Management Groups
CSA	Climate smart agriculture
DBH	Diameter at Breast Height
EA	Enumeration Area
EP-JSLP	Eastern province Jurisdiction Sustainable Landscape Program
FD	Forestry Department
FMA	Forest Management Area
FMP	Forest Management Plan
FPIC	Free Prior Informed Consent
GHG	Greenhouse gases
HFO	Honorary Forest Officers
SLFMP	Sasare Local Forest Management Plan
SLF	Sasare Local Forest
MGEE	Ministry of Green Economy and Environment
MOE	Ministry of Energy
NGO	Non-Governmental Organization
REDD	Reducing emissions from deforestation and forest degradation
SFM	Sustainable forest management
ZAMSTATS	Zambia Statistics Agency
ZIFLP	Zambia Integrated Forest Landscape Project

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SASARE LOCAL FOREST MANAGEMENT PLAN

1 INTRODUCTION

The Sasare Local Forest Management Plan (SLFMP) is prepared in response to the National Forestry Policy of 2014 which 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 stakeholders 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.

1.1 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 Sasare 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 Ministry of 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.

1.2 Duration of the Forest Management Plan

he duration of the FMP is ten (10) years from the date that the plan is approved and registered in the Government Gazette. However, implementation of the Plan will be monitored periodically and evaluated at year 5 and may be adjusted accordingly as lessons are learned.

1.3 Policy Objectives

The Policy 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:

1.4 General Management Objectives

The General Management Objectives for the Forest are aligned with the purpose of a Local Forest as defined in the Forests Act, 2015, and 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

2.1 Location Details

Sasare Local Forest (Reserve No. F88) is situated in Lusangazi District, approximately 32km north of township, and adjoining farms 45 and 200 in the Sasare Mining reserve. It is also mostly on the east of Petauke Sasare road, between the Fuzye and Mawanda stream.

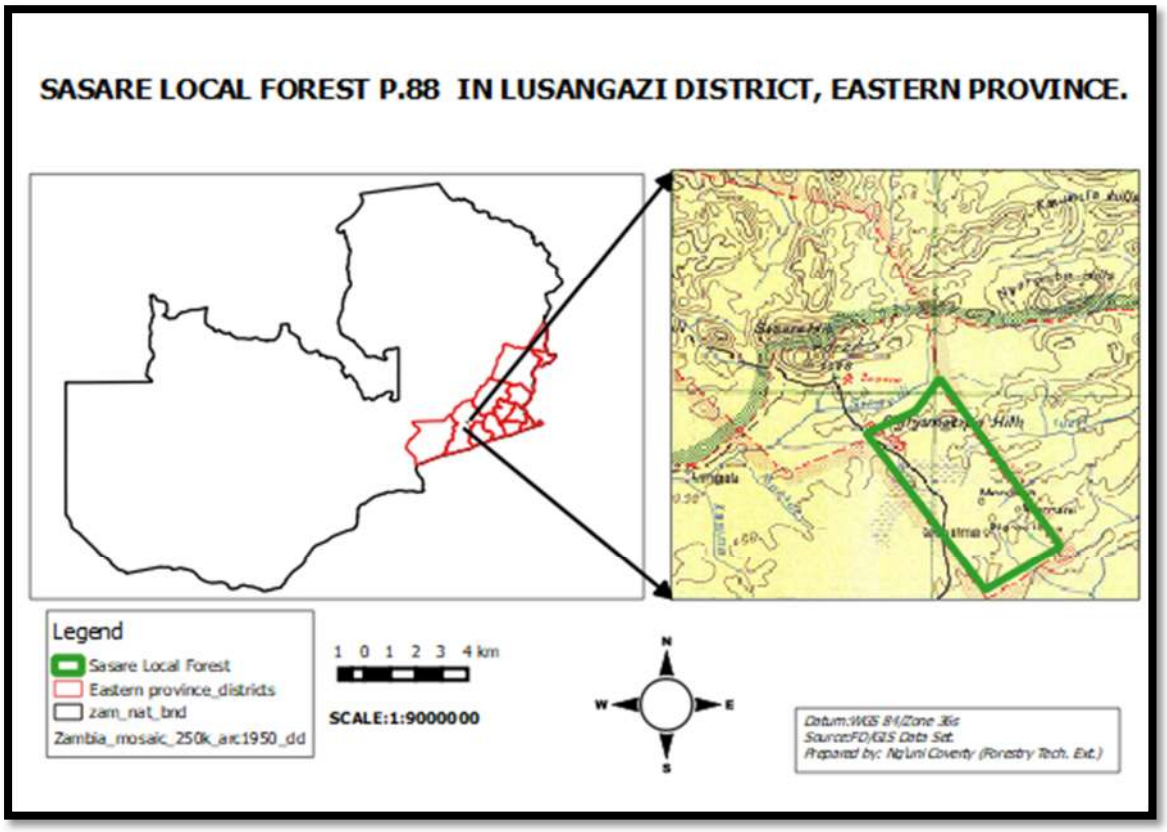

Figure 1: Map of Sasare Local Forest

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

2.2 Ownership and control

Sasare Local Forest No. F88 was originally declared a forest reserve and gazetted under Statutory Instrument No. 66 of 1975 and deposited in the office of the Surveyor-General on Map No. F.R.336. It is a protected forest area with the designation of "Local Forest" covered by section 19 of the Forests Act, 2015. The Forestry Department according to Act No.4 of 2015 is responsible for the protection and management of Sasare Local Forest.

2.3 Reasons for Reservation

When the forest area was surveyed, the main object of management was to secure valuable timber species for the production of furniture and other products to meet in part of the requirements of the population of Eastern Province. The area was to be managed in conjunction with other commercial timber areas proposed for reservation and form part of one Eastern Province Timber Working Circle.

2.4 Physical and Biophysical Environment

Topography, Geology & Soils

The northern part of the area hilly, and divided by numerous steep-sided gullies and valleys. The remainder is undulating with many small dambos and gullies draining the area southwards to the Mawanda stream. The soils are mostly pale brown or pinkish sandy loam, often with gravel, especially in northern hilly part. They tend to be grey towards the south and are sandy.

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.

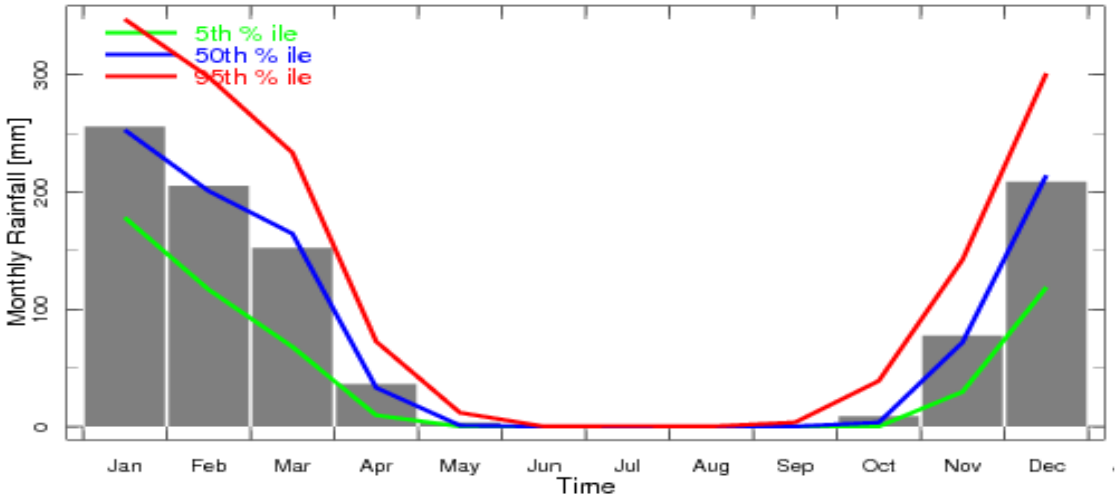

Figure 2: Monthly rainfall (Eastern Province) Source: The Zambia Meteorological Department

Normally, temperatures are very high, especially during the dry months which occurs between August and December. The maximum average monthly temperature is between 27^{0}C and 34^{0}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.

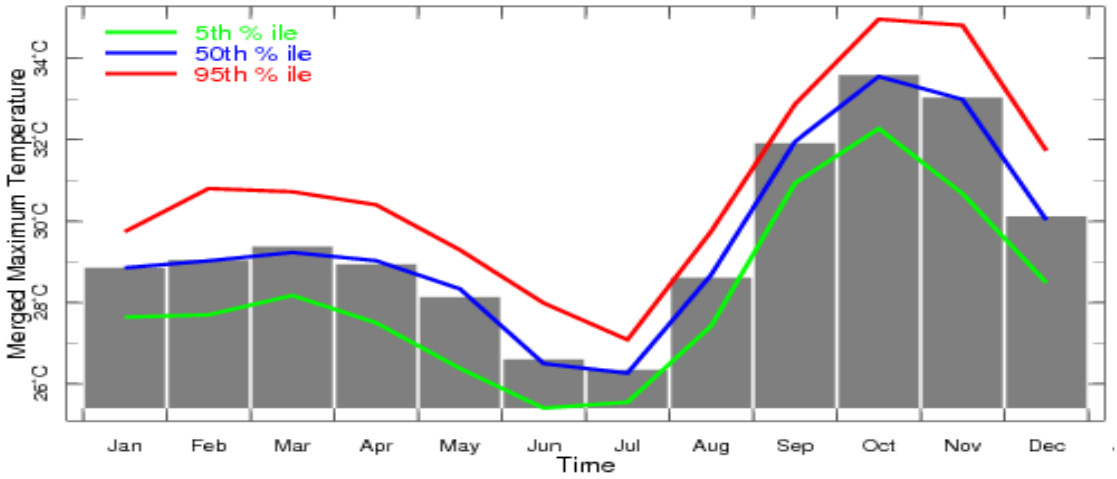

Figure 3: Monthly temperature (Eastern Province) Source: The Zambia Meteorological Department

Vegetation Type

Sasare Local Forest is a Heterogeneous forest. The vegetation type is miombo woodland on the plateau with a diverse tree flora including *Brachystegia boehimii*, *Brachystegia floribunda*, *Parinari curatellifolia* and many other species with *Bauhinia petersiana* being the dominant species.

Fauna

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

Infrastructure and communication

A 32km track road from Petauke boma to Sasare forest provides access to Sasare Local Forest.

3 PAST MANAGEMENT

Sasare Local Forest was declared and gazetted in 1975. The management of the reserve has been guided by the objectives of reservation proposal as stated in the proposal at the time the forest was gazetted as a protected forest area under notice 48 of 1972 and subsequently under Statutory Instrument No.236 of 1973 and 66 of 1975. The reservation aimed securing valuable timber tree species of Pterocarpus angolensis for production of furniture and other timber products as part of a timber working circle for the Province.

The Public Service Reform Programme (PSRP) in 1997 and economic downturn, had an adverse impact on the management of the Local Forest. This combined with an increase in population, high poverty levels resulted in increase pressure on the forest compounded by a Department of reduced manpower. With the result, Sasare Local Forest has over the years been heavily encroached, with significant agricultural activities and illegal timber logging taking place. Various initiatives have taken place to address including meetings with Chiefs, stakeholder meetings and in 2018 a programme of issuing notices to those illegally settled within the Reserve.

Maintenance works

In 2021, the Forestry Department undertook forest resource assessments, engaging surrounding local communities and their traditional leaders, setting sample plots and measuring trees. This was financed through the Zambia Integrated Forest Landscape Project (ZIFLP).

In December 2021, the Forestry Department along with 11 casual workers engaged from surrounding villages including village headmen, conducted a boundary clearing operation over 26 kilometres of forest boundary, also supported by ZIFLP.

In 2022, signboards were erected to indicate the Local Forest and restrictions therein. Sporadic prescribed burning has been implemented, most recently in 2021, 2022 and 2025.

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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 2021 with financial support from the Zambia Integrated Forest Landscape Project. The following section provides the results and analysis from the data collected. The location of the sample plots is provided in Annex 1. 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 to medium and long-term management of Sasare Local Forest. The table below provides a summary of the forest inventory and will be described in the sections below;

Sasare Local Forest Stratum total by diameter class per hectare for all species

Total /ha by diameter class	**0-4**	**5-9**	**10-14**	**15-19**	**20-29**	**30-39**	**40+**	**Total**
Volume m^3	0	1.21	1.70	0.31	0.70	0.59	0.59	5.09
Bole Vol	0	0.56	0.79	0.13	0.30	0.27	0.29	2.31
Density/SPH	0	84.21	35.03	2.77	2.51	0.94	0.41	125.87
Basal area	0	0.34	0.40	0.06	0.11	0.09	0.09	1.09
Biomass, Total (Tons)	0	1.84	2.50	0.49	0.96	0.84	0.93	7.54
Carbon, Total (Tons)	0	0.91	1.26	0.24	0.47	0.43	0.46	3.77
Volume by species use								
Vol Sawlogs	0	0.01	0.00	0.00	0.10	0.13	0.19	0.43
Vol Poles	0	0.19	0.40	0.10	0.06	0.03	0.00	0.79
Vol Fruits	0	0.03	0.16	0.00	0.00	0.00	0.04	0.24
Vol Medicinal	0	0.23	0.33	0.09	0.19	0.09	0.04	0.94
Vol Firewood	0	0.34	0.24	0.03	0.10	0.10	0.09	0.90
Other (m^3)	0	0.43	0.54	0.09	0.24	0.23	0.23	1.77
Seedlings								971

Table 1: stratum total for all species

4.1 Tree species abundance

The inventory data indicates that there are over 44 different types' of tree species that include tree seedlings in the forest. However, the ten most frequent species are shown below.

S/no.	Species	Local Names (Nyanja)	Species codes
1	*Bauhinia petersiana*	Mupondo	34
2	*Brachystegia boehmii*	Mufendaluzi	46
3	*Brachystegia bussei*	Mukongolo	47
4	*Brachystegia longifolia*	Bovu	49
5	*Bridelia cathartica*	Mkuviandola	57
6	*Combretum molle*	Kalama	86
7	*Combretum zeyheri*	Kalamafupa	89
8	*Diospyros mespiliformis*	Mchenja	112
9	*Diplorhynchus condylocarpon*	Mtowa	114
10	*Lannea discolor*	Shaumbu	194

Table 2: Top Ten Abundant Species in the Forest Reserve

4.2 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 Size class distribution graphic

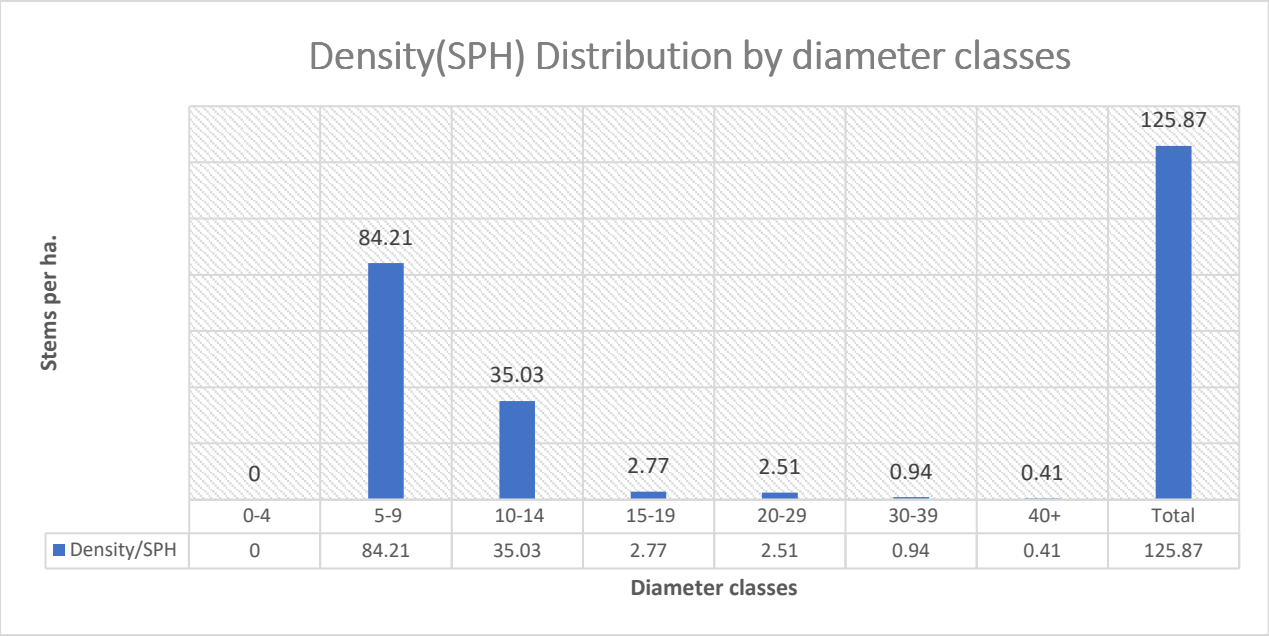


Figure 5: Density by diameter class/ha for all species

In Sasare Local Forest, a stocking density for trees ≥ 5 cm DBH was estimated as 125 stems per hectare with the higher in diameter 5-14 and less in 40+.The outcome indicates that there is much tree coppicing and regeneration.

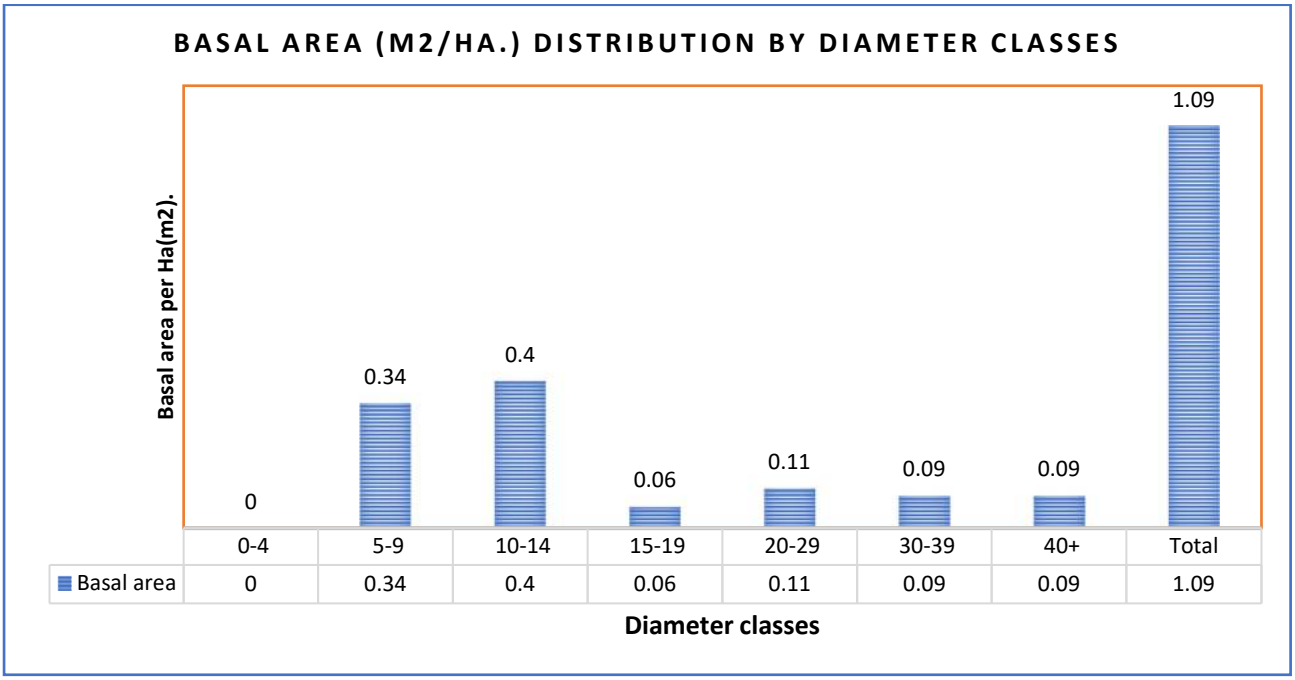


Figure 6: Basal area (m^2) by diameter class/ha for all species

The stocking by diameter class basal area per hectare is more in 5 –14cm class. The data indicates that there has been much tree harvesting resulting in high coppicing and regeneration. This indicates that the forest in terms of growth potential is in a relatively healthy condition allowing succession from one size class to the next higher one. The data also indicates this is a secondary forest. The species with the high density is *Bauhinia petersiana* with 44 stems per hectares, this is followed by *Combretum molle and Diplorhynchus condylocarpon.*

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 all the measurements and expressing this as a figure of square meters, either in their size class categories or as a total per hectare. A figure of 1.09 m^2 per hectare is a very low figure for basal area in a similar type of forest by over a factor of 10. This confirms the status of Sasare Local Forest as a forest of concern following past and most likely current high levels of selective exploitation of large sized trees.

4.3 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 (m3) 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 bole or 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.

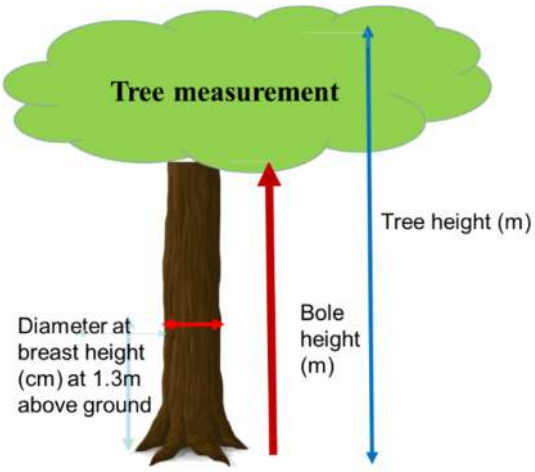


Figure 7 Tree measurement graphic

The total standing volume per hectare for all species in Sasare Local Forest is estimated at 5.09m^3/Ha., with a total bole volume estimated at 2.31m^3/Ha. Total Biomass for trees ≥5cm DBH is estimated at 7.54 tonnes/ha and it has carbon estimated at 3.77 tonnes/ha. This represented a poorly stocked forest which is not fulfilling its expected growth potential.

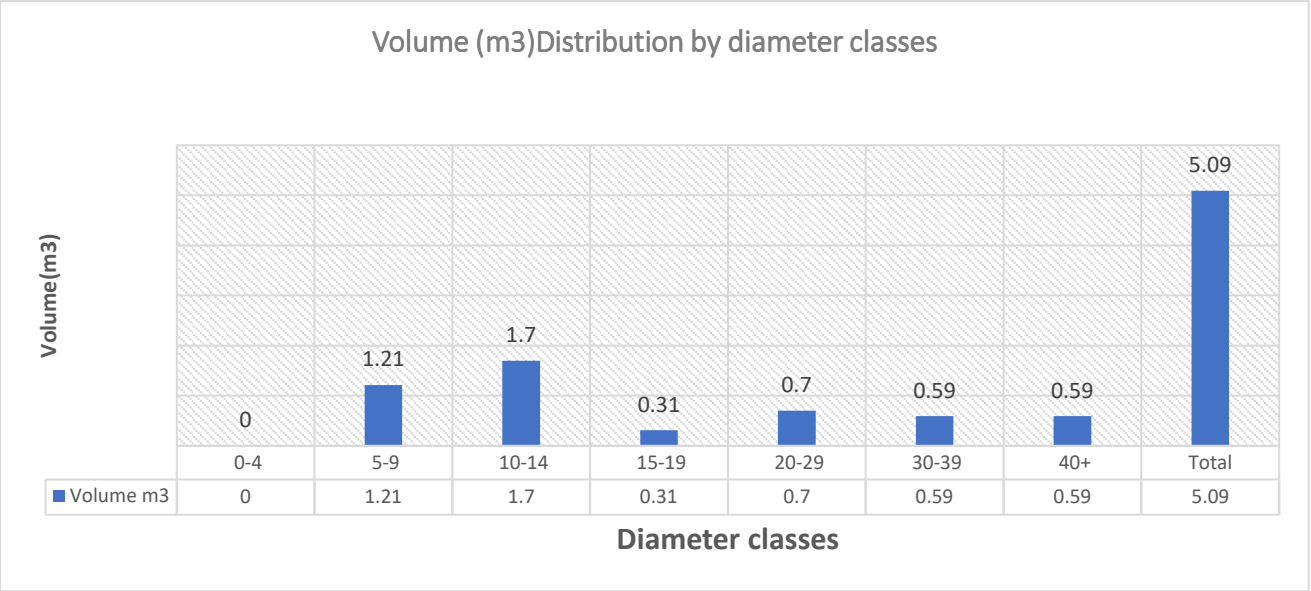


Figure 8: Volume (m^3) by diameter class/ha for all species.

Technical characteristics

The volume of other technical characteristics or use are computed per hectare as follow: Saw-log 0.43m^3, Pole 0.79m^3, Fruit 0.94m^3 ,firewood 0.90m^3 and others 1.77m^3. The poles are evenly distributed mainly in diameter class 5 to 14. The saw log are minimal considering the size of the forest, less than 5 cubic meters per hectare. This indicates that there is high exploitation of large sized tree species.

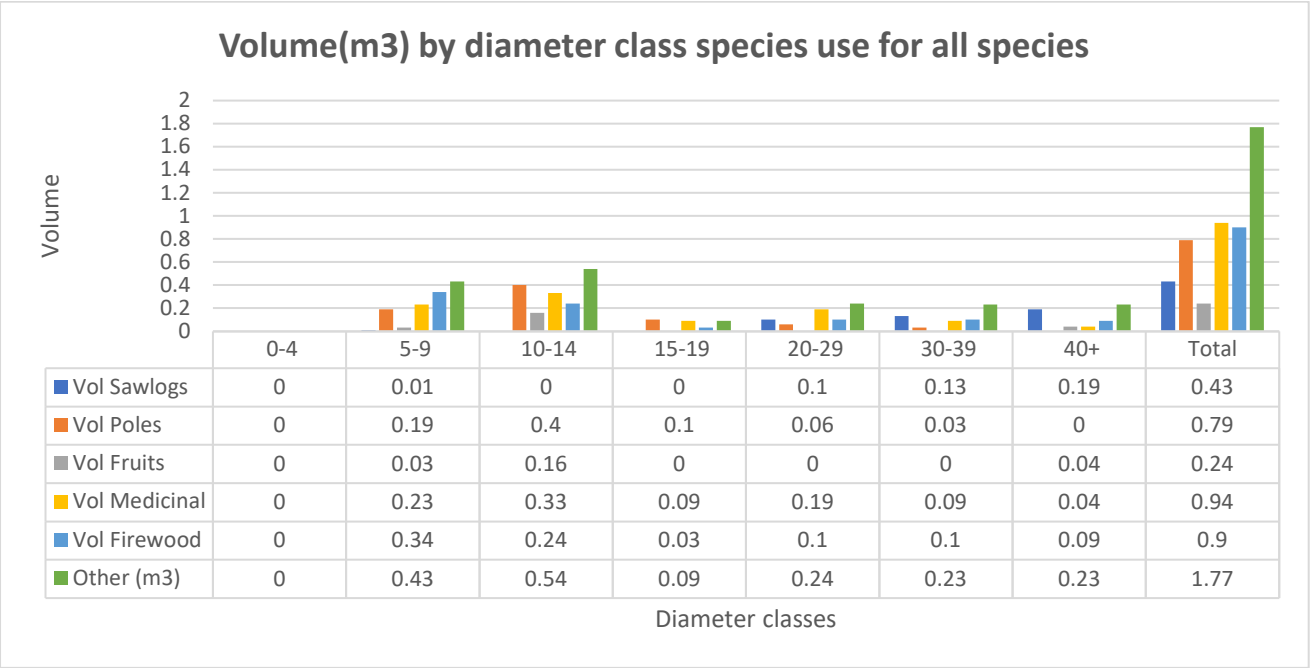


Figure 9: Volume (m^3) by diameter class/ha for all species by use

4.4 Bole volume total by diameter class/ha for all species

The total bole volume by diameter class per hectare is 2.31 cubic meters representing mainly the diameter class 5 – 14cm. These figures indicate that there are few larger trees present in the forest indicating over exploitation or forest clearance.

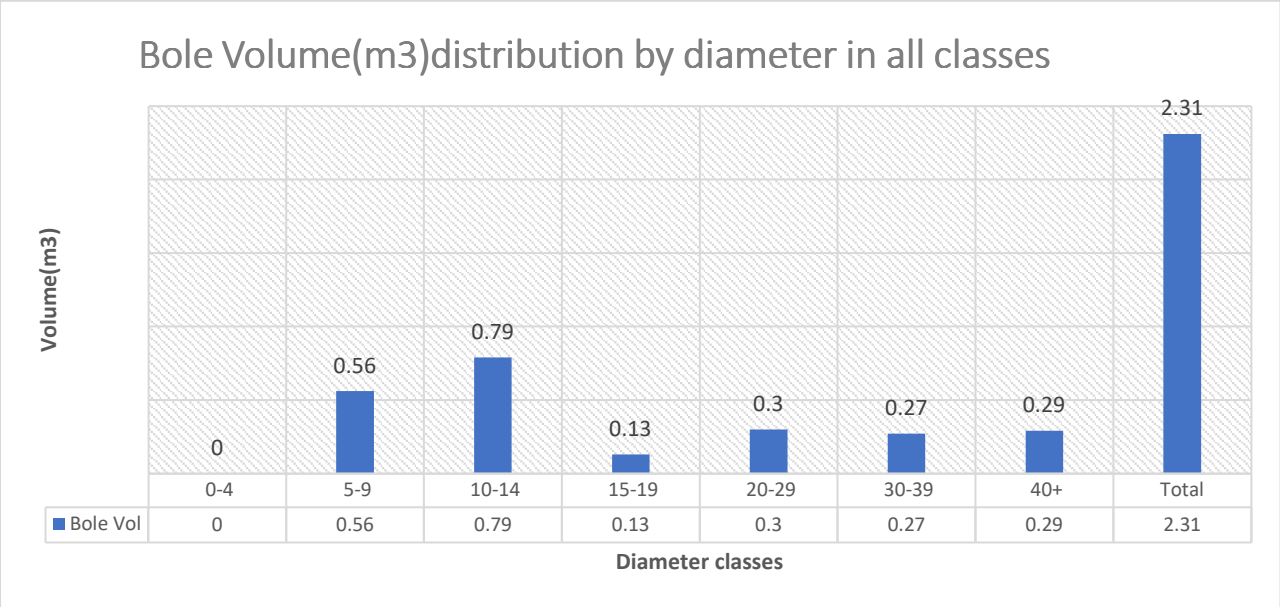


Figure 10: Bole volume (m³) by quality diameter class for all species

4.5 Presence of Commercial Tree Species

Based on the inventory data, species used for high valued saw logs such Pterocarpus angiogenesis, Swartzia madagascariensis, Pterocarpus chrysothrix and the medium valued such as *Brachystegia boehmii* are not abundant in the forest. The harvestable volume is low. Therefore, Sasare Local forest in its current condition cannot sustain large scale logging operations or a timber concession because it is highly degraded.

Volume of all species by use

No	Description	Volume(m³/ha)	Explanation
1	Sawlogs	0.43	These are merchantable trees with the average diameter of 40cm dbh and above and are of exceptionally high valued suitable for timber production
2	Poles	0.79	These are tree species with relative straight bole length with the average diameter at breast height of 5cm to 29cm
3	Fruits	0.24	The tree species include all fruit bearing either edible or not edible
4	Medicinal	0.94	All medicinal plants
5	Firewood	0.90	These include all dead and or diseased trees which can be used for firewood
6	Others	1.77	These include all tree species which are not classified in any of the above categories

Table 3: Trees in Sasare local forest in terms of forest product categories.

Biomass and carbon above ground

Based on the inventory data, the biomass and carbon figures by size class and total are summarized. Note, this standing carbon and not the amount of carbon that may be traded under carbon trading schemes which are based on measured reduction of emissions.

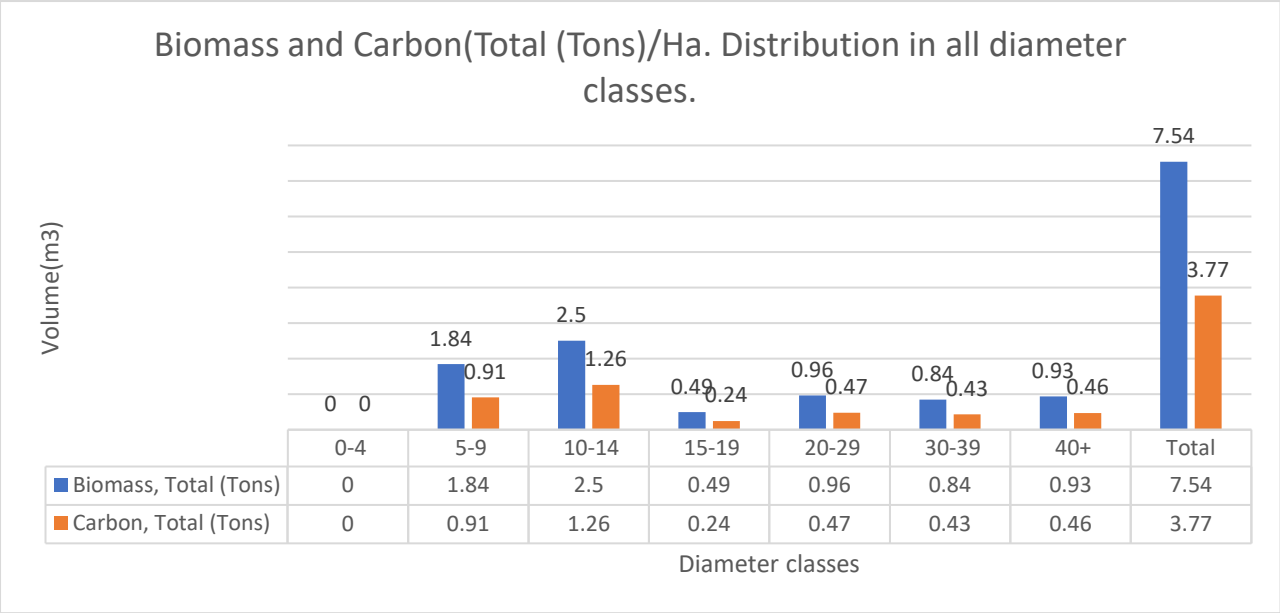


Figure 11: Biomass and Carbon above ground by diameter class/ha for all species

The total biomass and carbon stocks per hectare respectively of 7.54 and 3.77 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 underground is in the figure above is within the IPCC requirement of half of biomass constitute carbon stock. These figures are exceptionally low by a factor of 15-20 and raise concern over the condition of the Local Forest.

4.6 Forest condition and restoration assessment

To supplement the forest inventory data, a land cover assessment was conducted using Sentinel-2 2025 images (date filtered: 2024-01-01 - 2025-07-01) at a resolution of 30 meters. The area of different land classes was calculated using Compute Geometry in ArcMap. The results indicated the following:

Landcover/options	*Area (ha)*	*Percentage*
Forest	*1,868.10*	*55.7*
Cropland	*1447*	*43.1*
Settlements	*35*	*1*
Permanent structures	*5*	*0.1*
Water	*0.23*	*0.01*
Total	*3,355.33*	*100*

Table 4: Forest condition analysis by landcover

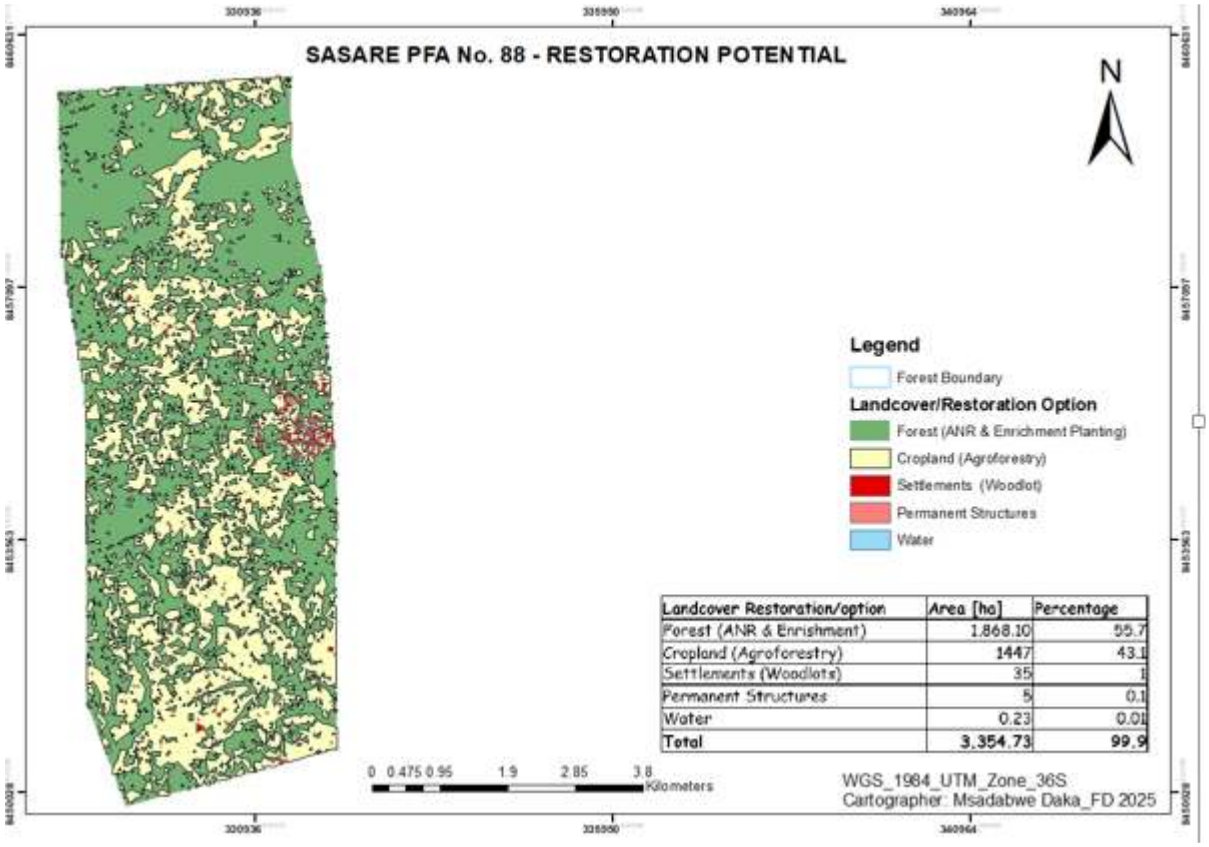


Figure 12: forest condition and restoration potential

The pressure on the forest is high and risk of further loss and degradation severe. The approach for Sasare Local Forest is to secure areas with forest cover and restore areas of lost forest cover with people's participation in order to improve environmental, social and economic impacts. The landcover analysis allows for identification of restoration strategies. These are outlined in the chapter on proposed management options.

5 SOCIO-ECONOMIC CONDITIONS

Introduction

A Forestry Livelihood Survey was conducted by the Zambia Statistics Agency (ZAMSTATS) Eastern Regional office, in November 2021. The main objective of the Survey is to measure the well-being of the communities dependent on Sarare Local Forest and to measure the utilization and management of trees resources. Also, 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. Assessing the household population distribution of Sasare Local Forest can be translated as having an average size of the household membership of about 5 per household.

Methodology

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

5.1 Livelihood Data Analysis

The 2021 Forest Livelihood Survey was collected using Computer Assisted Personal interview (CAPI), using Tablets android Ver9. The CAPI system allows quality check of the data at the server (HQ) as it is collected. It also minimizes data entry errors after data collection, the data were subjected to extensive checks on their validity and consistency as it was synched to the server. Analysis was done using statistical package SPSS version 24, which was done by Mr Mully Phiri.

Household and Population dynamics

Sasare Local Forest as at 2021 livelihood survey was surrounded by approximately 7 villages and farming blocks as indicated in Annex: III with a total population of 650. The main ethnic groups in the area are the Nsenga's. 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, Soya beans and groundnuts. The land tenure of the population surrounding the Sasare Local forest is mostly under customary land tenure system. Those households within have formal title deeds or letter of allotment.

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 Sasare Local Forest was found to be mainly primary level (49.2 percent). 35.6 percent have no formal education while 15.3 percent of those surveyed have secondary education, as shown in the table below:

Education Level	**Percent**
No Education attained	35.6
Primary	49.2
Secondary	15.3
Total	100.0

Table 5: education levels attained.

Economic activity

Sasare Local Forest population depends on farming as their main occupation. The results showed that 98.3 percent of the household population surrounding Sasare Local Forest have farming as their main occupation, while 1.7 percent are in small businesses sector.

Main Economic activity	Percent
Business	1.7
Farming	98.3
Total	100.0

Table 6: percentage distribution of main economic activity

Utilization and zoning of forestry resources

The survey revealed that the Local Forest is highly threatened as 99 percent of the population around the Sasare Local forest utilise forest products for their daily needs. The Sasare consultative meeting held on 23rd December 2023, the stakeholders identified the uses and users of the forest reserve

The uses where identified:

1. Firewood
2. Charcoal
3. Fruits, Mushroom, Caterpillars
4. Medicine
5. Timber harvesting.

The Users of the forest:

1. The community surrounding Sasare Local forest
2. Animals

Type of energy used for cooking

Almost all households in the localities surrounding Sasare Local Forest use firewood as their energy for cooking. The livelihood survey revealed a percentage of about 97 percent using firewood as energy for cooking while 3 percent use charcoal as energy for cooking. It shows how threatened the forest is as every household depends on the forest for cooking energy.

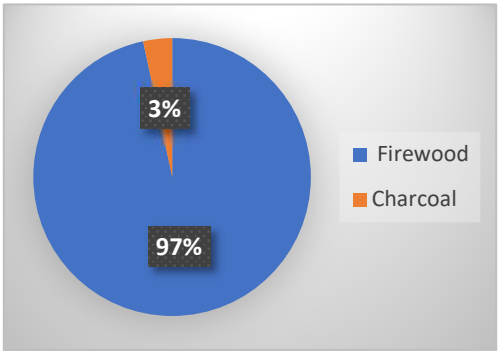


Figure 13: Percentage distribution of energy for cooking

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

Main tree resource used for firewood
Brachystegia Boehmii
Pseudolachnostylis Maprouneiflia
Brachystegia Floribunda
Diplorhynchus Condylocarpon
Diospyros Mespilliforms
Brachystegia Bussei
Brachystegia Spiciforms
Lannea Discolor
Dalbergiella Nyasae
Julbernardia Paniculata

Table 7 Main tree resource used for firewood

Note: These species are therefore under serious threat for wood energy as the statistics can show and mitigation measures are required in the management plan.

Non wood Forest products

The main Non wood forest products used by households surrounding the Sasare Local Forest are mushroom and forest fruits.

Willingness of community to participate in forest management

The livelihood survey revealed that 83.1percent of all the households interviewed were willing if called upon to voluntarily support management of the forest reserve with the Forestry Department and other stake holders in the community. This is a lower percentage than found around other Forest Reserves in the Province.

Willingness to support management	Percent
No	16.9
Yes	83.1
Total	100

Table 8: Willingness when called upon

Land Occupation

The livelihood survey conducted around Sasare Local Forest revealed that most of the land is occupied under customary arrangements by households 67.8 percent, compared to those who don't at 32.2 percent. All land occupied by households is mainly used for agriculture purpose.

Households occupying land	Percent
Customary arrangements	67.8
Renting	32.2
	100

Table 9: Shows distribution of households owning land

Willingness to plant trees

The survey revealed the willingness to planting trees by the households occupying land. Those willing to plant trees on their land contributed 64.4 percent, while those not willing to plant trees had 35.6 percent contribution as shown in the figure below.

Willingness to plant trees on land occupied	Percent
Yes	64.4
No	35.6
	100

Table 10: Willingness to plant trees

5.2 Issues and solutions identified by stakeholders

In the December 2023 consultation, the stakeholders identified local issues affecting the forest, but also suggested local solutions as follows:

ISSUES

- Deforestation
- Late burning
- Illegal settlement
- Loss of forest land to agriculture
- Illegal allocation of land by some tradition leaders

SOLUTIONS

- Reforestation
- Early burning/fire break
- Eviction
- No expansion of farmland
- Sensitization management among the leaders/coordination

5.3 Enterprise opportunities

A healthy forest ecosystem provides a strong foundation for income generation through forest products by maintaining biodiversity, soil fertility, and water resources essential for their sustainable production. When forests are in good ecological condition, they support the growth of high-value timber and Non-Timber Forest Products (NTFPs) which local communities and others can harvest and commercialize in a regulated manner. A well-managed forest ensures a continuous supply of these resources without depleting them, allowing for long-term economic benefits.

Sasare Local Forest provides a number of income generation/enterprise opportunities based on the current forest condition, the interests of local communities and other stakeholders, but particularly based on the commitment to sustainable forest management through potential partnerships expressed at the stakeholder consultation meeting. The foundations for community-based forest enterprises can be built on the elements of forest resource condition and associated forest product availability, access to markets, an identified enterprise group and importantly, overall governance arrangements to regulate access, use and protection of the forest. Through the resource assessment and mapping exercise, combined with the socio-economic survey, stakeholder consultation as well as the community forestry management planning process, the following enterprise opportunities have been identified:

Potential Forest product enterprises

- Beekeeping
- Wood biomass energy production
- Wild fruit and mushroom harvesting

The development of the above identified opportunities would be subject to conduct specific forest product value chain analysis and enterprise development assessment to ensure a viable and financially feasible forest-based enterprise could be promoted in line with the Forestry Department Forestry Enterprise Strategy for 2025-2030. This strategy seeks to promote sustainable forest management while enhancing value addition in forestry value chains through empowering local communities.

5.4 Encroachment – Illegal settlement and cropping

Sarare Local Forest has over the years been heavily encroached by influx of migrants from surrounding areas and Chiefdoms. Agriculture, timber logging and informal land allocation for settlement are the major challenges facing the Local Forest for some time. The encroachment includes significant areas of smallholder farms as evidenced by the forest restoration and land use imagery mapping. Over the years, various initiatives have taken place to address including meetings with Chiefs, stakeholder meetings and a programme of issuing notices to those illegally settled within the Reserve. In addition, a number of settlements with associated infrastructure including schools are located within the gazetted forest area. In 2018 a programme of issuing notices to those illegally settled within the Reserve was conducted following a nationwide instruction from the Minister of Lands and Natural Resources.

Boundary clearing operations were conducted in December 2021 by the Forestry Department along with 11 casual workers engaged from surrounding villages including village headmen. This activity helps reaffirm the Local Forest boundary with surrounding communities and traditional leaders. Beacons were also reviewed during this operation.

A process of promoting community forestry could be one of the approaches to reverse the forest degradation and loss. This includes sensitization of community members and their traditional leaders as well as through patrols by Honorary Forest Officers to be nominated by the community and appointed by the Minister in the Government Gazette.

Initiatives to address and reverse the situation with a view to restore more of the ecological function of the Local Forest as well as meeting the social, cultural and economic needs of the local community are set out in the following chapter.

6 PROPOSED MANAGEMENT ACTIONS

In view of the current condition and rate of deforestation and forest degradation being experienced across this Local Forest, the overall objective is to secure the ecological functions of the forest through engaging local stakeholders and surrounding communities and agree new strategies for management and restoration of the Local Forest. This includes applying the community forestry process which supports community control, use and management of forest areas in partnership with the Forestry Department. Learning from this approach to restoring this critical Local Forest will inform similar processes for other selected protected forest areas in Eastern Province and across Zambia. All approaches will conform to the stated purpose of a Local Forest as described in section 19 of the Forests Act, 2015:

> **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.

The emphasis will be on Forest Landscape Restoration (FLR) as a process for regaining ecological functionality, increasing availability of resources and therefore enhancing values across deforested or degraded forest landscape of SLF. The approach will be to secure areas with forest cover and restore areas of lost forest cover with people's participation in order to improve environmental, social and economic impacts. In order to achieve these impacts, the main management strategies identified focus on steps to protect, restore and replant, as follows:

- **Protect** - areas where the forest is intact with local stakeholder involvement;
- **Restore -** the forest where it is degraded by promoting regeneration encouraging regrowth of local species or re-afforestation with people's participation.
- **Replant** - increase forest cover through planting agroforestry species in fields where cropping is taking place. This aims to increase tree cover, soil fertility, provide fodder and small biomass for energy needs. Further, re-afforestation through planting of indigenous or exotic species in abandoned fields in a plantation environment where practical.

Opportunities for collaboration with partners and seeking investment and sustainable financing through climate change mitigation / emissions reduction trading will be explored to provide the investment, incentive and reward for sustainable land management in the forest. Sharing benefits from the Jurisdictional Sustainable Landscape Programme will be core to the process of incentivizing and rewarding good practices in mitigating the effects of climate change and providing the mechanism for monetary benefits to accrue to local communities and other service providers from carbon trading by Government.

6.1 Zoning the forest for effective management

This management plan recognizes the 2 major zones identified during the stakeholder consultation of December 2023, which identified use of the forest, the main users of the forest, issues affecting Sasare Local forest, local solutions and permitted activities. A further zone (3) covers the immediate area surrounding the Local Forest to act as a buffer which will the focus of development as well as emissions reductions related activities.

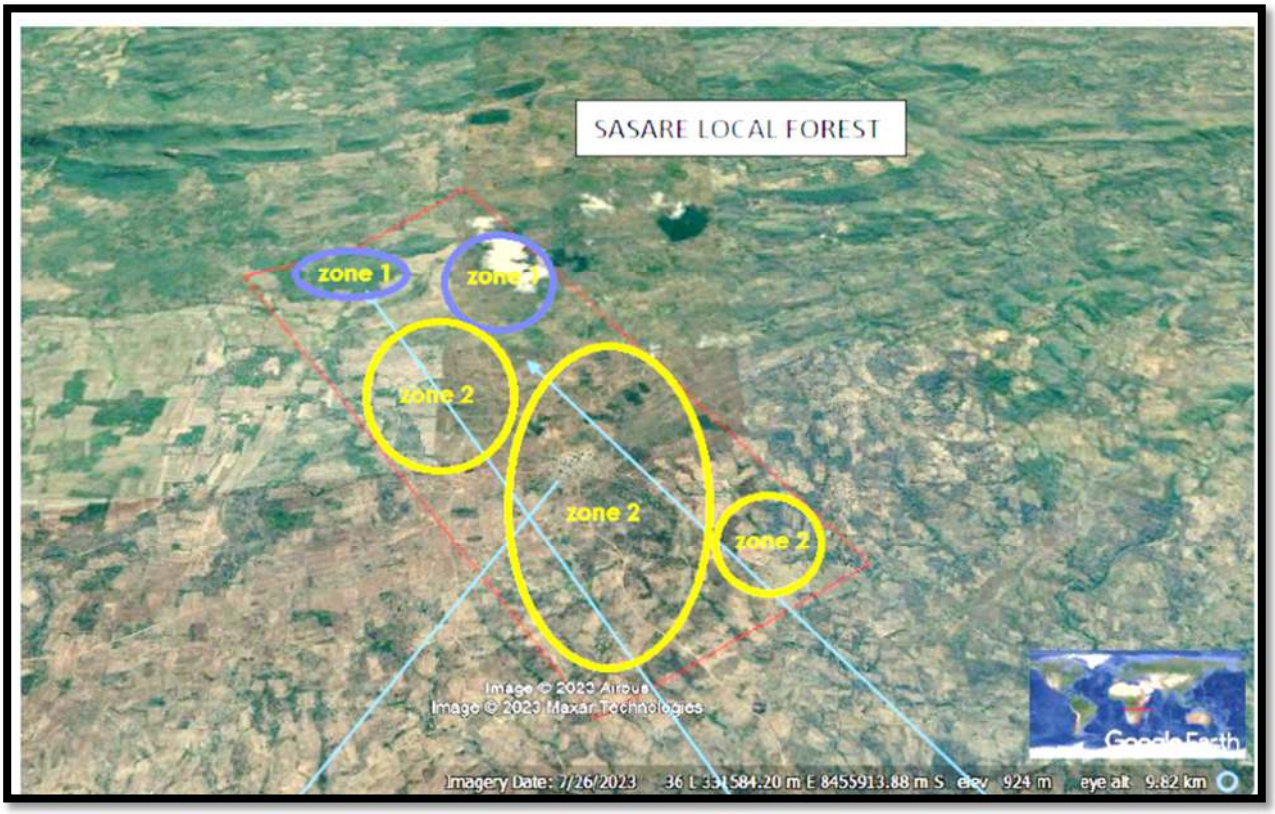


Figure 14: Zoning of *Sasare* local forest based on community consultation

The following management approaches are proposed for the identified zones:

Zone 1: Forest Protection, Management and Conservation of Biodiversity

Sasare Local Forest is an important forest ecosystem containing different flora and fauna. However, 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 stakeholders and 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 this protection zone.

Zone 2: Forest restoration zone

This covers the areas already impacted by human activity including seasonal and permanent farming including settlement. The main focus within this zone is to re-establish tree cover and therefore conform with the purpose of the Local Forest. This will involve promoting forest restoration approaches including tree planting, creation of woodlots and agroforestry as a means of tackling the core issue of encroachment. Continuation of environmentally harmful crops such as cotton and tobacco growing within the Local Forest should be reviewed and restricted.

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.

Zones 1 & 2 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 with 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 work plans will be developed by the community with technical guidance from the Forestry Department to ensure the sustainable management of these zones.

6.2 Forest landscape restoration guiding principles

Successful forest landscape restoration (FLR) integrates a number of guiding principles, including:

- ***Focus on the entire landscape***. Consideration and restoration across the entire landscape of the Local Forest and buffer area as opposed to individual sites. This entails balancing a mosaic of land uses across the gazetted forest, such as securing intact forested areas, regenerating degraded forests, promoting agroforestry systems, climate smart agriculture, as well as identifying ecological corridors and riparian strips to protect watercourses and waterways.
- ***Restoring ecological functions.*** Restore the ecological functionality of the landscape, such as its richness as a habitat, its ability to contain erosion and floods, and its resilience to climate change and various disturbances. This can be done in many ways, one of which is to restore the landscape "back" to the "original" vegetation, but other strategies may also be used, ranging from natural regeneration to tree planting.
- ***Allowing for multiple benefits.*** Increasing tree cover across the landscape including existing cleared farmed areas, without necessarily forming a forest

canopy, in order to enhance food production, reduce erosion, provide shade, and produce firewood. In other places, trees may be added to create a closed canopy forest capable of sequestering large amounts of carbon, protecting downstream water supplies, and providing rich wildlife habitat.

- ***Promoting stakeholders involvement.*** Actively engaging local stakeholders in decisions regarding restoration goals, implementation methods, and trade-offs for sustainable land management practices which provides incentives and performance benefits.
- ***Adaptively managing*** the restoration strategy over time as environmental, social and economic conditions evolve supported through continuous monitoring and learning through the restoration process.

6.3 Core forest management actions

The identified management actions are described as follows:

Action 1: Forest Protection, Management & Conservation of Biodiversity

Sasare Local 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. However, the awareness of the importance of ecosystem services, conservation of biodiversity and climate change mitigation services of Sasare 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.

Therefore the following are the 7 steps that the stakeholder communities have to be taken through in order to develop a full partnership for shared management:

1. Stakeholder engagement, community awareness raising and mobilisation;
2. Stakeholder mapping including forest use, users and geographic interest.
3. Forming community level institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.

4. Developing forest product and issues based operational management plans for areas of interest.
5. Agreeing roles, rights, responsibilities and obligations for shared management.
6. Implementing practical forest protection and management interventions that bring value and other environmental and social benefits.
7. Conducting joint monitoring and evaluation of management and benefit sharing measures to ensure a sustainable partnership.

These 7 steps to establishing shared management responsibilities and benefit sharing directly mirrors the 7 steps of the National Guidelines for Community Forestry in Zambia. Therefore tangible steps will be taken to incentivise and reward local stakeholder communities in the protection and management of Sasare Local Forest through following the community forestry development steps and processes.

In order to achieve this the following activities will be undertaken to develop a shared management approach to forest protection, management and utilisation as follows:

No	Specific Objectives	Strategy	Actions	Responsible	Indicators
1	To develop a shared management approach to forest protection, management and utilisation.	1. Stakeholder engagement, community awareness raising and mobilisation;	Conduct awareness meetings with traditional leadership & communities	FD	Meetings conducted
		2 Stakeholder mapping including forest use, users and geographic interest.	Conduct meetings to determine effective span of management control across SLF	FD	FPIC Meetings conducted
		3. Forming community level institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.	Through participatory processes, form local committee responsible to coordinate and assist management of the SLF	Community groups & FD	
		4. Developing forest product and issues based operational management plans for areas of interest.	For each Zone and area of shared management, development management plans and resource use rules		
		5. Agreeing roles, rights, responsibilities and obligations for shared management.			Signed CFM agreements. Annual work plan reports
		6. Conducting joint monitoring and evaluation of management and benefit sharing measures to ensure a	See monitoring section of SLFMP		

No	Specific Objectives	Strategy	Actions	Responsible	Indicators
		sustainable partnership.			
2	To protect the Forest from late fires	Practice 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
3	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 entering the Forest	FD/ Community	Distance in km of forest perimeter cleared
4	To conserve and enhance the biodiversity of the forest reserve through environmental awareness and education.	Enhance understanding of the forest ecosystem and its function and benefits to community groups and schools.	-Awareness on biodiversity with regard to indigenous knowledge. -Promote local participation and ownership through meetings.	FD/NGOs	
5	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
6	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
7	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.

Action 2: Forest Restoration 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 and within Sasare 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 and within Sasare Local Forest. Within this management action, the following interventions will be undertaken in Zone 2 of the Local Forest as well as extension services and activities in Zone 3, the areas surrounding Sasare Local Forest;

- Promotion of community forestry and the establishment of a community forest management group;
- Promote interventions with community groups to protect, restore and replant, as follows:
    - **Protect** - areas where the forest is intact with local stakeholder involvement;
    - **Restore -** the forest where it is degraded by promoting regeneration encouraging regrowth of local species or reafforestation with people's participation.
    - **Replant** - increase forest cover through planting agroforestry species in fields where cropping is taking place. This aims to increase tree cover, soil fertility, provide fodder and small biomass for energy needs. Further, reafforestation through planting of indigenous or exotic species in abandoned fields.
- Promote 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 and household woodlots.

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 protect, restore and replant forest cover in the fragmented forest areas of the National Forest	To Provide Forest extension services.	Training the communities in assisted natural regeneration Promotion of agroforestry and Woodlot	FD	Hectarage of forest in the fringe areas increased year on year.

Specific Objectives	Strategy	Actions	Responsible	Indicator
		establishment for communities surrounding the forest.		
3. To reduce carbon emissions from agric soils and dependency on inorganic fertilizer	Promote CSA through Agroforestry	Partnership with MoA and others in training communities in CSA and agroforestry.	FD/ Agric/ CSO's/ community	Tonnage of GHG emissions in the forest reserve reduced by 15% by mid year review.
4. 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
5 Reduce forest dependency by local communities.	Promoting diversification of activities, particularly on-farm activities such as agroforestry and establishment of wood-lots, to create alternative Sources for forest products.	Involve local communities in woodlot establishment.	FD/ Adjacent communities	Number of people dependent on the forests reserve reduced by half at mid-term review
6. To contribute towards meeting social, cultural and economic needs and improving the livelihoods of forest-adjacent communities.	Forest resource condition is 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.
7. 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.

6.4 Promoting Forest Based Enterprises

Based on the condition of the forest including plant species as well as information gathered during the socio-economic assessment and stakeholder consultation meetings, a number of enterprise opportunities were identified and described earlier. Therefore, through the proposed management actions where appropriate in the relevant zones, forest-based enterprises will be promoted within the context of the purpose of a Local Forest as described in the Forests Act, 2015. These relate to utilisation of forest resources at local level in order to meet the social, cultural and economic needs of the local community whilst ensuring the protection of ecosystems, particularly the protection of land and water supplies of local strategic importance. These reflect the importance of the principles of sustainable forest management. Therefore, the following enterprise initiatives are highlighted for promotion through local stakeholder involvement:

Forest product/ enterprise	**Beekeeping**	**Wood biomass energy production**	**Wild fruit harvesting**	**Woodlot Establishment**
Market/ demand	High, local & urban (Petauke)	Medium local, potential supply Petauke	To be determined beyond local area	Local poles & timber for construction
Product supply	Patches of flowering trees with suitable pollen fodder, water restricted to certain areas	Through agroforestry & forest restoration activities	Brachystegia boehmii Brachystegia bussei Brachystegia longifolia Bridelia cathartica Combretum molle Combretum zeyheri	Not currently available due to lack of established plantations
Potential entrepreneurs	CFMG plus individual beekeepers	CFMG plus individual households	Individual households	CFMG or individuals
Opportunities	Beekeeping training available from forest officers. Other private off-takers are available locally	Planned forest restoration works including agroforestry in cropped areas	Existing livelihood activity conducted by women. Trading opportunity on Lusangazi – Petauke Road	Creation of woodlots crops in abandoned fields (where regeneration is not feasible). Practice taungya system in cropped areas. (example available in Masupe Local Forest)
Challenges	Investment in sufficient hives, technical & business skills training	Seedlings, marketing	Drying, processing and packaging facilities	Seedling availability, long term nature to revenue generation

The enterprise development process will be a core component of community engagement and the enhancement of community forestry practices and partnerships within the reserve. This process will facilitate continuous monitoring and mentoring, the development and review of annual work plans, and the periodic revision of Community Forest Management (CFM) plans. These efforts will incorporate practical tools such as a forest product importance, use and management matrix and tailored forest enterprise development activities. Once there is consensus on an enterprise concept, a comprehensive assessment of market potential and value chain dynamics will be undertaken to shape the idea into a viable and bankable business opportunity. Critically, support for business

development and investment will focus on strengthening capacity in the following four key areas, essential for building resilient, sustainable, and community-led forest enterprises:

- Enhancing technical skills in production, harvesting, processing;
- Building business capacity, including business planning, marketing, financial management, reinvestment and profit sharing:
- Strengthening governance arrangements and membership, conflict resolution mechanisms;
- Improving forest protection, management and monitoring arrangements upon which the business depends on.

Based on the above, formulation of detailed bankable business and investment plans can be developed and supported through financing opportunities from development projects, private sector partners and though Community Development Funding through the local authority.

6.5 Fire management strategy

Fire has a critical impact on the forest environment, the condition of the forest and the services that it provides. While fire is frequently naturally occurring in the dryland forests of Eastern Province, it has been used as a management tool technically by foresters as well as by communities for different socio-economic and cultural needs. However, fire that occurs late in the year when the forest is dry causes the greatest harm to the health of the forest as well as the succession process influencing the future productivity, abundance of forest products and therefore its economic contribution locally and nationally. Further, forest fire is a key source of emissions of greenhouse gases (GHGs) in Eastern Province that affects weather patterns, locally, regionally and globally. Therefore if managed correctly as a management tool, prescribed fire can reduce these emissions and impacts, safeguarding the forest resources, biodiversity while providing enhanced opportunities for local economic development.

Therefore a fire management strategy and plan is essential for the proper management of the forest incorporating elements of fire protection and fire suppression. Recognizing the important role the forest plays in support to surrounding communities, the fire management strategy for the Local Forest will be developed through stakeholder consultation and implementation participation with clear roles and responsibilities. The fire protection strategy should indicate: priority areas for protection – valuable and fire sensitive species, newly planted areas, enrichment planting, areas of fire sensitive natural regeneration, as well as high risk areas based on access, use and past frequency of fires. Based on the participatory assessment, protection measures such as: firebreaks – both internal and boundary should be planned, areas for prescribed (early) burning identified as appropriate. An action/ activity plan with roles, responsibilities and timings should be discussed and agreed with stakeholders.

The **Fire suppression strategy** details the response should a wild-fire start which threatens the forest area. This will detail the pre-planned procedures along with roles and responsibilities. It will include the following:

- **A fire detection system:** The process and procedures to report the incidence of fire to promote prompt reaction and therefore protection.
- **Procedures in response to a fire alert:** How to alert stakeholders and local community members to assist with fire suppression including the availability and location of equipment to fight the fire.
- **Firefighting strategy:** This will include details of various approaches to tackling fires using the materials and equipment that are available locally.
- **Methods to fight fires:** This will cover different fire suppression methods depending on the nature of the fire (Frontal attack, Flank attack, Indirect attack – back burning). These will have been explained and key personnel trained in each of the approaches. This will also include risk assessment methods and requirements for personal protective equipment.

6.6 Law enforcement Strategy

This Law Enforcement Strategy aims to protect and sustainably manage Sasare Local Forest, F88, through effective enforcement of legal provisions, regulations, and community participation. Ensuring compliance is essential to prevent illegal activities such as illegal logging, poaching, and forest encroachment.

Objectives

- To prevent illegal exploitation of forest resources.
- To promote community participation in enforcement.
- To ensure timely and fair response to violations.

Key Enforcement Strategies

Regulation of Forest Activities

- Designating legal zones for access, logging, and charcoal production.
- Issuing permits and licenses for activities like harvesting, collection, and tourism.
- Enforcing restrictions on cutting, hunting, or collecting forest products outside authorized zones.

Monitoring and Surveillance

- Regular patrols by forest rangers and enforcement officers.
- Using technology such as drones, and GPS tracking.
- Engaging Honorary Forest Officers in reporting illegal activities.

Community Involvement in Law Enforcement

- Strengthening community forest groups' role in patrols and reporting.
- Providing incentives for communities that actively participate in enforcement.
- Publicizing penalties to serve as deterrents.

Collaboration with Stakeholders

- Coordinating with Zambia Police, Department of National Parks and Wildlife, Community Forest Management groups (CFMGs), NGOs, and traditional leaders.
- Promoting joint forest patrols and awareness campaigns.

6.7 Environmental and social safeguards and other crosscutting issues

The Forestry Department shall ensure that the management of Sasare 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 Sasare 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 Sasare 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 Sasare 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 Sasare 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 school environmental education programmes	-Conduct 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.	FD/Other Partners	Number of awareness raising activities undertaken

6.8 Infrastructure Development

In order to achieve the forest management objectives for Sasare 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 Sasare Local Forest to the main road is a major challenge.

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.	FD/Maintenance/ Infrastructure	All infrastructure maintained to optimum standards

6.9 Source of Revenue

Sources of revenue in Sasare Local Forest typically is from the forest's resources, outlined below;

Licenses and Permits

- Issued by forest authorities (e.g., Forestry Department unless transferred under a CFM Agreement) for:
    - Timber / fuelwood harvesting
    - NTFP collection
    - Carbon projects (REDD+)
    - Eco-Tourism and Recreation
    - Visitor fees, concessions, or partnerships with private operators.
    - Others as provided by the Forests Act, 2015 or relevant regulations.

Climate change emissions reduction trading

The Government of the Republic of Zambia has identified climate financing as a potential source of revenue to support climate change mitigation and adaptation activities to safeguard the natural environment and importantly the ecosystem services that society as a whole and specifically rural communities depend on for their livelihoods and wellbeing. In the Eastern Province, the Ministry of Green Economy and Environment is implementing the Jurisdictional Sustainable Landscape Programme (EP-JSLP). The Programme Development Objective (PDO) is "to promote greenhouse gas (GHG) emissions reduction or removals in the Eastern Province, while simultaneously improving rural livelihoods including forest and wildlife conservation and management. These emissions reductions are being measured, verified, traded and revenue distributed according to an agreed Benefit Sharing Plan. An estimate has been made of the potential revenue that might be generated through the GRZ emissions reduction trading under the JSLP benefit

sharing mechanism. The GHG baseline inventory indicated that the major emissions in the Province are coming from forest land through degradation from forest fires. Implementing improved forest management, conducting fire management and protecting the integrity of the forest areas including from forest loss, degradation and encroachment can be measured and monetised.

In the case of Sasare Local Forest and based on the intact forest area of 55% may generate emissions reduction of 1,000 tonnes of carbon equivalent which may be monetised to generate around ZMW 75,075 annually. This may increase as prescriptions of forest restoration may result in increased carbon sequestration that can be measured and monetised.

6.10 Summary Budget of Forest Management Plan Implementation

Based on the proposed management actions described above, a budget has been developed covering the period of the plan. The summary table is provided below with the detailed cost breakdown in the Annex VII.

Forestry Programme	**ZMW for 10 years**
1 Forest Conservation through Community Participation and Livelihood Development	3,129,806
2 Forest Protection, Restoration, Management and Conservation of Biodiversity	2,393,956
Grand Total (ZMW)	**5,523,762**
Potential revenue generation (10 years)	1,654592
Funding gap (ZMW)	**3,869,171**

Table 11: Summary cost breakdown

7 STAKEHOLDERS ROLES AND RESPONSIBILITIES

Effective implementation of the Sasare Local Forest Management Plan (FMP) requires active participation and collaboration among all key stakeholders. Each stakeholder has specific roles and responsibilities to promote sustainable forest management, conservation, and community development.

District Forest Office (DFO)

The District Forest Office plays a pivotal role in on-the-ground forest management, enforcement, and community engagement. Its specific responsibilities include:

- **Conduct Regular Patrols:** Carrying out routine patrols within the Sasare Local Forest to prevent illegal activities such as unauthorized logging, poaching, and encroachment.
- **Maintain Boundaries and Beacons:** Ensuring all forest boundaries and beacons are clearly marked, visible, and maintained to prevent boundary disputes and illegal incursions.
- **Monitor Forest Recovery and Growth:** Tracking forest regeneration, health, and overall ecological status to inform management decisions and detect signs of degradation.
- **Develop and Implement Forest Fire Management Plans:** Establishing proactive fire prevention, detection, and suppression strategies, including community-based fire management initiatives.
- **Conduct Environmental Education (EE) Campaigns:** Raising awareness among local communities and stakeholders about sustainable forest use, conservation practices, and the importance of forest resources.
- **Train Communities in Sustainable Forest Management (SFM):** Providing capacity-building programs, workshops, and technical assistance to community members and forest management groups.
- **Report and Document Activities:** Preparing and submitting comprehensive reports on forest conditions, patrol outcomes, enforcement actions, and community engagement efforts to relevant authorities for oversight and planning.

Provincial Forest Office (PFO)

The Provincial Forest Office provides strategic oversight, governance, and support to ensure effective implementation of the Forest Management Plan. Its primary responsibilities include:

- **Monitoring and Evaluation:** Regularly assessing the implementation of the FMP at district and community levels using predefined performance indicators to measure progress and identify gaps.
- **Disbursement of Funds:** Managing financial resources allocated for forest management activities, community support programs, capacity-building, and infrastructure development.
- **Facilitation of Audits:** Overseeing and supporting the auditing process of District Forestry Offices and community initiatives to ensure transparency, accountability, and proper use of resources.
- **Coordination and Support:** Offering technical guidance, resources, and capacity-building support to District Forest Offices, community groups, and other stakeholders involved in forest management.

- **Policy and legal framework:** Ensuring that the FMP aligns with local forestry policies and legal frameworks, particularly the Forests Act, 2015.
- **Stakeholder Engagement:** Facilitating communication and collaboration among government agencies, communities, NGOs, private sector partners, and other relevant entities.

Role of Local Authority

Local authorities are vital for integrating sustainable forest management into broader development initiatives at the district and community levels. Their responsibilities include:

- Incorporating the FMP into local development plans, ensuring that forest management considerations are mainstreamed into land use, infrastructure, and ecosystem planning.
- Facilitating alignment between forest management activities and other sectors such as agriculture, water, and health.
- Supporting the enforcement of forest laws and regulations within their jurisdictions.
- Promoting rural development projects that leverage forest resources to enhance community livelihoods and economic resilience.

Roles of Traditional Authority

Traditional leaders play an influential role based on customary authority, community trust, and cultural management systems. Their roles encompass:

- Providing mentorship and guidance to community members on sustainable resource use.
- Helping resolve conflicts related to forest access, use, and rights according to customary laws.
- Providing formal consent for community-based forest management processes, including recognition and signing of community forest management agreements with the Director of Forestry.
- Supervising the community forest management groups, ensuring their activities conform to customary norms and legal provisions.
- Overseeing access control, management of natural resources, and the conduct of community elections for forest management committees.
- Ensuring that enforcement of rules and resolutions reflects community values and customary laws.

Role of the Community

Communities are the primary custodians of the forest and hold the rights to sustainably manage and benefit from forest resources. Their responsibilities include:

- Controlling access to forest resources to prevent illegal activities and overexploitation.
- Actively participating in decision-making processes related to forest management.
- Implementing community-based sustainable forest practices as outlined in the management plan.

- Protecting the forest from illegal activities such as logging, poaching, and encroachment.
- Ensuring equitable sharing of benefits derived from forest resources, including income, employment, and social services.
- Reporting violations and participating in community-led enforcement efforts.
- Maintaining the community forest management groups and ensuring transparency and accountability in their operations.

Role of Honorary Forest Officers (HFOs)

Honorary Forest Officers are community members nominated based on peer nominations and officially appointed by the Minister. Their roles include:

- Facilitating community compliance with forest laws, bylaws, and resolutions.
- Supporting enforcement of sustainable harvesting and access regulations.
- Acting as mediators in conflict resolution within the community regarding forest use.
- Reporting infractions and assisting in investigations related to illegal activities.
- Collaborating with District Forest Officials to ensure harmonized enforcement efforts.

Role of Private Sector and Civil Society Organizations

Private sector entities and civil society organizations are crucial for fostering economic development and social empowerment through forests. Their roles include:

- Providing technical and financial services to support community enterprises, such as training, capacity building, and infrastructure development.
- Developing market linkages for forest-based products, ensuring fair trade and sustainable value chains.
- Promoting innovative approaches and investments that enhance forest conservation while generating income.
- Supporting additional services such as environmental education, capacity building, and advocacy for policy reforms.
- Facilitating the development of non-timber forest products (NTFP) enterprises, eco-tourism, and other sustainable livelihood opportunities.
- Monitoring social and environmental impacts of forest-based activities to ensure compliance with sustainability standards.

8 MONITORING AND EVALUATION 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 Sasare Local Forest which will operationalize the management actions described in Chapter 6.

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 SLF including the impact of the FMP on the well-being 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.

Evaluation

The SLF 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.

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.

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 IGAs. -Crop and livestock yields.	Records, reports and photographs. -Community Visits.	The Plan is successfully implemented Availability of funds
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

9 ANNEXES

Annex 1: Declaration Order, Topo Map & Inventory Map

1. This Order may be cited as the **LOCAL FOREST NO. F88: SASARE**
Statutory Instruments
236 *of* 1973
66 *of* 1975
Commencing at Beacon A situated on top of the Matepo Hills, approximately 1,036 metres east of a point where the Chikawa-Petauke road crosses a cut line, the boundary proceeds in a straight line on a agnetic bearing of approximately 50 degrees for a distance of approximately 1,950 metres to Beacon B; thence in a straight line on a magnetic bearing of approximately 165 degrees for a distance of approximately 8,500 metres to Beacon C; thence in a straight line on a magnetic bearing of approximately 255 degrees for a distance of approximately 3,320 metres to Beacon D; thence in a straight line on a magnetic bearing of approximately 345 degrees for a distance of approximately 7,528 metres to Beacon E; thence in a straight line on a magnetic bearing of approximately 70 degrees for a distance of approximately 1,494 metres to Beacon A; on top of Matepo Hills, the point of commencement. The above-described area, in extent 3,180 hectares approximately, is shown bordered green on Plan No. FR336, deposited in the office of the Surveyor-General, signed by him and dated 17th August, 1971.

SECTIONS 5 AND 6-NATIONAL AND LOCAL FORESTS

Declarations by the Minister

NATIONAL AND LOCAL FORESTS NOS. 1, 6 AND 8

The areas described in the Schedule are hereby declared to be National and Local Forests, and the following acts are hereby prohibited within the said areas except under licence:
(*a*) Felling, cutting, taking, working, burning, injuring or removal of any forest produce;
(*b*) Squatting, residing, building any hut or livestock enclosure, constructing or reopening any saw-pit or road;
(*c*) Firing any grass or undergrowth;
(*d*) Grazing livestock;
(*e*) Clearing, cultivating or breaking up land for cultivation or other purposes;
(*f*) entering or being in or upon the said areas in any manner or for any purpose contrary to any statutory order made by the Chief Forest Officer: Provided that, notwithstanding the foregoing prohibitions, any *bona fide* picnic or camping party may without licence camp and light fires in any portions of the said areas set apart for these purposes on condition that any fires so lighted shall be effectively prevented from spreading and shall be extinguished before being left by the person or persons who lighted them.

Sasare Local Forest
2591 Ha.

Beacon/Corner
GPS
High
Med
Topo
Low
Digitized FSRP Boundary
Digitized FSRP Boundary

Projection: Arc 1950 UTM Zone 36S
Sources: Zambian Forestry Department Statutory Instruments, East View Cartographic, Inc (Topographic Maps),
On-site GPS, Shuttle Radar Topography Mission
Cartographer: Michael Keys, USDA Forest Service
Date Published: 30 March, 2018

0 0.5 1 2 3 Kilometers

1. Map of Sasare Local Forest shaded green in relation to Chiefdom boundaries (1958 map)

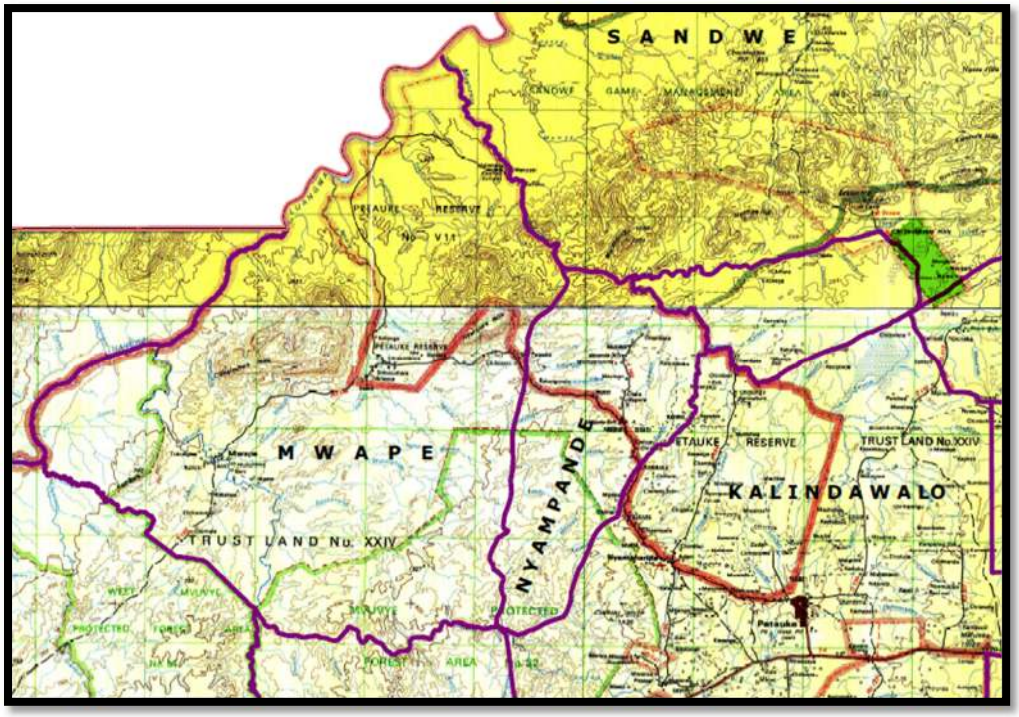


Figure 15: Map of forest zones relating to forest condition

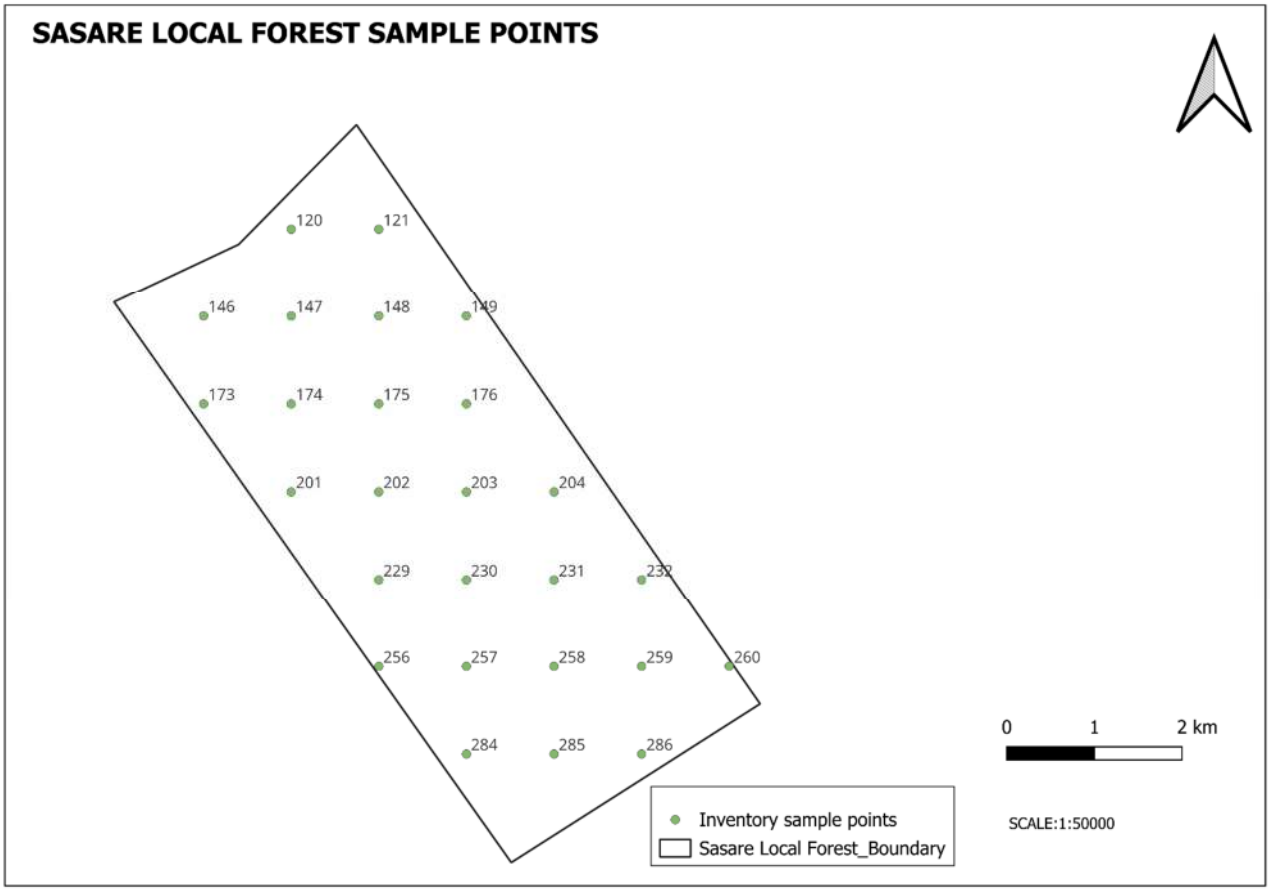


Figure 16: Showing sample points

Beacon Points

CONFIDENCE	BEACON/POINT NAME	LATITUDE DD	LONGITUDE DD	UTM EASTING	UTM NORTHING
Low	Sasare Beacon A	-13.93736	31.41628	8458769	328904
Low	Sasare Beacon B	-13.92540	31.42895	8460101	330264
Low	Sasare Beacon C	-13.98401	31.47125	8453648	334877
Low	Sasare Beacon D	-14.00082	31.44547	8451770	332104
Low	Sasare Beacon E	-13.94273	31.40361	8458166	327539

Annex II: Inventory Data

Species	Code	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Density	Total	0.00	84.21	35.03	2.77	2.51	0.94	0.41	125.86
Acacia erioloba	2	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.04
Acacia nigrescens	4	0.00	0.34	0.00	0.00	0.04	0.00	0.00	0.37
Acacia polyacantha	6	0.00	3.03	3.37	0.79	0.11	0.11	0.00	7.41
Acacia sieberiana	7	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.34
Afzelia quanzensis	13	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Albizia amara	16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04
Albizia harveyi	19	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.34
Annona senegalensis	25	0.00	1.68	0.34	0.00	0.00	0.00	0.00	2.02
Bauhinia petersiana	34	0.00	32.00	9.09	0.04	0.00	0.00	0.04	41.17
Brachystegia boehmii	46	0.00	1.01	0.00	0.04	0.04	0.00	0.00	1.09
Cassia abbreviata	68	0.00	0.67	0.34	0.11	0.00	0.00	0.04	1.16
Cassia angolensis	69	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.34
Combretum collinum	83	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.34
Combretum fragrans	84	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.34
Combretum molle	86	0.00	15.16	5.39	0.67	0.30	0.11	0.00	21.63
Combretum zeyheri	89	0.00	4.72	1.35	0.41	0.52	0.07	0.00	7.07
Dalbergia nitidula	102	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.67
Dalbergiella nyasae	103	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.34
Diospyros kirkii	111	0.00	0.00	1.35	0.04	0.00	0.00	0.04	1.42
Diplorhynchus condylocarpon	114	0.00	3.37	3.03	0.07	0.15	0.04	0.00	6.66
Entandrophragma caudatum	121	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.34
Lannea discolor	194	0.00	0.34	0.67	0.00	0.11	0.00	0.00	1.12
Lonchocarpus capassa	200	0.00	1.68	1.35	0.07	0.11	0.07	0.04	3.33
Markhamia obtusifolia	211	0.00	4.04	1.68	0.00	0.04	0.00	0.00	5.76
Monotes africanus	221	0.00	0.00	0.34	0.00	0.04	0.00	0.00	0.37
Piliostigima thonningii	244	0.00	2.69	0.34	0.00	0.04	0.00	0.04	3.11
Pseudolachnostylis maprouneifolia	258	0.00	0.00	0.67	0.15	0.11	0.04	0.04	1.01
Pterocarpus angolensis	262	0.00	0.34	0.34	0.00	0.11	0.07	0.04	0.90
Pterocarpus rotundifolius	265	0.00	1.68	1.01	0.07	0.26	0.19	0.00	3.22
Ricinodendron rautanenii	270	0.00	1.35	0.67	0.04	0.07	0.04	0.00	2.17
Sclerocarya caffra	279	0.00	0.34	1.01	0.07	0.15	0.00	0.04	1.61

Sterculia quinqueloba	285	0.00	1.68	0.00	0.07	0.07	0.15	0.07	2.06
Strychnos cocculoides	288	0.00	1.01	0.67	0.00	0.00	0.00	0.00	1.68
Strychnos pungens	292	0.00	0.00	0.00	0.04	0.07	0.00	0.00	0.11
Tabernaemontana angolensis	299	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.34
Terminalia mollis	303	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.34
Terminalia sericea	304	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Terminalia stenostachya	305	0.00	1.01	0.67	0.00	0.00	0.00	0.00	1.68
Unknown	999	0.00	1.01	0.00	0.00	0.07	0.00	0.00	1.09
Vangueriopsis lanciflora	316	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Vangueriopsis lanciflora	317	0.00	1.01	0.00	0.00	0.00	0.00	0.00	1.01
Vincentella passargei	318	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.67
Vitex doniana	321	0.00	0.67	0.00	0.04	0.00	0.00	0.00	0.71
Zyziphus abyssinica	338	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.34

Table 12: Inventory data

Annex III: Demographics of major forest fringe communities

Demographics of major forest fringe communities of Sasare Local Forest

	sex of household head			Population		
Village	**female**	**male**	**Total**	**Total**	**Male**	**Female**
Kambole	14	15	29	120	62	58
Kamthiko	12	19	31	132	55	77
Kashombe	0	8	8	49	29	20
Mbelele	0	2	2	11	5	6
Njalane	4	17	21	92	40	52
Sichunga	12	23	35	164	93	71
Teteke farm	5	13	18	82	41	41
Total	**47**	**97**	**144**	**650**	**325**	**325**

Table 13: Population Distribution of major forest fringe localities of the Reserve by sex

Annex IV: Stakeholder consultations

The Forestry Department in Eastern Province initiated a process to prepare forest management plans for 12 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 Local 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

1. **Meeting Chief - Sandwe**

Prior to meeting Nsenga Subjects, the first visit was to pay courtesy call to the Chief Sandwe of the Nsenga speaking people, as Sasare Local Forest falls in Sandwe Chiefdom. During the courtesy call the team gave the background of forest inventories conducted in Sasare Local Forest and the interventions that ZIFLP is helping, the importance of the forest and the areas of interventions including 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.

The Senior Induna informed the team that through the Nsenga Development Trust, Chief Sandwe is able to bring a halt to all illegal cutting in the Nsenga territory, and he acknowledges that development in the territory can only come by working with other stakeholders. Chief Sandwe therefore welcomed the ideas of developing forest management plans for the targeted forest reserve and encouraged the team to move forward and report to Chief Sandwe challenges that we may be encountered with any of his sub chief during this engagement.

Annex V: Stakeholder validation meeting

REPORT FOR THE SASARE LOCAL FOREST MANAGEMENT PLAN STAKEHOLDERS' VALIDATION MEETING HELD AT NYIKA MOTEL, PETAUKE DISTRICT ON 18TH DECEMBER 2023

1.0 **Introduction:**

The Forestry Department in 2021/2022 undertook a forest inventory exercise to take stock of the forest resources in Sasare Local Forest (SLF) 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 2021/2022.

The Stakeholders Validation Meeting for (SLF) which covers an area of 2600 Ha and extends over Lusangazi and Petauke districts was organized to validate the FMP for the SLF which was developed by the Forestry Department.

The Stakeholders Validation Meeting in Petauke brought together 28 participants: 3 females and 25 males drawn from community, government departments, local authority and traditional leaders.

Objective of the Consultation included the following.

- Awareness creation on policy and legal framework guiding forest protection and the need for preparation of FMP for SLF
- Consult stakeholders
- Share findings on the forest inventory and socio-economic survey that was conducted

2.0 **Official Opening**

The District Commissioner for Lusangazi officially opened the Sasare Local Forest FMP validation meeting

3.0 Meeting's Expectations

Emma facilitated the session on teasing the meeting's expectations. And the stakeholders brought out four main expectations:
Why need for FMP done by Raymond
Community was mainly invited to provide their input which will help in protecting and managing CLF

- On-going forest degradation
- Rapid deforestation
- Unsustainable livelihood activities

- Inadequate community participation in forest and wildlife management, land use planning
- Increase in adverse effects of climate change
- Poor yield,

Importance of forests

- Soil conservation
- Co2 sequestration
- Habitat protection
- Water cycle

Local forests were declared for:

- Safety of forest resources
- Protection of the ecosystem
- Forest resources use by the locals
- To meet the socio-economic and cultural needs of the community

Way forward requirements

- Consensus, active support & collective action
- Government desire is to empower local communities and the traditional leaders to protect and manage forests
- Legal framework supporting sustainable forest management exist in Zambia
- Designated in 1973 as LF for extraction of poles by the local community
- LF are therefore designated as such to meet local needs similarly, the solutions for resolving the issues related to the local forests should be proposed by the local communities

Questions:

- Pictures in the presentation are scarcely and have managed to stir the need for sustainable management
- The problem require stringent measures that would compel people to protect the forest
- There is therefore need to strengthen compliance
- Schools currently use lots of tree for cooking, there is need for government to provide an alternative source of energy
- Forests in Lusangazi haven't been destroyed but as much but without intervention will be destroyed
- The current staff is not adequate
- What punishments for illegal charcoal production not stringent enough because for poacher the punishment is well known and feared forest boundary map for 1973 and the current one is different there is therefore need to clarify
- Promote tree planting and alternative sources of energy
- Are there security people

- There's need to
- Forest Inventory (Forest condition assessment) by Coverty Nguni
- Forests must be sustainably managed through sustainable harvesting that avoids depletion
- Size 2600Ha

Objective of the conducting the inventory was to inform the formulation of the FMP for SLF. Determine actual stocking, distribution of tree species carbon stocks and regeneration potential.

Findings
Majority of trees in the forest were between 5+cm diameter class. 43 tree species were found in SLF.
SLF not growing at its full capacity
Over harvesting of tree species
Human disturbances through over cutting, fires and grazing
No intervention forest degradation and depletion will be intensified.
Questions/concerns
What will happen if we don't protect/conserve SLF?
Looking at SLF current status what can we do to make it better than it is and not worse

Livelihood Survey Overview presentation by Idah Njobvu from PPU
144 HHs (Male: 97 & 47) with a population 650 (325 males and 325 females). 20 HHs formed part of the sample

Questions/Concerns

Proposed programs: was facilitated by Emma

Raymond facilitated the session on identifying uses, users, issues, threats and solutions and opportunities

Group work
Harmonization of the maps

FMP Development Objectives were presented by Emma
Management Actions
i. Forest protection, restoration, management and conservation of biodiversity
ii. Forest restoration through community participation and livelihood development

Emma also shared the example of what the community surrounding Mphomwa Local Forest decided to do to protect the forest. The Management actions they agreed on

Ngulube facilitated the session on identification of:
Issues threats affecting the PFA

Solutions and opportunities
Discuss uses and users of the forest
Issues affecting the productivity
Zoning of the forest
Agree on permitted and non-permitted activities
Identify Strategies and priorities
Identify stakeholders and how to work together

Stakeholders

- Local communities
- Traditional leaders: Chief and headmen
- Forestry Department
- Agriculture
- Church
- Local Authority
- NGOs

5.0 Collaboration Declaration Pledge

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

"We the interested stakeholders agreed that Sasare Local Forest is an important resource for surrounding communities, meeting social, cultural and economic needs.

Issues such as illegal cutting of tree, charcoal production, overgrazing and late fires were identified as negatively affecting the forest. Permitted practices and those which should be controlled were highlighted. Strategies to improve productivity of the forest were agreed.

As concerned stakeholders we are ready to work in partnership with the Forestry Department, Local Authority, traditional leaders and NGOs to collaborate over the protection, control, use and management of the forest and a community forest group should be formed".

6.0 Next steps

The team facilitated the session on next steps. Below were the agreed next steps/ way forward

- Forestry Department team to capture discussions, issues, strategies and recommendations from the meeting and report the opportunities to the Provincial Forestry Office and the Forestry Department Headquarters
- Completion of FMP and submission to Director of Forestry
- The chiefs' representative should report Their Royal Highnesses the proceedings of the meeting

- Forestry Department Team to:
    - Support follow up activities
    - Develop proposal to secure funding for development of SLF with stakeholders' involvement
    - Subject to Project extension, check for opportunities for supporting enterprise development

Vote of thanks, Closing Remark and Prayer

A representative of the stakeholders thanked government for convening that important meeting but appealed to government to implement the recommendations.

The chairperson thanked everyone for attending the meeting and contributing through their inputs in perfecting the FMP. He implored the stakeholders to report back to their superiors and/or their communities. The closing prayer was done by one of the stakeholders.

GROUP PRESENTATIONS

The following is a synopsis of the group work and write up from flipcharts and other materials:

List Suggestions/strategies to improve productivity/management of the forest.

- What should be the priority?
- Sensitization meeting – Chiefs , Traditional Leaders and Communities
- Capacity Building – Chief, Traditional Leaders and Communities
- Formation of groups, Communities and identification of beneficiaries.
- Who should be involved?
    - Government Departments – Forestry, Agriculture, Dept. of National Parks , NGOs, Traditional Leaders , Communities inside and around the forest.

1. Identify in Sasare Local Forest

What- Uses of the forest	**Who- Uses the forest?**
• Firewood • Medicine etc.	• Locals and outsiders

Permitted practices in the forest.

- Fishing
- Bee keeping
- Taking of mushroom, fruits, caterpillars and grass

Prohibited practices in the forest.

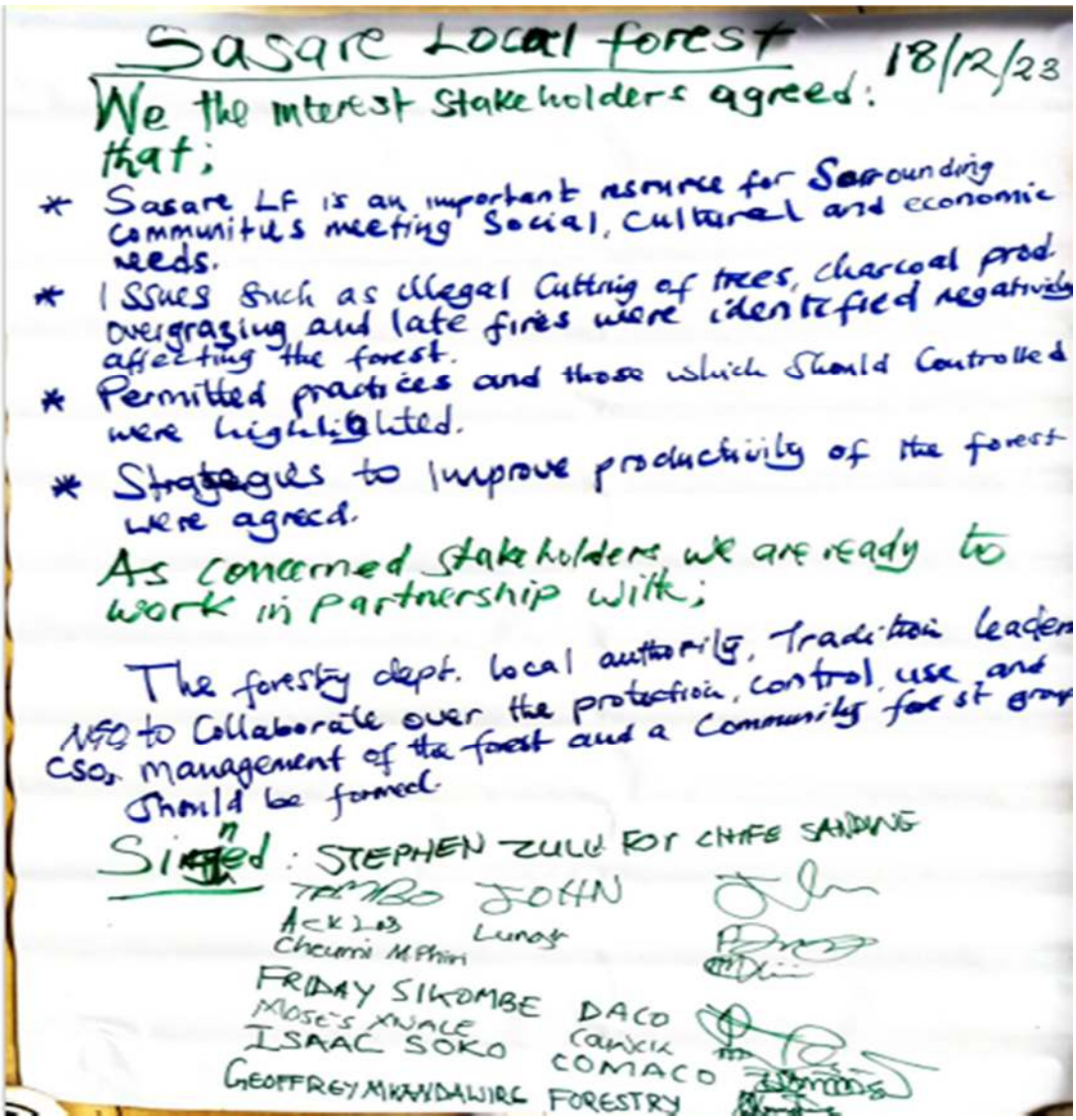
- No use of Mosquito Nets and poisonous substance
- When harvesting don't use fire, use modern way
- When harvesting caterpillars, cutting down of trees is not allowed.

3. List suggestions/strategies to improve productivity/management of the forest.

- What should be the priority?
  - Forming committee at Community level to spearhead in the mgt. of the forest.
  - Intensify By laws at community level.
- Who should be involved?
  - Traditional Leaders
  - Local Communities
  - Technical groups (stakeholders)
- How do we work together?
  - Formation of Community Forestry Groups (CFMGs)

Declaration

The stakeholders signed a joint declaration pledging to collaborate in the sustainable management of Sasare Local Forest.



Annex VI: References

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

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- ILUA II (2016) Integrated Land Use Assessment Phase II- Technical Report for Eastern Province.

Annex VII: Budget of implementing management actions

Action 1: Forest Protection, Management & Conservation of Biodiversity		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	Total cost ZMW
1. To develop a shared management approach to forest protection, management and utilisation.	1. Stakeholder engagement,	Community meetings	2	2	3,000	12,000		-	-	17,569	-	-	-	-	-	29,569
	2.community awareness raising and mobilisation;	Community meetings	1	2	5,000	10,000	-	-	-	14,641	-	-	-	-	-	24,641
	2. Stakeholder mapping including forest use, users and geographic interest.	Community meetings	2	1	3,000	6,000									-	6,000
	3. Forming community level institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.	Community meetings	1	1	2,500	2,500										2,500
	4. Developing forest product and issues based operational management plans for areas of interest.	Community meetings	2	2	4,500	18,000				26,354					42,443	86,797
	5. Agreeing roles, rights, responsibilities and obligations for shared management.	Community meetings	1	1	2,500	2,500		-	-	-	-	-	-	-	-	2,500
	6. Conduct training in control functions: Permits, rules, financial management, law enforcement	Community meetings	1	2	3,000	6,000				17,569						23,569
	7. Conducting joint monitoring and evaluation of management and benefit sharing measures to ensure a sustainable partnership.	Community meetings	1	10	2,500	25,000	27,500	30,250	33,275	36,603	40,263	44,289	48,718	53,590	58,949	398,436
2. To protect the Forest from late fires	Practice early burning within and outside the forest by involving local communities.	2600ha.	1	10	3000	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738	**478,123**
3. To secure the boundary and define the extent of the boundary and prevent possible encroachment	1. Carry out annual Boundary maintenance.	26KM	1	1	50,000	50,000	55,000	60,500	66,550	73,205	80,526	88,578	97,436	107,179	117,897	**796,871**
	2. Beacon maintenance	No.	20	2	800	32,000				46,851					75,454	**154,306**
	3. Erection of sign posts	No.	15	1	300	4,500										**4,500**
To conserve and enhance the biodiversity of the forest reserve through environmental awareness and education.	Enhance understanding of the forest ecosystem and its function and benefits to community groups and schools.	School visits	4	10	300	12,000	13,200	14,520	15,972	17,569	19,326	21,259	23,385	25,723	28,295	**191,249**
To significantly reduce levels of illegal forest product harvesting & other damage.	Engage honorary forest Officers/guards	coord meetings	1	10	2,000	20,000	22,000	24,200	26,620	29,282	32,210	35,431	38,974	42,872	47,159	**318,748**
	Conduct patrols	No	1	48	800	38,400	42,240	46,464	51,110	56,221	61,844	68,028	74,831	82,314	90,545	**611,997**
SUB-TOTAL						**268,900**	**192,940**	**212,234**	**233,457**	**379,788**	**282,483**	**310,732**	**341,805**	**375,985**	**531,481**	**3,129,806**

Action 2: Forest Restoration through Community Participation & Livelihood Development																
1. Enter into partnership with clear roles and responsibilities with surrounding communities	Promote community forestry approach / restoration planning	Community meetings	3	3	3,000	27,000		29,700		-	-	32,670		-	-	89,370
2. To protect, restore and replant forest cover in the fragmented forest areas of the National Forest	Support forest restoration activities	Community meetings	3	3	3,000	27,000	29,700	32,670	35,937	39,531	43,484	47,832	52,615	57,877	63,665	430,310
3. To reduce carbon emissions from agric soils and dependency on inorganic fertilizer	Promote CSA through Agroforestry	CSA ha	25	1	650	16,250	17,875	19,663	21,629	23,792	26,171	28,788	31,667	34,833	38,317	258,983
4. To significantly reduce levels of tree cutting for wood energy.	Promotion of energy efficient Cook stoves	Training	1	2	5,000	10,000				14,641						24,641
	Roll out programme	stoves	200	2	100	40,000	44,000	48,400	53,240	58,564	64,420	70,862	77,949	85,744	94,318	637,497
5 Reduce forest dependency by local communities.	Sources for forest products/ woodlots/ plantations	woodlot establishment(Ha)	1	10	2,000	20,000	22,000	24,200	26,620	29,282	32,210	35,431	38,974	42,872	47,159	318,748
6. To contribute towards meeting social, cultural and economic needs and improving the livelihoods of forest-adjacent communities.	Forest enterprises promoted & supported	Enterprise groups formed & trained	1	5	2,750	13,750		16,638		20,131		24,359		29,474		104,352
		Equipment	3	1	30,000	90,000		99,000				108,900		-	-	297,900
7. To reduce carbon emissions from deforestation and forest degradation by ensuring community benefit from carbon credits.	Access to an incentive benefit sharing mechanism through the carbon trading scheme to be established by Government in Eastern province	Community meetings	3	1	3,000	9,000		9,900		10,890		11,979		13,177		54,946
																-
8. To ensure cross cutting issues are mainstreamed in all aspects of forest management for social equity wellbeing and empowerment through sustainable development	1 .Ensure that all environmental and social impacts, risks and liabilities are identified and mitigated.	Community meetings	3	1	5,000	15,000		16,500		18,150		19,965		21,962		91,577
	2. Identify training needs.	Community meetings	3	1	2,500	7,500		8,250		9,075		9,983		10,981		45,788
	3. Monitoring safeguards & Grievances	Community meetings	1	1	2,500	2,500	2,750	3,025	3,328	3,660	4,026	4,429	4,872	5,359	5,895	39,844
9. To maintain the infrastructure necessary to achieve the multiple objectives of forest management.	Maintain the existing infrastructure	Site specific				-	-	-	-	-	-	-	-	-	-	-
SUB-TOTAL						278,000	116,325	307,945	140,753	227,716	170,311	395,198	206,077	302,278	249,353	2,393,956

Action 1 Sub total	3,129,806
Action 2 Sub total	2,393,956
Grand total for the period of the Plan (ZMW)	5,523,763

		Unit of Measure	Quantity	Frequency	Unit revenue	Total Revenue Year 1	Total Revenue Year 2	Total Revenue Year 3	Total Revenue Year 4	Total Revenue Year 5	Total Revenue Year 6	Total Revenue Year 7	Total Revenue Year 8	Total Revenue Year 9	Total Revenue Year 10	Total Revenue
Revenue			Ha													(ZMW)
1 Carbon trading benefit share EP-JSLP- Forest land	Carbon t/ha/yr inc 10% per yr	Hectare	1,868	0.7	75	98,070	107,877	118,665	130,531	143,584	157,943	173,737	191,111	210,222	231,244	1,562,983
2 Small woodlots	Carbon t/ha	Hectare	10	1	75	750	825.0	990.0	1,287.0	1,801.8	2,702.7	4,054.1	6,486.5	11,027.0	19,848.6	49,773
3 Agroforestry	Assume 1tC/ha inc to 2 t/ha yr 10	Hectare	25	1	75	1,875	2,062.5	2,268.8	2,495.6	2,745.2	3,019.7	3,321.7	3,653.8	4,019.2	4,421.2	29,883
4 Natural regeneration	Assume 1tC/ha inc to 2 t/ha yr 10	Hectare	10	1	75	750	825.0	907.5	998.3	1,098.1	1,207.9	1,328.7	1,461.5	1,607.7	1,768.5	11,953

Revenue sub total	1,654,592
Net cost	ZMW 3,869,171

Table 14: Forest management plan indicative budget

REPUBLIC OF ZAMBIA

Ministry of Green Economy & Environment

The Zambia Integrated Forest Landscape Project (ZIFLP) 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 ZIFLP and EP-JSLP are a cooperation between the Government of Zambia, the World Bank & partners.

Forestry Department

Supported by:

Zambia Integrated Forest Landscape Project

Improving lives through sustainable management of natural resources

WORLD BANK GROUP

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