Publication Draft

REPUBLIC OF ZAMBIA

MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

LUNDAZI NATIONAL FOREST - P24

(Southern Zone)

MANAGEMENT PLAN

2024-2034

APPROVAL PAGE

LUNDAZI NATIONAL FOREST No. P24 (Part) - FOREST MANAGEMENT PLAN

Notice of completion

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

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

Director of Forestry

Date:_____

Registration of the Forest Management Plan

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

Minister for Green Economy and Environment

Date:_____

FORESTRY DEPARTMENT

FOREWORD

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

Signature:

Director of Forestry

Date:

ACKNOWLEDGEMENTS

The development of this Forest Management Plan was made possible through support from the Zambia Integrated Forest Landscape Project (ZIFLP). The Forestry Department would like to recognize and appreciate the efforts of their Royal Highnesses, Headmen and the community around Lundazi National Forest for the commitment to support this plan and importantly the sustainable management of Lundazi National 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 and 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 Lundazi National 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 Lundazi National 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, protection and benefit sharing. Thus community collaboration is an imperative so as to protect the remaining forest cover of Lundazi National 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 National 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 Lundazi National 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 National 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 Lundazi National Forest.

In view of the current condition of the forest, the area was stratified into 3 blocks of forest accounting for the degraded areas and land under settlement. The inventory results indicate a total standing volume for all species in Lundazi estimated at (21m^3/ha), with a total bole volume estimated at 9.7m^3/ha). Total Biomass for trees ≥5cm DBH is estimated 31.1 tonnes per hectare with an above ground carbon estimate of 15.6t/ha. A basal area figure of 2.9m^2 per hectare is a low figure for the type of forest by over a factor of 10. This confirms the status of Lundazi National Forest as a forest not achieving optimum growth potential.

Summary socio economic analysis

The livelihood survey conducted in 2019 indicated that Lundazi National Forest is surrounded by approximately 39 farming blocks and villages with a total population of 1,224. 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 86 percent of all the households were willing if called upon to voluntarily support management of the forest reserve with Forestry Department. At the time of survey, there were serious encroachment in the reserve including schools and clinics within the forest.

Forest change & issues analysis

A consultation meeting of stakeholders for Lundazi National Forest was held on 4th May 2022, at Tigoma Lodge, in Lundazi. 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.

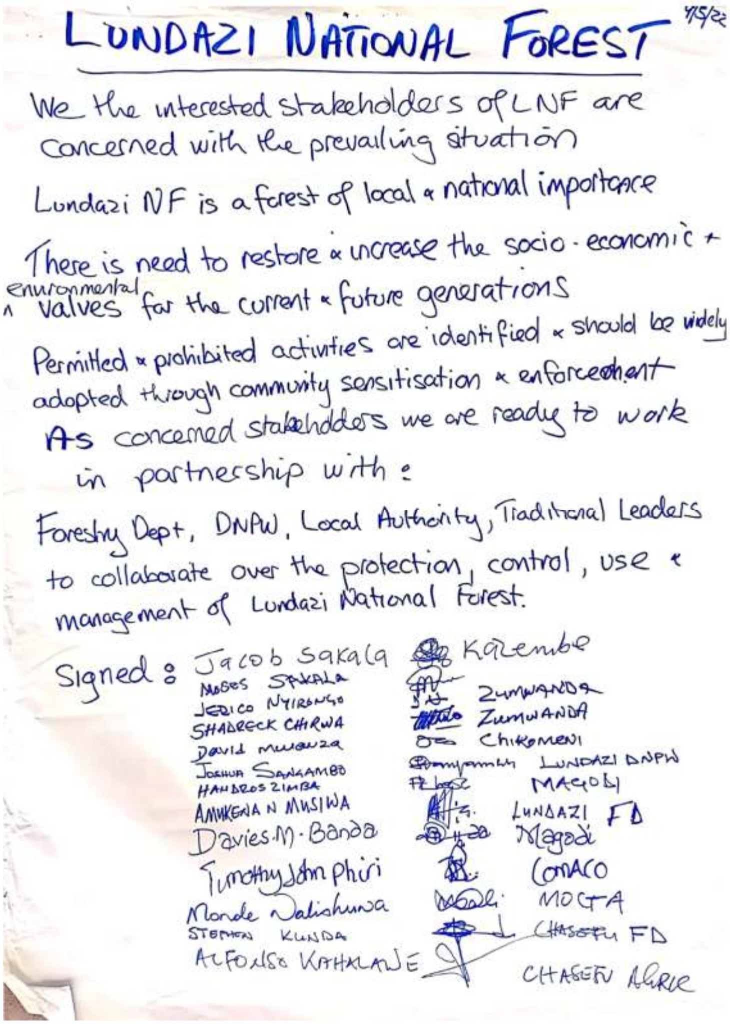
Stakeholders' observations and Concerns

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 LNF, 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 settlements.
- 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 LNF and need to stiffen laws.
- Headmen, senior headmen and Indunas, are allocating land to people coming from outside, in this regard consideration should be to ensure no further encroachments and means to restore the forest found.
- 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 Lundazi National Forest.


LUNDAZI NATIONAL FOREST 9/5/22

We the interested stakeholders of LNF are concerned with the prevailing situation

Lundazi NF is a forest of local & national importance

There is need to restore & increase the socio-economic + environmental values for the current & future generations

Permitted & prohibited activities are identified & should be widely adopted through community sensitisation & enforcement

As concerned stakeholders we are ready to work in partnership with:

Forestry Dept, DNPW, Local Authority, Traditional Leaders to collaborate over the protection, control, use & management of Lundazi National Forest.

Signed: Jacob Sakala, Moses Sakala, Jerico Nyirongo, Shadreck Chirwa, David Mwanza, Joshua Sankambo, Handros Zimba, Amukena N Musiwa, Davies M. Banda, Timothy John Phiri, Monde Nalishuwa, Stephen Kunda, Alfonso Kathalaje, Kazembe, Zumwanda, Zumwanda, Chikomeni, Lundazi DNPW, Magodi, Lundazi FD, Magodi, COMACO, MOCTA, Chasefu FD, Chasefu Agric

The declaration confirmed that Lundazi National Forest is of importance for meeting the local social, cultural and economic needs of the surrounding communities as well as of environmental importance, primarily through securing local water resources. The stakeholders

requested to work in partnership with the Forestry Department and others to safeguard the forest.

Objectives and management actions

Based on the policy and legal framework and the consultation process conducted, the General Objectives for the management of Lundazi National 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 Lundazi National 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 Lundazi National Forest reflect the statutory purpose of the National 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 National Forest. 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 LNF. 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 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 in a plantation environment where practical.

1 Forest Protection, Restoration, Management and Conservation of Biodiversity

Lundazi National 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. 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.

2 Forest Restoration 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 will be achieved through promotion of community forestry and the establishment of a community forest management group to partner over the management of Zones 1 and 2 of the National Forest, as well as a development zone (3) in the immediate surrounding area to promote greenhouse gas emission reduction interventions. This will promote interventions with community groups to protect, restore and replant, as part of the restoration planning for LNF.

Safeguards & other crosscutting issues

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

into all aspects of management of Lundazi National Forest and empowered through equal participation in decision making, governance and benefit sharing.

Contribution to Emissions Reduction in Eastern Province

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

Delivering sustained results

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

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

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Summary Cost of Forest Management Plan Implementation by: <u>Programme Cost (ZMW)</u>

Forestry Programme	**Cost in ZMW for 10 years**
1 Forest Conservation through Community Participation and Livelihood Development	0
2 Forest Protection, Restoration, Management and Conservation of Biodiversity	0
	0
Grand Total (ZMW)	**0**

Cost breakdown is provided in Annex VII

LUNDAZI NATIONAL FOREST MANAGEMENT PLAN

Southern Zone

1 INTRODUCTION

The Lundazi National Forest Management Plan (LNFMP) 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. The Management Plan relates to the Southern Zone Lundazi National Forest which falls within Lumezi District, Eastern Province.

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 Lundazi National Forest in a sustainable approach and manner.

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

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

1.2 Duration of forest management plan

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

1.3 Developmental Objectives

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

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

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

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

1.4 General Objectives

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

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

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

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

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

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

2 GENERAL DESCRIPTION

2.1 Location Details

Lundazi National Forest (Reserve No. P. 24) forms part of the forest estates in Eastern Province. The Southern Zone which falls within Lumezi District covers a land area of approximately 84,840 hectares in extent and is situated approximately 95Km west of the administrative centre of Lundazi District. The Northern Zone which lies within Chama District is considered separately.

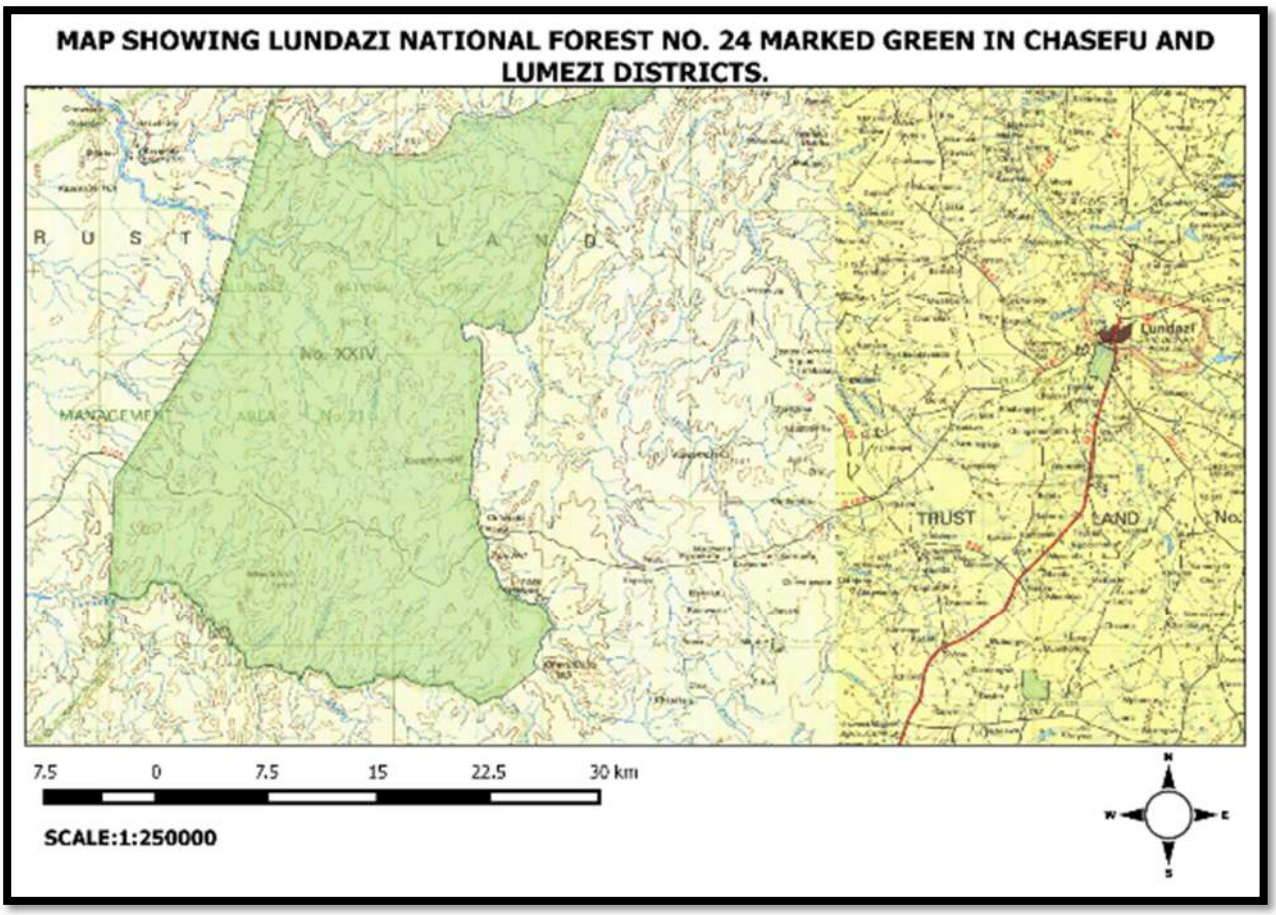

Figure 1: Map of Lundazi National Forest

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

2.2 Ownership and control

Lundazi National Forest No. P. 24, was originally declared a forest reserve and gazetted under Statutory Instrument No. 148 of 1978 and deposited in the office of the Surveyor-General on Map No. 69/2. It is a protected forest area with the designation of "National Forest" covered by section 12 of the Forests Act, 2015. The area is under the jurisdiction of

the Forestry Department, Ministry of Green Economy and Environment through powers bestowed under the Forests Act No. 4 of 2015 of the Laws of Zambia.

2.3 Physical Environment

Topography, Geology & Soils

The Forest lies on a relatively flat land at an altitude of about 1210m above sea level, is relatively flat with few rock outcrops. Geologically the area is located on Precambrian metamorphic rocks characterized by gneisis with igneous intrusion of syenite. The exploratory soil map of Zambia compile by the soil survey section research branch of the Ministry of Agriculture 1971 classified the area covering Lundazi National Forest well drained, moderately deep, red to strong brown, friable, gravelly, moderately weathered fine loamy to clayey soils (chromi-haplic ALISILS, partly skeletic phase).

Rainfall & Temperature

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

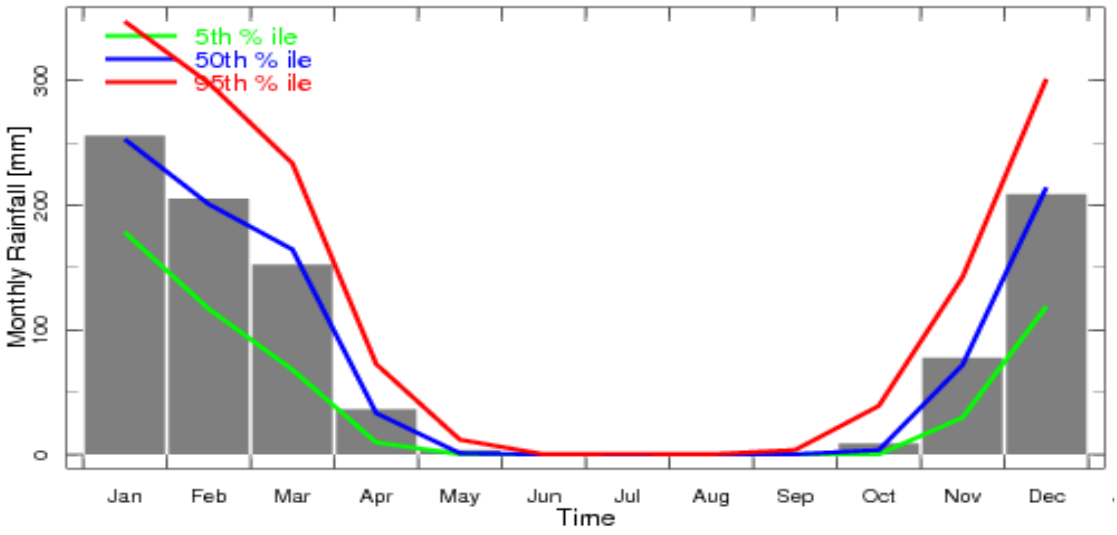

Figure 2: Monthly rainfall *Source: The Zambia Meteorological Department*

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

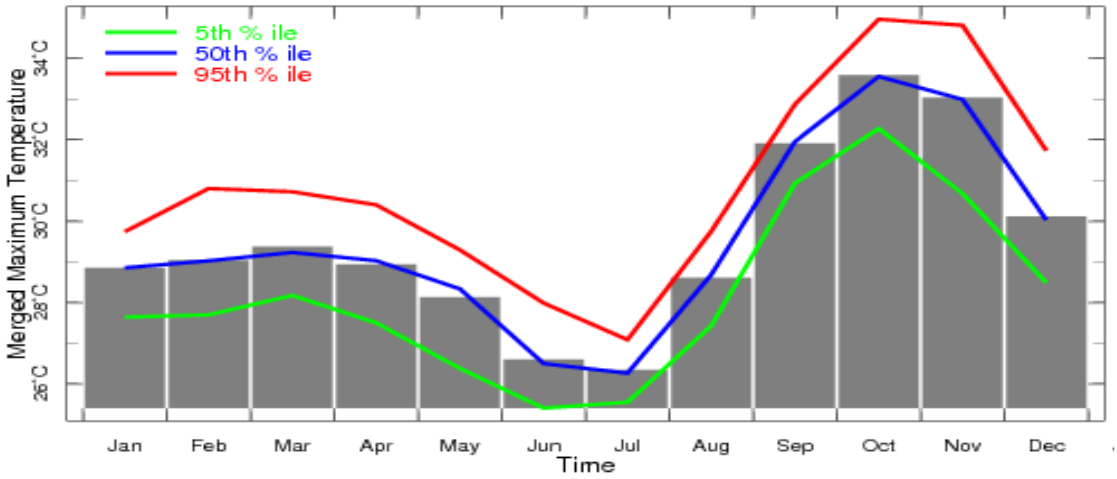

Figure 3: Monthly temperature Source: The Zambia Meteorological Department

2.4 Biophysical Environment

Vegetation Type

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

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, Warthog, Bush pigs, Antelopes, Guinea fowls and common Duikers are present. Smaller animal species such as squirrels, birds, Snakes and Lizards were encountered during the surveys.

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3 PAST MANAGEMENT

The Lundazi National Forest was declared and gazetted in 1953. 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 24 of 1953 and subsequently under Statutory Instrument No.268 of 1970, 158 of 1975 and 148 of 1978. The reservation aimed at protecting stream catchment area, conservation biodiversity of indigenous tree species and securing the supply of forest and non-forest products for present and future generation in particular communities around the forest reserve.

The Public Service Reform Programme (PSRP) in 1997 and economic downturn, had an adverse impact on the management of the National 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, Lundazi National 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 National Forest for some time. The encroachment includes significant areas of commercial farms growing tobacco and cotton. 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. In addition, a number of settlements with associated infrastructure including schools are located with the gazetted forest area.

4 GROWING STOCK

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

A forest inventory was conducted by the Forestry Department in 2019 with financial support from the Zambia Integrated Forest Landscape Project. The following section provides the results and analysis from the data collected. In view of the extent of LNF Southern Zone, the forest area was stratified into 3 areas and one grid developed within each sub area and plots identified and measured. A map of the location of the squares and therefore distribution of the sample plots for Lundazi National Forest is provided in Annex I. Measurement of trees and soils followed the Department's Guidelines and the software *forestcalc* (version 6.4.1) used to process the data to provide the summary information contained in this chapter. The information collected allows assessment of the condition of the forest, the value of the forest both economic as well as biodiversity value in terms of species diversity and abundance. Past management, exploitation as well as current management and pressures on the forest can be seen in the species abundance and size distribution in the areas assessed. These as well as the current Policies and development priorities can guide the short, medium- and long-term management of Lundazi National Forest.

The following table presents the summary information from the forest inventory:

Stratum total by all species

Diameter classes	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Vol (m^3)	0.00	3.38	4.86	3.79	3.98	2.20	2.83	21.03
Bole Vol (m^3)	0.00	1.84	2.44	1.65	1.68	0.96	1.15	9.71
Density (SPH)	0.00	157.66	66.74	22.35	11.77	2.72	1.26	262.49
Basal area (m^2)	0.00	0.65	0.74	0.51	0.48	0.26	0.27	2.91
Biomass (tons)	0.00	5.03	7.19	5.62	5.83	3.32	4.13	31.12
Carbon (tons)	0.00	2.52	3.59	2.81	2.92	1.66	2.07	15.56
Volume by Species Use								
Sawlog-(m3)/ha.	0.00	0.23	0.30	0.32	0.51	0.98	0.89	3.23
Pole-(m3)/ha.	0.00	1.95	3.12	2.37	2.28	0.60	0.37	10.68
Medicine-(m3)/ha.	0.00	0.56	0.44	0.39	0.39	0.00	0.08	1.86
Fruit-(m3)/ha.	0.00	0.09	0.15	0.15	0.23	0.05	0.01	0.68
Firewood-(m3)/ha.	0.00	0.52	0.81	0.56	0.56	0.57	1.48	4.51
Others-(m3)/ha.	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.06
Seedlings								6,390.70

Table:1 stratum total for all species

4.1 Tree species abundance

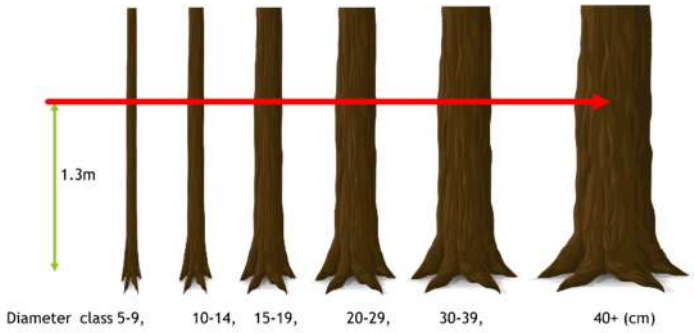
The inventory data indicates that there are over 185 different types tree species that include tree seedlings in the forest. However, the ten most frequent species are shown below.

Species	**Local Name(Nyanja)**	**Species Code**
Coloespermum mopane	Lupanya, mopane	81
Albizia adianthifolia	Mtanga	15
Brachystegia boehmii	Mfendaluzi	46
Brachystegia floribunda	Musamba	48
Brachystegia longifolia	Bovu, Mfendaluzi, Mfundazizi	49
Brachystegia utilis	Kasumbuti, Kavwenje, Mkuti, Mbukwe	55
Dalbergia melanoxylon	Kalukuswaula, Kalumpangala - P, Kaluswaulu, Kasalusalu, Pingo	101
Dalbergia nitidula	Mkorasinga, Mkulasinga, Mchindula, Kabulasese, Mkolansinga	102
Diplorhynchus condylocarpon	Mtombozi, Mtowa	114
Erythrophleum africanum	Buwa, Kabiti, Kawidzi, kayimbi	127

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.



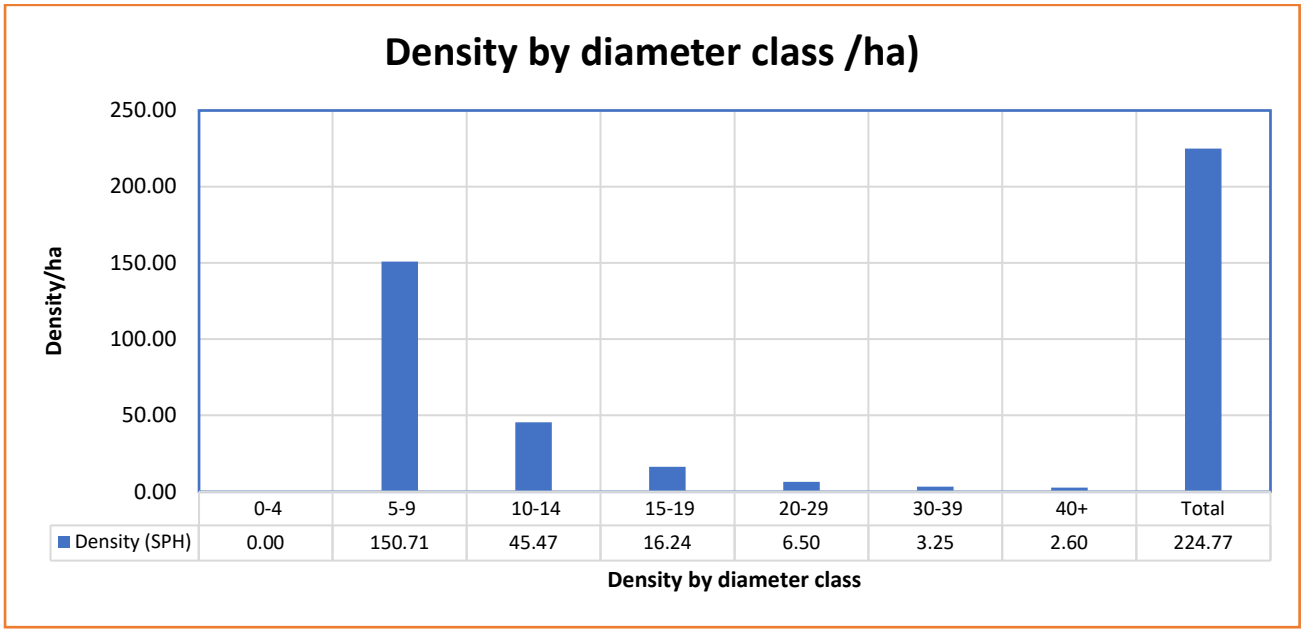


Figure 4: Density by diameter class/ha for all species

In Lundazi National Forest, a stocking density for trees ≥ 5 cm DBH was estimated as 225 stems per hectare.

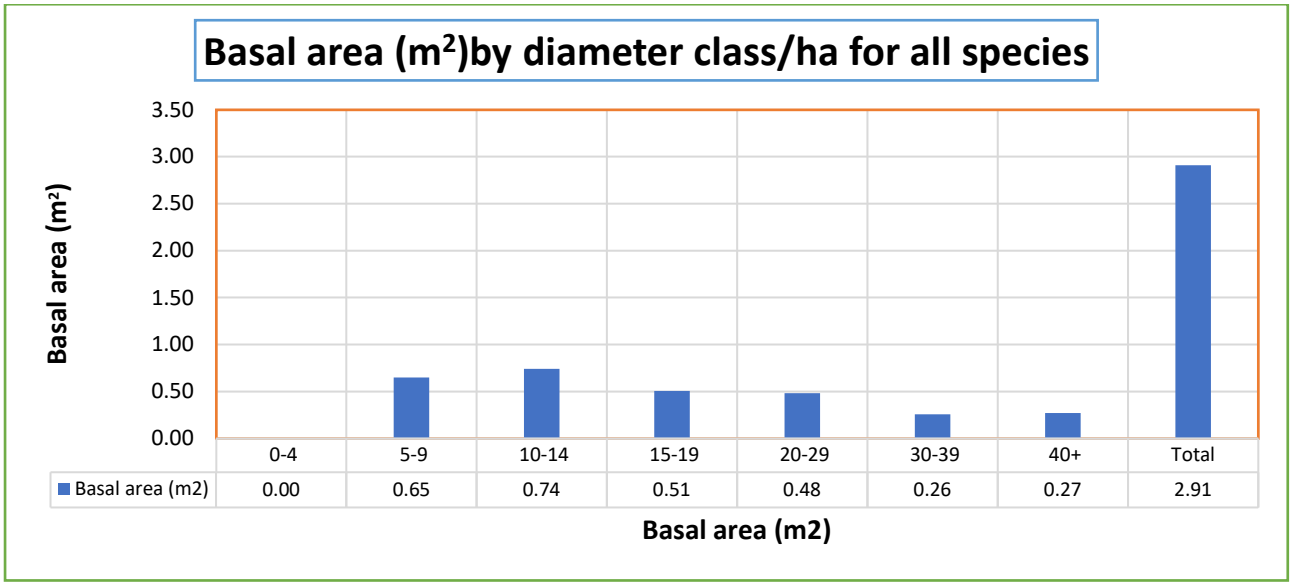


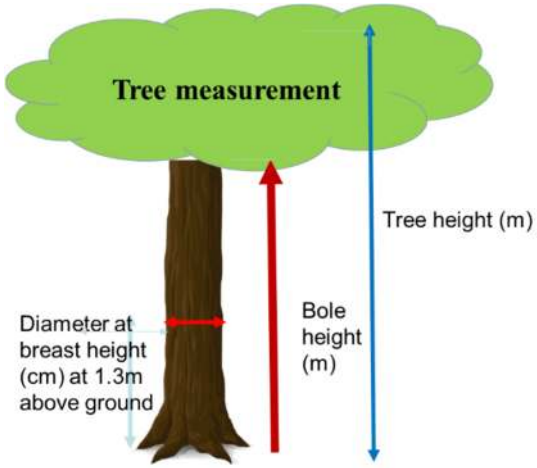
Figure 5: Basal area (m^2) by diameter class/ha for all species

The stocking by diameter class basal area per hectare is more in 10 –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 *Brachystegia spiciformis* with 53 stems per hectares, this is followed by *Brachystegia bohemii and Brachystiegia globiflora.*

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 metres, either in their size class categories or as a total per hectare.
A figure of 2.91 m^2 per hectare is a low figure for basal area in a similar type of forest type by over a factor of 10. This confirms the status of Lundazi National Forest as a forest of concern following past and most likely current high levels of exploitation of large sized trees.

4.3 Total Volume, Biomass and Carbon estimate of all Species

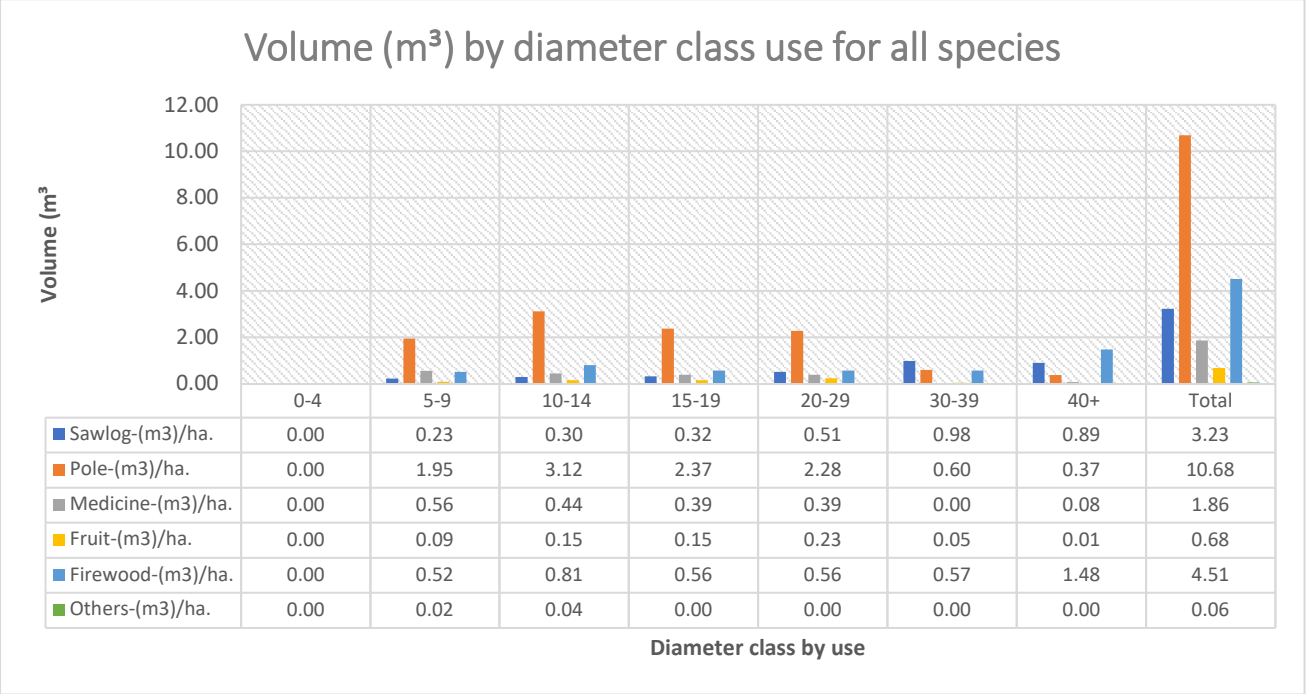
Calculating volume of the standing trees of DBH > 5cm is a further measure of the condition of the forest, site quality and previous management and exploitation. Tree volume to different heights is measured and calculated by individual trees and summed to give a total volume estimate per hectare. An 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 timber height relating to the parts of the tree that could be cut and sawn. Stand volume based on tree height is important for providing an estimate of total wood biomass resource. An assessment of carbon stocks was then estimated using the methodological framework developed by the IPCC .



The total standing volume per hectare for all species in Lundazi National Forest is estimated at 21.03m3/Ha., with a total bole volume estimated at 9.71m3/Ha. Total Biomass for trees ≥5cm DBH is estimated at 31.12 tonnes/ha and it has carbon estimated at 15.56 tonnes/ha.

Technical characteristics

The volume of other technical characteristics or use are computed per hectare as follow: Saw-log 3.23m^3, Pole 10.68m^3, Firewood/charcoal 4.51m^3, Fruit 0.68m^3 and others 0.06m^3. The poles are evenly distributed mainly in diameter class 5 to 29 and less above 30. The sawlog are minimal, less than 5 cubic meters per hectare. This indicates that the forest is under threat as there are extensive logging and illegal exploitation of forest resources.

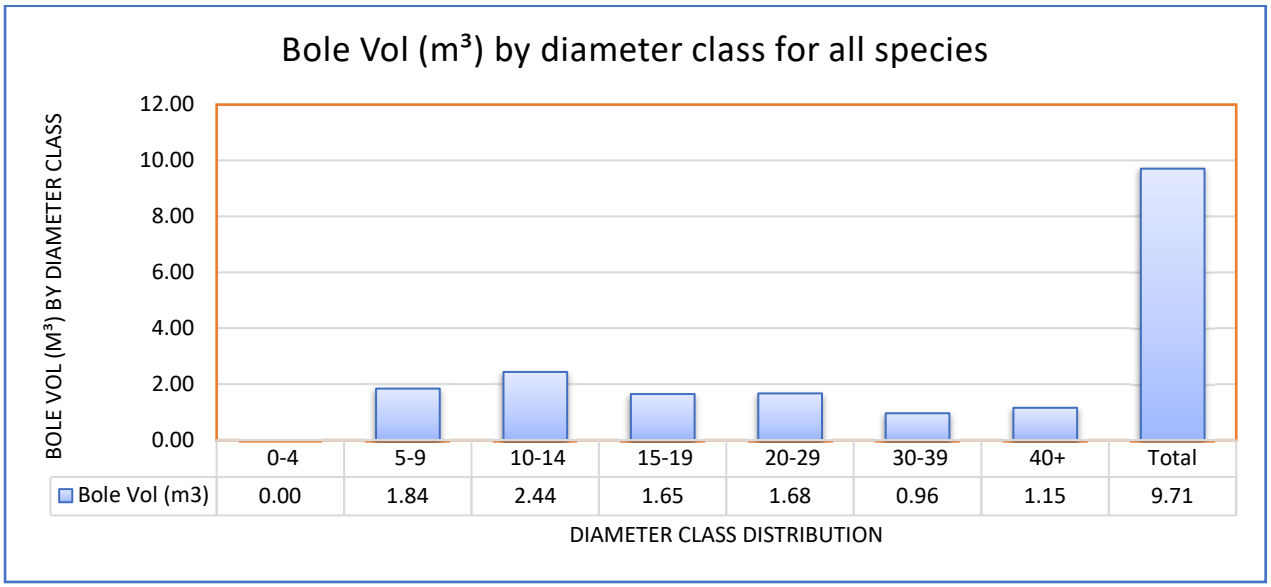


	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Sawlog-(m3)/ha.	0.00	0.23	0.30	0.32	0.51	0.98	0.89	3.23
Pole-(m3)/ha.	0.00	1.95	3.12	2.37	2.28	0.60	0.37	10.68
Medicine-(m3)/ha.	0.00	0.56	0.44	0.39	0.39	0.00	0.08	1.86
Fruit-(m3)/ha.	0.00	0.09	0.15	0.15	0.23	0.05	0.01	0.68
Firewood-(m3)/ha.	0.00	0.52	0.81	0.56	0.56	0.57	1.48	4.51
Others-(m3)/ha.	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.06

Figure 6: 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 9.71 cubic meters with higher in diameter class 05 – 29 and less from 30 and above. The outcome indicate that there is a lot of tree harvesting resulting in high coppicing and regeneration mainly agriculture activities.



	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Bole Vol (m3)	0.00	1.84	2.44	1.65	1.68	0.96	1.15	9.71

Figure 7: Bole volume (m^3) by quality diameter class for all species

4.5 Presence of Commercial Tree Species

Based on the inventory data, species used for high valued sawlogs such Pterocarpus angolensis, , Colophospermum mopane, Swartzia madagascariensis, Pterocarpus chrysothrixand the medium valued are Brachystegia speciformis and Julbenadia globiflora, are not abundant in the forest. The harvestable volume is low. Therefore, Lundazi National Forest in its current condition cannot sustain large scale logging operations or timber concession because it is highly encroached and degraded in most areas.

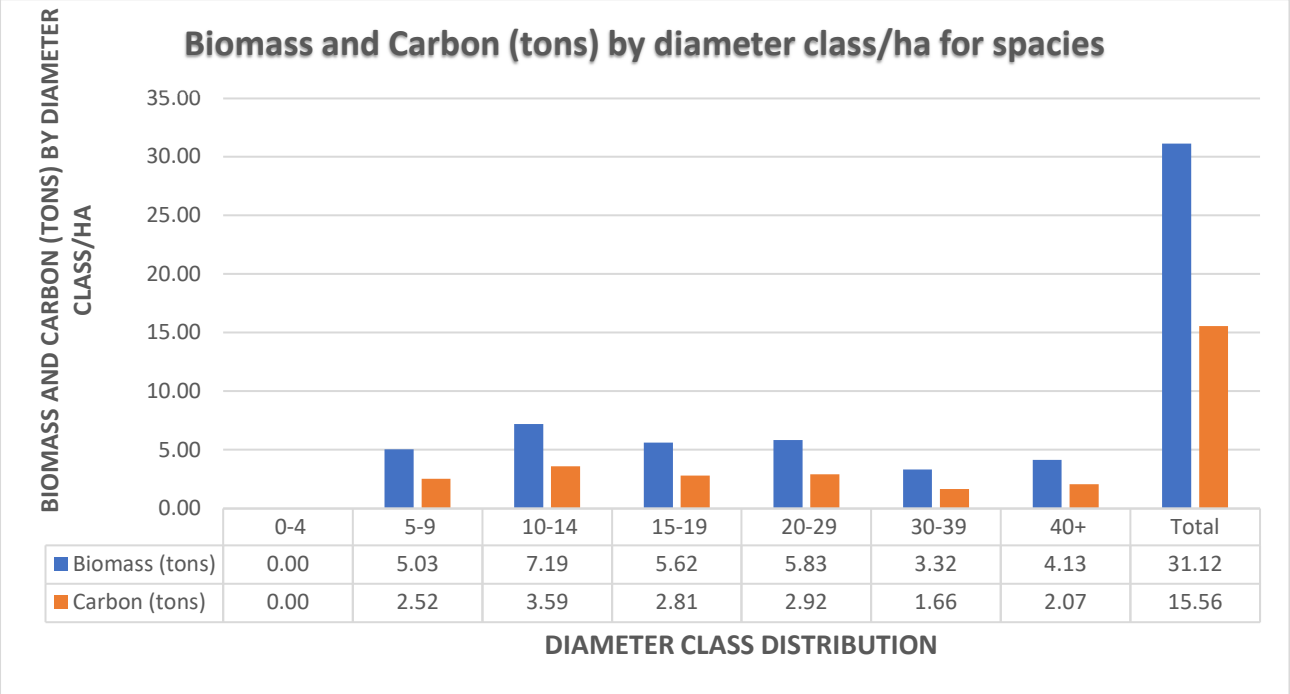
Volume of all species by use

No	Description	Volume(m^3/ha)	Explanation
1	Sawlogs	3.23m^3	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	10.63m^3	These are tree species with relative straight bole length with the average diameter at breast height of 5cm to 29cm
3	Fruits	0.68m^3	The tree species include all fruit bearing either edible or not edible
4	Medicinal	1.86m^3	All medicinal plants
5	Firewood	4.51m^3	These include all dead and or diseased trees which can be used for firewood
6	Others	0.06m^3	These include all tree species which are not classified in any of the above categories

Table 3: Trees in Lundazi National 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 summarised in figure 12. Note, this figure is standing carbon and not the amount of carbon that may be traded under carbon trading schemes which are based on measured reduction of emissions.



	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Biomass (tons)	0.00	5.03	7.19	5.62	5.83	3.32	4.13	31.12
Carbon (tons)	0.00	2.52	3.59	2.81	2.92	1.66	2.07	15.56

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

Biomass and Carbon total (tons) by diameter class/ha for all species

The total biomass and carbon stocks per hectare respectively of 31.12 and 15.56 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.

5 STAKEHOLDER DEMOGRAPHICS

Introduction

Forestry livelihood survey was conducted by the Zambia Statistics Agency (ZAMSTATS) Eastern Regional office, between October and November 2019. The main objective of the Forestry livelihood Survey is to measure the well-being of the communities dependent on Lundazi National Forest and to measure the utilisation 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.

Considering the household population distribution of Lundazi National 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 Data analysis

The 2019 forest survey was paper Assisted Personal Interviews (PAPI) collected. All the field questionnaires were checked for completeness by the field supervisors. After data collection, all questionnaires were submitted for data entry using statistical software SPSS, Version 20. After data entry was completed, the data were subjected to extensive checks on their validity and consistency in order to facilitate analysis using statistical package SPSS version 20, which was done by Mully Phiri and Dr Richard Kaela.

5.2 Household and Population dynamics

Lundazi National forest reserve as at 2019 livelihood survey was surrounded by approximately 39 farming blocks and villages as indicated in Annex: III with a total population of 1,537. The main ethnic groups in the area are the Tumbukas. 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. Some larger farms are growing tobacco and cotton. The land tenure of the population surrounding the Lundazi NF is mostly under customary land tenure system. Those households within have formal no title deeds or letter of allotment.

5.3 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 Lundazi National Forest was found to be mainly primary level that contributed **72 percent**, while tertially contributed about **1 percent**. The rest being No formal education and secondary education indicating 7 **percent** and **20 percent respectively**. As shown in the figure below:

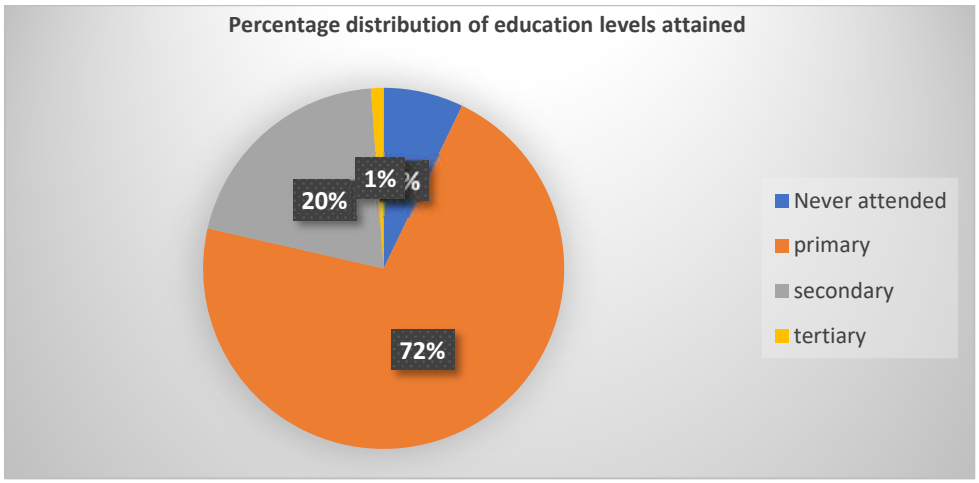


Figure 9: education levels attained

However, it should be noted the presence of primary schools within the gazetted area of the National Forest.

Figure 10: Njoka primary School and a community school (now brick and tin roof)

5.4 Economic activity

Lundazi NF reserve population depends on farming as their main occupation. The results showed that 97 percent of the household population surrounding Lundazi NF reserve had farming as their main occupation, while the rest of economic activities contributed 1 percent those in paid employment and 1 percent in small businesses, unstated also 1 percent.

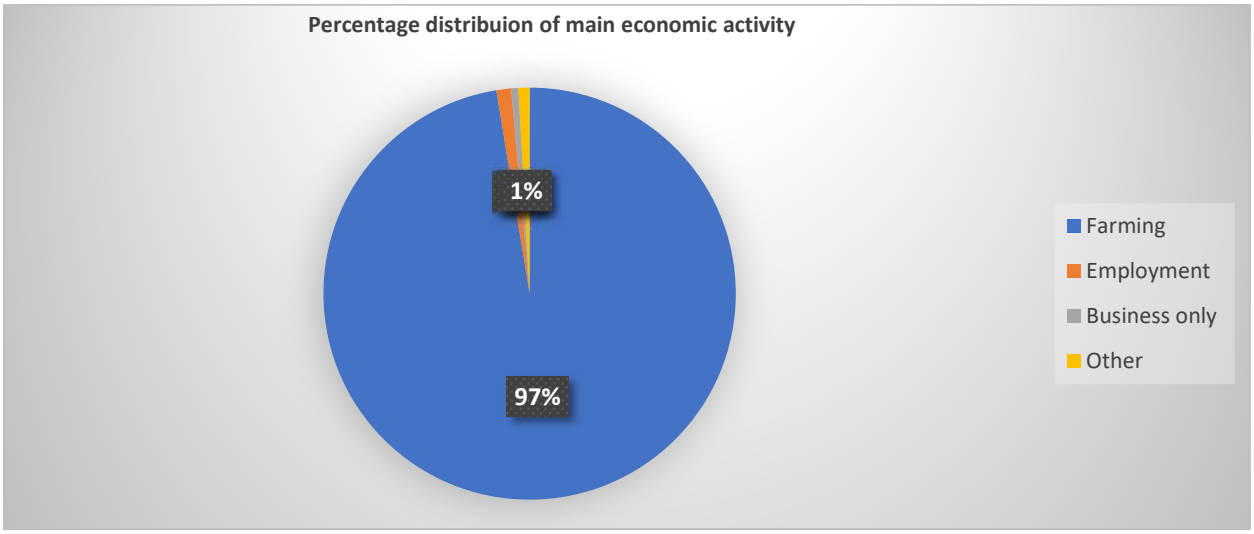


Figure 11: percentage distribution of main economic activity

The survey indicates that the majority depend of farming as main source of income.

5.5 Utilization and zoning of forestry resources

Lundazi NF forest consultative meeting held on 4th May, 2022, the stake holders identified the uses of the forest reserve and zoned the Lundazi National Forest.

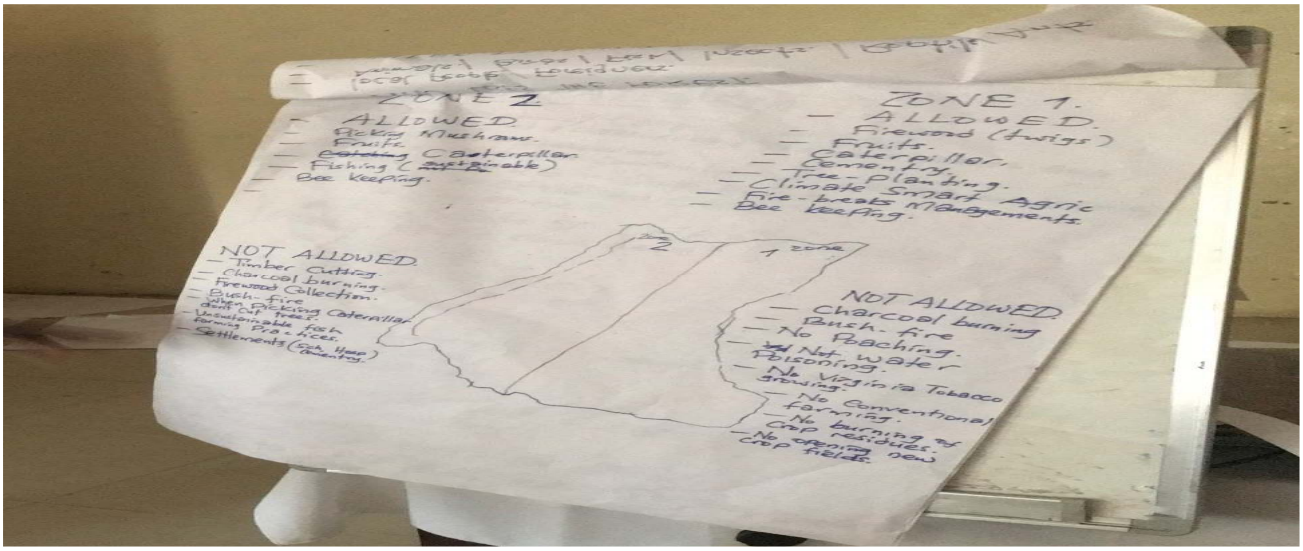


Figure 12: Zoning the forest by local stakeholders

The zones where identified for the following:

Zone 1.	**Zone 2.**
• Firewood collection (twigs) • Fruits • Caterpillars • Cemetery (burial site) • Tree planting • Climate smart agriculture • Beekeeping • Fire breaks management	• Mushroom harvesting • Fruits • Beekeeping • Fishing

Types of energy used for cooking

Almost all households in the localities surrounding Lundazi National Forest use firewood as their energy for cooking. The livelihood survey revealed a percentage of about 100 percent using firewood as energy for cooking. It shows how threatened the forest is as every household depends on the forest for cooking energy.

Main tree resources used for firewood

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

Main Tree Resources Used – Lundazi National Forest Reserve	
Brachystegia	*Bohemii*
Brachystegia	*spiciformis*
Julbernadia	*globiflora*
Diplorynchus	*condlocarpon*
Pericopsis	*angolensis*
Pseudolachnostylis	*maprouneifolia*
Combretum	*collinum*
Bauhinia petersiana	*collinum*
Piliostigma	*thoningii*
Brachystegia	*manga*
Parinari	*curatellifolia*
Julbenadia	*Paniculata*
Albizia	*antunesiana*

Table 4 shows the 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 Lundazi NF are as shown in the table below.

Non wood Forest products
Mushroom
Fruits
Grass
Medicine
Caterpillars

Table 5: Non Wood forest Products used by households surrounding the Lundazi NF Reserve

Willingness of community to participate in forest Management of the forest reserve

The livelihood survey revealed that 86 percent of all the households interviewed were willing if called upon to voluntarily support management of the forest reserve with the Forest Department and other stake holders in the community. This is a lower percentage than found around other Forest Reserves in the Province.

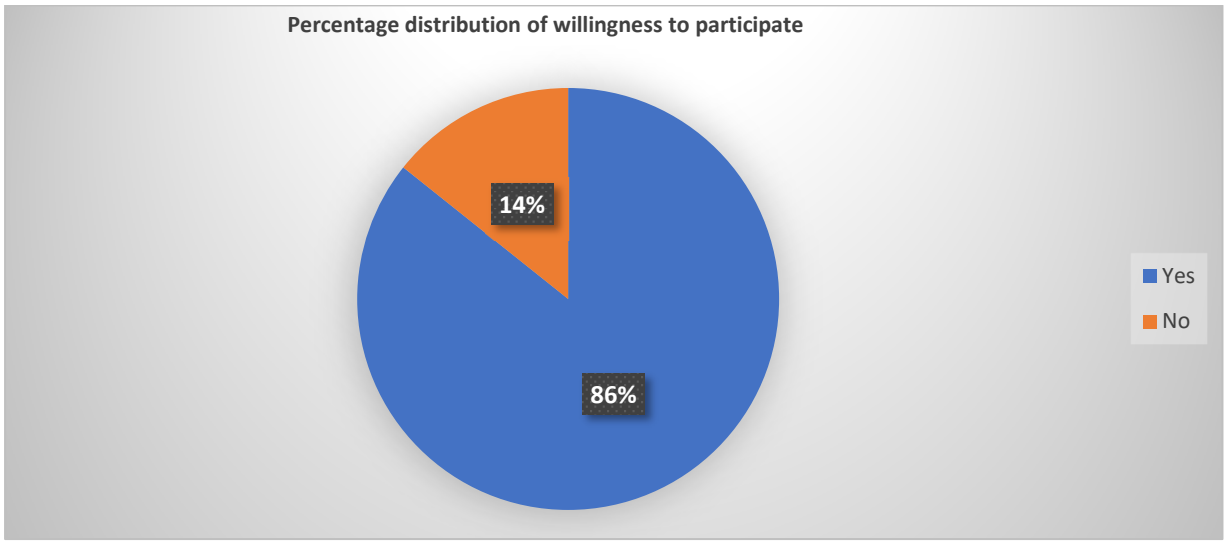


Figure 13 shows the distribution of willingness to participate when called upon to support FM

Land Ownership and Use

The livelihood survey for the communities surrounding the Lundazi National Forest revealed that most of the land owned by the households was for Agricultural activities which indicated 100 percent. All land occupied by households is used for agriculture.

6 PROPOSED MANAGEMENT ACTIONS

In view of the current condition and rate of deforestation and forest degradation being experienced across this National 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 National 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 in this critical National 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 National Forest as described in section 12 of the Forests Act, 2015:

Purpose of National Forest

12. Subject to the other provisions of this Act, all land comprised in a National Forest shall be used for—

(a) the security of forest resources of national importance;

(b) the conservation of ecosystems and biological diversity;

(c) improved forest resource management and sustainable utilisation of forest resources; and

(d) the management of major water catchments and head waters, subject to the Water Resources Management Act, 2011.

Act No. 21 of 2011

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 LNF. 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 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 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 anticipated Jurisdictional Sustainable Landscape Programme will be core to the process of incentivising 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 May 2022, which identified use of the forest, the main users of the forest, issues affecting Lundazi National Forest, local solutions and permitted activities. A further zone (3) covers the immediate area surrounding the National Forest to act as a buffer which will the focus of development as well as emissions reductions related activities.

Figure 13: Zoning of Lundazi National Forest based on community consultation

Zone 1: Forest Protection, Management and Conservation of Biodiversity

Lundazi National Forest is an important forest ecosystem containing different plant species and fauna. The National Forest also falls within the Lumimba Game Management Area and lies directly north of and forms a common boundary with Lukusuzi National Park. As a catchment forest, LNF provides an important function to safeguard down stream

communities through rainwater interception and release. 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 National Forest. This will involve promoting forest restoration approaches, agroforestry and tackling the core issue of encroachment through a variety of initiatives. Continuation of environmentally harmful crops such as cotton and tobacco growing within the National Forest should be reviewed.

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. Much of this area is already covered by community conservation areas (CCAs) supported by COMACO.

Zones 1 & 2: These zones will be managed in partnership with the local community following the community forestry approach as set out in the Forests (Community Forest Management) Regulations, 2018, and the National Guidelines for Community Forestry, 2018. This will be covered by a Community Forest Management Agreement, management plan and local resource use rules which set out both rights and obligations for control, protection and management of the identified forest area. Annual workplans will be developed by the community with technical guidance from the Forestry Department to ensure the sustainable management of these zones.

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 LNF 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, well-managed plantations where appropriate, 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.

6.2 Core forest management actions

The identified management actions are described as follows:

Action 1: Forest Protection, Management & Conservation of Biodiversity

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

This management action will be operationalized and results measured 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 LNF	FD	FPIC Meetings conducted
		3. Forming community level	Through participatory	Community groups & FD	

		institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.	processes, form local committee responsible to coordinate and assist management of the LNF		
		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 sustainable partnership.	See monitoring section of LNFMP		
	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

2	To secure the boundary and define the extent of the boundary and prevent possible encroachment	Involve forest adjacent communities in Forest protection and management.	-Carry out annual Boundary maintenance. -Beacon maintenance - Erection of sign post on roads entering the Forest	FD/ Community	Distance in km of forest perimeter cleared
3	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	
4	To ensure protection against pests and human damage	Frequent monitoring of forest resources	Inspections for diseases and pests and detection of possible illegalities.	FD/ Community	Hectarage of forest protected from pests and human damage
5	To significantly reduce levels of illegal forest product harvesting.	Involve the local communities in the management of forest resources in order to create a sense of ownership. Engage honorary forest Officers/guards	-Conduct sensitization meetings. -Conduct forest patrols.	FD/ community and other security wings	Number of illegal harvesters/ activities reduced
9	Improve local awareness of biodiversity and its value.	Seek greater participation of local communities in research and other	1.Conduct research that documents and utilizes the indigenous knowledge of	FD/Forestry Research	Levels of community participation in forest management activities is

		biodiversity activities Such as eco-tourism, with the result that biodiversity values will become of more direct relevance to them.	Forest-adjacent communities. 2.Promote local participation and benefits from eco-tourism as a means of creating better awareness of biodiversity		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 Lundazi National 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 Lundazi National Forest. Within this management action, the following interventions will be undertaken in Zone 2 of the National Forest as well as extension services and activities in Zone 3, the areas surrounding Lundazi National 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 in a plantation environment where practical.

- 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 management of wild fish stocks through local harvesting rules;

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

Specific Objectives	**Strategy**	**Actions**	**Responsible**	**Indicator**
1. Enter into partnership with clear roles and responsibilities with surrounding communities	Promote community forestry approach	Conduct CFM Steps 1-7	FD	Signed CFM agreement. Annual work plan reports from the CFMG
2. To 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 establishment for communities surrounding the forest.	FD	Hectarage of forest in the fringe areas increased year on year.
3. To reduce carbon emissions from agric soils and dependency on inorganic fertilizer	Promote CSA through Agroforestry	Partnership with MoA and others in training	FD/ Agric/ CSO's/ community	Tonnage of GHG emissions in the forest

		communities in CSA and agroforestry. Establishment of agroforestry tree nursery species in Kaluwe LF nursery.		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	Forest resource condition is improved	Training forest-adjacent communities	FD/ NGOs	Forest enterprise activities developed

the livelihoods of forest-adjacent communities.	through management actions emphasizing the use of best practices.	in sustainable forest enterprises, such as beekeeping, and other non- wood forest enterprises		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.

6.3 Environmental and social safeguards and other crosscutting issues

The Forestry Department shall ensure that the management of Lundazi National 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 genderbased violence. Women shall be integrated into all aspects of management of Lundazi National 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 Lundazi National 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

Infrastructure Development

In order to achieve the forest management objectives for Lundazi National 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 Lundazi to the main road is a major challenge. Previous investments planned in terms of establishing forest camps inside the National Forest should be revisited and an investment in good quality infrastructure (office, houses, water and reticulation system) is vital.

No	**Specific Objectives**	**Strategy**	**Actions**	**Responsibility**	**Indicators**
1	To maintain the infrastructure necessary to achieve the multiple objectives of forest management.	Maintain the existing infrastructure	1. Maintain the road network. 2. Construction of forest camp with staff housing units within the National Forest.	FD/Maintenance/ Infrastructure	All infrastructure maintained to optimum standards

7 STAKEHOLDERS ROLES AND RESPONSIBILITIES

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

Forestry Department

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

Role of the Local Authorities

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

Role of the Traditional Authorities

Traditional leaders play a vital role in providing mentorship and guidance to communities and helping resolve any conflicts and enforcement of customary laws relating to natural resource management. In terms of the community forestry approach, the chief plays a key role in providing consent to the process of recognition of the community and to the signing of the community forest management agreement between the community and the Director of Forestry. This agreement further reinforces the role of the traditional leaders in the oversight of the community forest management groups, including controlling access and use of the forest, hearing cases that can not be dealt with by the community, ensuring reporting and conduct of the election of office bearers is in conformity with the community constitution.

Role of communities

As key rights holders must take the lead in controlling access to the forest, ensuring benefits from sustainable use are maximized. Through the community forestry process roles, rights and responsibilities for controlling access and use as well as protection and sustainable management are clearly defined. The local community are therefore core to the implementation of the management plan.

Role of Honorary Forest Officers

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

Role of Private sector & Civil society organization

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

8 MONITORING AND EVALUATING IMPLEMENTATION

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

8.1 Monitoring

To ensure that implementation of the management plan is on course, FD will facilitate monitoring of activities and programmes in coordination with partners, stakeholders and community representatives in the LNF 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.

8.2 Evaluation

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

8.3 Monitoring Responsibilities

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

8.4 Strategic monitoring indicators

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

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

	-No of trainings held/exposure visits		
Infrastructure Development	Number and type of infrastructure Developed/ maintained	Records Monitoring and evaluation reports	The Plan is successfully implemented Availability of funds
Human Resource Development	Number of people employed Number of people trained. Number of community members involved in forest activities	records Monitoring and evaluation report	The Plan is successfully implemented Availability of funds

Table 6: strategic monitoring indicators

9 ANNEXES

Annex 1: Declaration Order, Topo Map & Inventory Map

SECTIONS 5 AND 6-THE NATIONAL FOREST NO. P24:

LUNDAZI NATIONAL FOREST (DECLARATION) ORDER

Order by the Minister

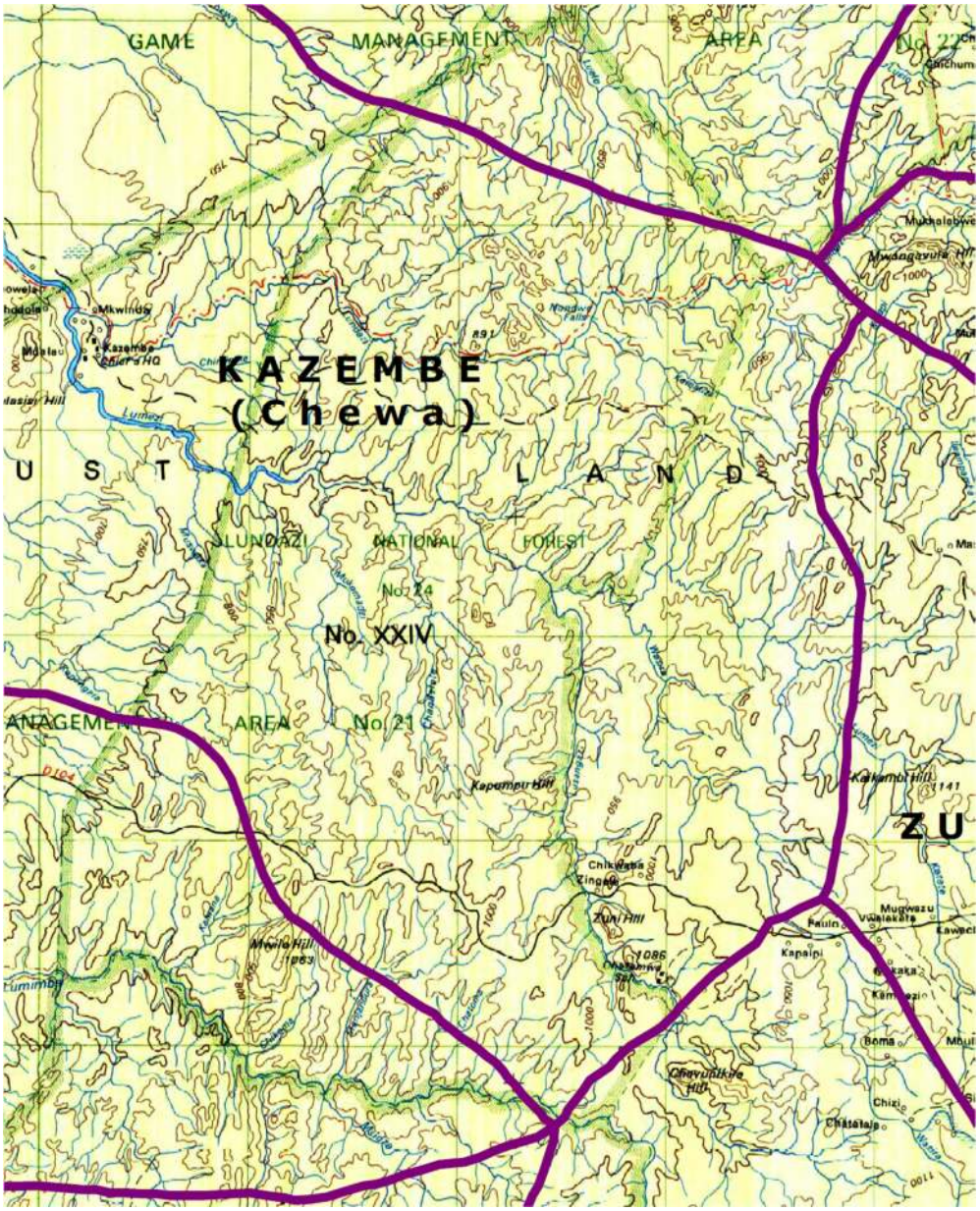
Statutory Instrument

1. This Order may be cited as the Forest No. P24: Lundazi National Forest (Declaration) Order. Notice 24 of 1953, Statutory Instruments: **268 of 1970, 158 of 1975, 148 of 1978**

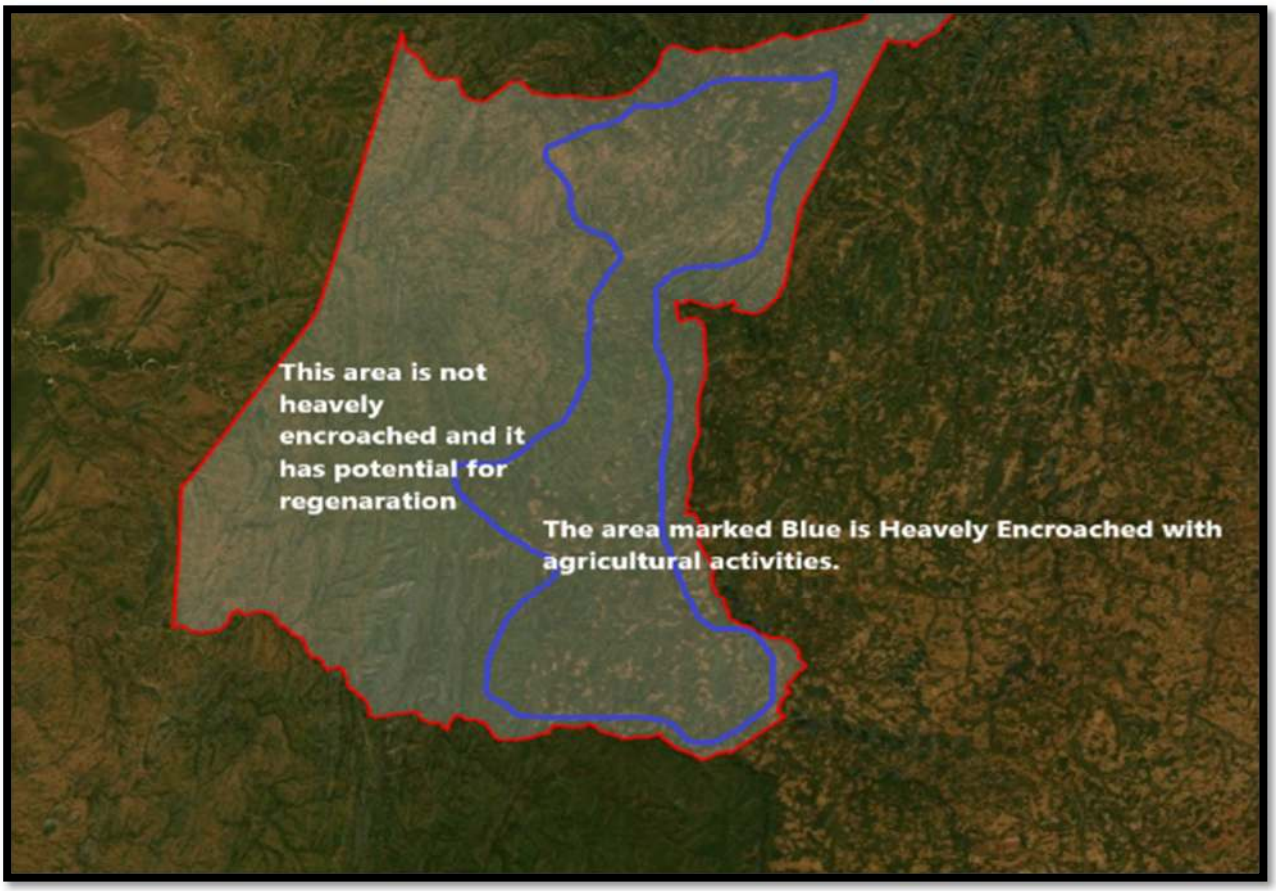
Starting at the confluence of the Luwumbu (Chire) and Lusangani Rivers, at approximately 10 degrees 52 minutes south and 33 degrees 11 minutes east, the boundary follows the Luwumbu upstream in a general easterly direction for a distance of 21 kilometres to its confluence with the Msenjele Stream; thence up the Msenjele Stream for a distance of 3.6 kilometres; thence on a bearing of 180 degrees for a distance of 3.1 kilometres to the Zambia-Malawi International Boundary; thence south along the nternational Boundary to a point on a bearing of 68 degrees from the summit of Manda Hill; thence in a straight line on a bearing of 248 degrees to the summit of Manda Hill; thence on a bearing of 293 degrees for a distance of 1.0 kilometre; thence on a bearing of 266 degrees for a distance of 2.7 kilometres; thence on a bearing of 327 degrees for a distance of 1.8 kilometres; thence on a bearing of 270 degrees for a distance of 0.5 kilometres; thence on a bearing of 179 degrees for a distance of 8.6 kilometres; thence on a bearing of 217 degrees for a distance of 19.5 kilometres to the summit of Namalya Hill; thence on a bearing of 213 degrees for a distance of 33.0 kilometres to the Luelo River; thence on a bearing of 173 degrees for a distance of 7.5 kilometres on the north bank of the Lundazi River at a place approximately 4 kilometres downstream from the confluence of the Chingoma Stream with the Lundazi River; thence westwards down the Lundazi River for 7 kilometres to its confluence with the Luampamba River; thence on a bearing of 201 degrees for a distance of 17.0 kilometres to the confluence of the Lumezi and Wasira rivers; thence down the Lumezi River for 4 kilometres to its confluence with the Lusangazi River; thence up the Lusangazi River in a southerly direction for a distance of 15 Kilometres to the Lundazi-Mbuzi Road; thence westwards along this road for a distance of 1.0 kilometre; thence in a straight line on a bearing of 171 degrees for a distance of 10.4 kilometres to the bank of the Lumimba River; thence down the Lumimba River for 30 kilometres to the confluence of the Kanyazizi River at the foot of the escarpment; thence in a general northerly direction following the foot of the escarpment to the Bazima River; thence on a bearing of 43.5 degrees for a distance of 7.0 kilometres to the edge of the Lundazi-Chama Road; thence on a bearing of 4 degrees for a distance of 4.0 kilometres to the Kapemba Stream; thence on a bearing of 360 degrees for a distance of 7.8 kilometres to the Mpalausenga Stream; thence in a general northerly direction following the foot of the escarpment to the confluence of the Luwumbu and Lusangani Rivers; the point of starting. All bearings are from true north, and all distances are approximate. The above

described area, in extent 374,800 hectares approximately, is shown bordered green on Plan No. FR69/2, deposited in the office of the Surveyor-General, signed by him and dated 14th April, 1975.

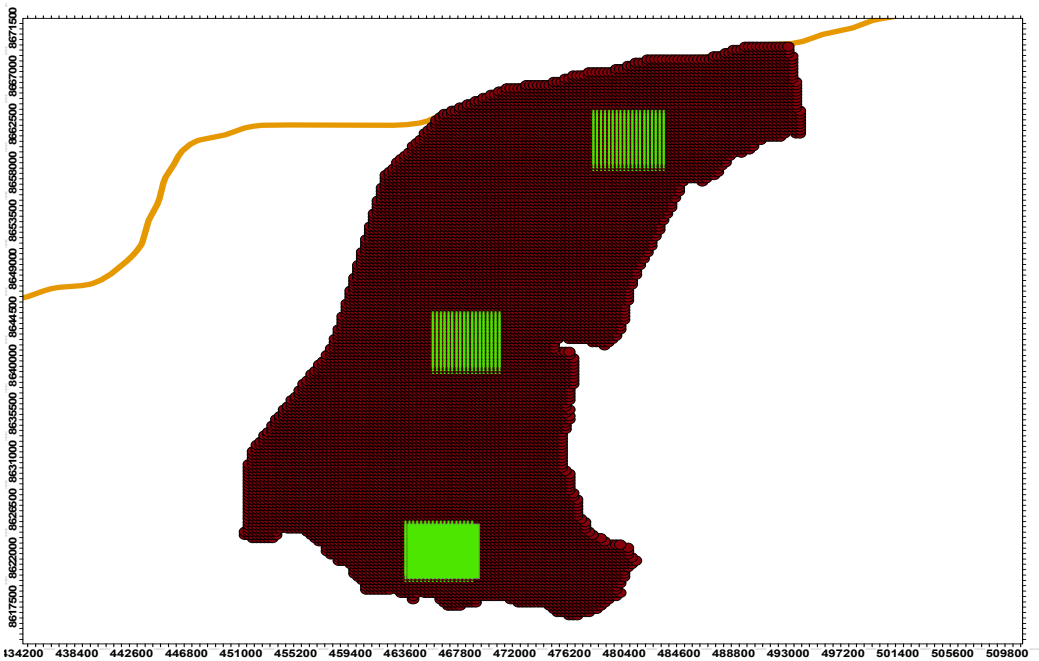
1. Map of Lundazi National Forest in relation to Chiefdom boundaries (1958 map)



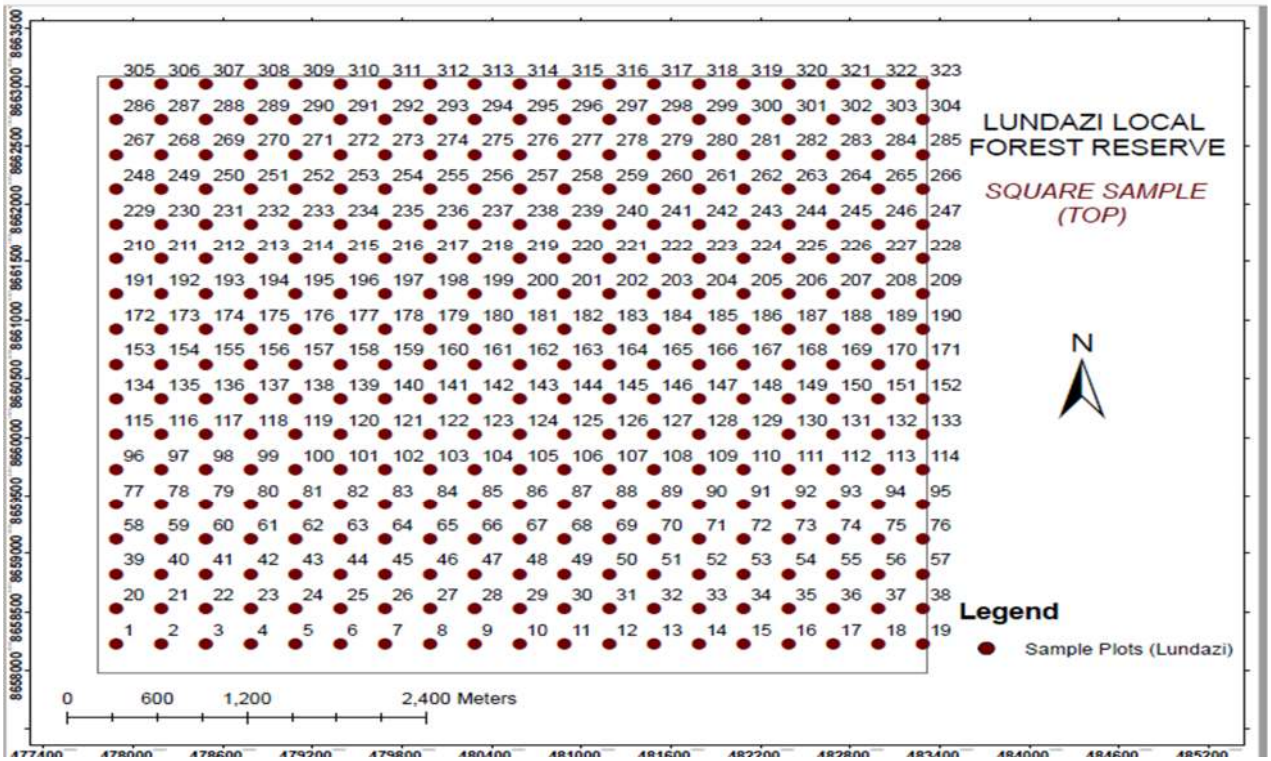
2 Map of forest zones relating to forest condition



3 Map indicating location of squares for the forest inventory sample points



3 Map indicating systematic sample points within the inventory squares.



Annex II: Inventory Data -Species Density

Species	Code	Total
Density		1,837.46
Acacia erioloba	2	5.469
Acacia gerrardii	3	0.476
Acacia nigrescens	4	0.713
Acacia polyacantha	6	3.091
Acacia sieberiana	7	14.623
Acacia tortilis	8	4.755
Afzelia bipindensis	12	0.119
Albizia adianthifolia	15	0.238
Albizia antunesiana	17	7.49
Albizia harveyi	19	5.35
Albizia versicolor	20	0.119
Annona senegalensis	25	0.238
Baphia bequaerti	30	4.28
Bauhinia petersiana	34	28.294
Brachystegia boehmii	46	215.892
Brachystegia bussei	47	59.679
Brachystegia floribunda	48	180.465
Brachystegia longifolia	49	97.96
Brachystegia spiciformis	52	369.489
Brachystegia utilis	55	0.476
Bridelia micrantha	59	0.119
Canthium lactescens	65	1.07
Cassia abbreviata	68	1.07
Colophospermum mopane	81	2.021
Combretum imberbe	85	4.636
Combretum molle	86	190.927
Combretum zeyheri	89	22.826
Commiphora mollis	90	4.28
Croton megalobotrys	94	1.07
Cryptosepalum maraviense	96	1.07
Cussonia spicata	99	0.119
Dalbergia melanoxylon	101	6.42
Dalbergia nitidula	102	19.735
Dialiopsis africana	105	1.07
Dichrostachys cinerea	108	0.119
Diospyros kirkii	111	66.337
Diospyros mespiliformis	112	15.574
Diplorhynchus condylocarpon	114	126.016
Erythrophleum africanum	127	6.42
Ficus capensis	151	0.119
Flacourtia indica	158	1.545

Garcinia huillensis	159	1.07
Hexalobus monopetalus	178	0.238
Hyphaene ventricosa	183	0.119
Julbernardia globiflora	188	10.224
Julbernardia paniculata	189	1.07
Khaya nyasica	190	0.119
Lannea discolor	194	45.295
Lannea schimeri	198	0.119
Lannea stuhlmannii	199	3.923
Lonchocarpus capassa	200	24.847
Lonchocarpus nelsii	202	0.119
Magnistipula butayei	206	1.07
Maprounea africana	209	0.594
Mimusops zeyheri	218	0.119
Monotes africanus	221	35.784
Ozoroa reticulata	229	1.664
Pericopsis angolensis	239	14.742
Phyllocomus lemaireanus	243	2.14
Piliostigima thonningii	244	1.308
Pinus merkusii	248	1.07
Pseudolachnostylis maprouneifolia	258	69.19
Psorospermum spp	252	1.07
Pterocarpus angolensis	262	37.448
Pterocarpus antunesii	261	0.119
Pterocarpus chrysothrix	264	6.539
Pterocarpus rotundifolius	265	29.959
Raphia farinifera	266	1.07
Sclerocarya caffra	279	1.545
Sterculia quinqueloba	285	0.594
Strychnos innocua	289	2.14
Swartzia madagascariensis	295	0.357
Syzigium cordatum	296	0.238
Terminalia brachystemma	302	1.308
Terminalia mollis	303	29.008
Terminalia sericea	304	3.21
Terminalia stenostachya	305	9.392
Uapaca benguelensis	308	
Uapaca guineensis	309	
Unknown	999	22.112
Ximenia americana	328	0.119
Xylopia odoratissima	332	2.14

Annex III: Demographics of major forest fringe communities

Demographics of major forest fringe communities of Lundazi National Forest

Locality name	POPULATION		TOTAL POPULATION	HOUSEHOLDS		TOTAL NUMBER OF HOUSEHOLDS
	MALE	FEMALE		TOTAL MALE HEADED HOUSEHOLDS	TOTAL FEMALE HEADED HOUSEHOLDS	
Total	**724**	**813**	**1537**	**306**	**44**	**350**
CHABULIKA	17	28	45	4	5	9
MOSES	9	7	16	4	0	4
MAKOSANA	7	3	10	2	0	2
JONASI	5	7	12	2	1	3
KAMPANI	6	7	13	1	0	1
DEVETE	8	10	18	2	1	3
MBANO	4	3	7	2	0	2
JEREMIYA	17	18	35	6	2	8
ALINOTI	15	13	28	8	0	8
MAXWELL	8	13	21	3	1	4
WALUZA	10	9	19	3	1	4
CHIBATA	10	12	22	3	2	5
MAPHATO	10	13	23	6	0	6
AMOSE	8	5	13	2	0	2
JULIUS	5	7	12	3	0	3
NYAMA	2	2	4	1	0	1
PENJATWAKO	27	12	39	6	0	6
CHIKONTHA	4	5	9	2	0	2
CHATAIKA	8	10	18	4	0	4
WISEMAN	16	20	36	5	3	8
ANDROS FARM	3	1	4	1	0	1
MUSANDA	10	9	19	5	1	6
DAVIDE	11	14	25	3	0	3
WILSON SAHANI	11	16	27	6	1	7
CHIMODZIMODZI	11	16	27	7	1	8
JAIROS	20	18	38	5	0	5
LUSUNGU	5	4	9	4	0	4

KATUBA	15	24	39	9	0	9
HANDLESI	8	8	16	3	2	5
KOMAZYANI	10	9	19	3	0	3
BANDAWE	14	15	29	6	0	6
KAVINILA FARM	3	10	13	2	0	2
ENEMIYA	11	13	24	5	0	5
LUFEYO	5	3	8	1	0	1
DANIEL	3	6	9	2	0	2
MAPUZYA	8	26	34	7	1	8
DANIEL	6	7	13	3	0	3
JENDA	9	11	20	4	0	4
CHAZA	22	18	40	10	3	13
John Nyirongo	3	4	7	2	0	2

Table 1: Population Distribution of major forest fringe localities of Lundazi NF Reserve by sex

Annex IV: Stakeholder consultations

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

Therefore, the Chiefs under which Lundazi National 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. **Paramount Chief - Gawa Undi**

Prior to meeting Chewa Sub Chiefs, the first visit was to pay courtesy call to the Paramount Chief of the Chewa people Kalonga Gawa Undi who was represented by his Induna Hon. Lucas Phiri in Chipangali district, and Paramount Chief Mpezeni as Lundazi National Forest reserves falls in Chief Chintungulu, Chief Kazembe, Chief Chifunda and Chief Magodi of the Ngoni under Paramount Chief Mpezeni.

Figure 18: Meeting with Paramount Gawa Undi's senior Induna Mr. Lucas Phiri

During the courtesy call the team gave the background of forest inventories conducted in Lundazi NF reserve and the interventions that ZIFLP is helping, the importance of the Luangwa landscape 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 Chewa Development Trust, Gawa is able to bring a halt to all illegal cutting in the Chewa territory, and he acknowledges that development in the territory can only come by working with other stakeholders. Paramount Kalonga Gawa Undi therefore welcomed the ideas of developing forest management plans for the targeted forest reserves and encouraged the team to move forward and report to Gawa challenges that we may be encountered with any of his sub chief during this engagement.

2. Meeting the Senior Chief Lundazi District

At HRH's Senior Chief Magodi, Chief Kazembe and Chief Chitungulu's Palace the team briefed the HRH's about the upcoming validation meeting for FMP which included Lundazi NF and solicited for his input in the FMP. HRH's made their position very clear on Lundazi NF, they submitted that their desire was to practice community forest Management (CFM) in this forest reserve.

Annex V: Stakeholder validation meeting

REPORT FOR THE LLUNDAZI NF MANAGEMENT PLAN STAKEHOLDERS' VALIDATION MEETING HELD AT TIGONA LODGE, LUNDAZI DISTRICT ON 04 MAY 2022

1.0 Introduction:

The Forestry Department in 2019 undertook a forest inventory exercise to take stock of the forest resources in Lumimba NF Forest (LNF) 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. The Stakeholders Validation Meeting for LNF in Lundazi was organized to validate the FMP for the LNF which was developed by the Forestry Department.

The meeting brought together 30 participants: (4 females and 26 males) drawn from government departments, civic leaders, CSOs, private sector, community groups and traditional leaders.

2.0 Official Opening

The District Commissioner for Lumezi and Chansefu officiated at the Lundazi NF FMP validation meeting. The District Commissioner's informed the participants that the formulation of Forestry Management Plans (FMPs) was required by law (Forestry Act No. 4 of 2015) to be validated by stakeholders. Hence the meeting was very important. The meeting was called to facilitate sustainable management of the LNF which has no current FMP. In this regard the two District Commissioner's implored the stakeholders to constructively engage and contribute actively in the meeting. The District commissioner's reiterated that FMP formulation is a legal obligation and needed to be formulated and validated in a consultative and participatory way. The importance of the meeting could not be over emphasized.

4.0 Meeting Objectives

As the meeting objectives were highlighted by the DC's in their speech.

5.0 Structure of Meeting

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

5.1 Presentations

Three main context setting presentations were made by the workshop facilitators:

i) Policy and legal context;

ii) Natural Resources profiles; and

iii) Socio-economic profile

5.1.1 Policy and Legal Context

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

- The objectives of ZIFLP that is "To improve the landscape management and increase environmental and economic benefits for the targeted rural communities in the Eastern Province" was highlighted;
- The ZIFLP as a GRZ project provided the Forestry Department with resources to enable it to fulfil its mandate and functions;
- Also highlighted in the presentation were the reasons that prompted government to implement the ZIFLP in Eastern Province which include the following on-going degradation, deforestation, unsustainable livelihood activities, low crop yields, increased adverse effects of climate change, and low community participation in forest management:
- The importance of forests in line with the legal framework were highlighted in the presentation such as soil conservation, carbon sequestration, water cycle and habitat protection;
- The ZIFLP was a REDD+ Project, to determine where Green House Gases (GHG) were being emitted and the sources of these emission, Green House Gases (GHG) baseline survey was conducted which revealed 3 main sources of GHG emissions in Zambia: degradation 82%, forestry loss to agriculture 8% and emissions from agriculture soils at 10 %. The underlying causes of the 3 main source of GHG emissions were also highlighted;

- Through ZIFLP government was not only intervening to arrest the situation but also to make the communities aware of the imminent consequences if no action was taken at national and subnational levels;
- An overview of selected of existing pieces of Forest legislation were shared such as the National Forest Policy 2014, National Strategy to Reduce Deforestation and Forest Degradation, National Forestry Act No 4 of 2015 among others. Contents such as vision, objectives and measures were also shared;
- Also presented were the policy and pieces of legal documents pertaining to LNF. It was highlighted that LNF was gazetted as a forest in 1973 as a supply of timber. Forest protection was important for both the present and future generation as provided for in the legal documents;
- ZIFLP supported the Forestry Department through enhancement of tree nurseries to help with assisted natural regeneration of the degraded and deforested areas.
- The meeting was being held because sustainable forest protection and management required concerted efforts and that FMPs formulation was a legal obligation that needed to be done in a consultative and participatory manner;

5.1.2 Situation Analysis

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

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

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

- Total number Protected Forest Reserves in eastern province was 73: 11 NFs and 62 LFs covering 469,142 ha which translates to 9.2% of the total surface area of the eastern province. the total boundary area covers 2,042.7km;
- Lundazi NF was gazetted in 1975 with total hectarage of 84,840,
- How volume was calculated/measured was demonstrated
- The sampling design used to select the sample plots in the survey was systematic sampling design through which sample plots were created and data was accordingly collected from all the sample plots;
- Parameters that were considered in the survey were highlighted and explained.

- The proposed programmes as contained in the draft FMP for LNF were also presented.

b) Social-Economic Profile.

Mr. Muli Phiri from Zambia Statistics Agency made the presentation on Social-Economic Profile. Noteworthy highlights from the presentation included the following:

- The Province undertook the Socio-Economic Survey in LDLF in 2019 alongside the Forest Inventory.
- At the time of the survey, the total population for the 39 farming blocks and villages surrounding LNF included in the survey that derived benefits from the forest was 1,537 out of which 724 were male and 813 were female. The sample comprised 350 households, out of which 306 were male headed households and 44 were female headed households;
- Farming (100%) was the main source of livelihood for the people surrounding the Forest.
- Almost (100%) all the people in LNF use firewood as energy for cooking
- All (100%) the people in the sample expressed willingness to protect and manage the LNF;
- The main land use for all household was agriculture at 100%

4.2 Group Work

Group work on issues and threats affecting the Protected Forest Area (PFA) and identification of hot sports of concern was facilitated by Mr. Anton. Two groups were formed to: -

- Identify issues and suggest possible solutions;
- Identify priorities and strategies;
- Identify uses of the forest and map where they were most prevalent
- Zone the FPA and identification of practices which should be allowed or not allowed in the respective zones
- Who should be involved in the management of LNF, how should they be selected, their role, office tenure, what authority in terms of decision making should they make, who decides, how should the benefits be shared?

4.2.1 Group Presentations

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

5.0 Collaboration Declaration Pledge

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

"We the interested stakeholders of LNF agree the need to increase the productivity of the LNF to enhance the environmental, social, cultural and economic values.

Damaging activities were identified, and solutions and strategies put forward to ensure the forest is well managed and protected. Permitted practices were identified as well as those which should be controlled.

As concerned stakeholders we are ready to work in partnership with the Forestry Department, Local Authority, traditional leaders to collaborate over the protection, control, use and management of LNF".

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
- 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 LNF with stakeholders' involvement
    - Subject to Project extension, check for opportunities for supporting enterprise development

7.0 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.

Mr Katebe 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.

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

GROUP WORK - 1

1. Identify in Lundazi National Forest

What- Uses of the forest	**Who- Uses the forest?**
• Firewood • Poles • Mushroom collection • Caterpillars • Fruits • Charcoal production • Water catchment • Animal grazing • Small scale farming • Habitant for small animal	• Local community around the forest • People from other places • Department of Forestry • Livestock

Where- it is used/harvested

ISSUES	Solutions/opportunities
Encroachment	Sensitize all chiefs with their leaders in perimeters of the forests and norms and values Sign posts for forests in strategic places Sensitization meetings for communities by all stakeholders Rules, maps and other By-laws to be distributed to community members.
Timber Logging	Controlled timber logging Formation of CFMGs and forest Guards No Timber logging without consent of the traditional leaders (chiefs)

Mining	Review and carry out monitoring of mining documents on Dos and Don'ts on environmental issues.
Conventional Farming	Promotion and teaching on climate smart agriculture methods (Gamphani) No further expansion of Agriculture fields Tobacco farming Must be stopped Promotion of Agroforestry
Infrastructure development inside the forest (sch,clinics, Houses etc)	Stakeholders engagement before any development Annual stakeholders meeting to review the developments in the forests, to be spearheaded by District Administration.
Wild Animals displacement	Sensitize Communities on things that can displace animals. No opening of new fields Identify and regulate animals Safeguard water points No poaching
Charcoal production (illegal)	No license without consent of Chiefs. Capacity building ZAWA officers and Community in existing check points not to aloe passage of charcoal without legal permits.
Water poisoning – Fish	Sensitization
Tobacco production	Stop tobacco growing in the forest.
Poaching (Snaring)	Sensitization
Illegal issuance of land by some traditional leaders	Sensitize them no to issue any land without Chiefs consent. Summon and punish offenders by charging them cattle.
Late bush fires boundary chiefdom dispute	Caucas meeting for Chiefs to review the management of the National Forest

3. Zoning of forest

List permitted practices/prohibited practices in each zone identified.

Permitted practices

Non forest wood products harvesting

- Mushroom harvesting
- Fruits
- Caterpillars
- Grass
- Controlled herbal harvesting
- Dry fuel wood collection
- Climate smart Agriculture farming Of no field expansion
- Re Afforestation (Planting of trees Agroforestry, fruit trees etc)
- Bee keeping

- Game ranching
- Fish farming
- Safari hunting

Prohibited practices

- No charcoal production
- No tobacco
- No poaching
- No water poisoning
- No field expansion further
- No late bush fires

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.

GROUP 2

2. Identify in Lundazi National Forest

What- Uses of the forest	**Who- Uses the forest?**
• Firewood • Poles • Mushroom collection • Caterpillars • Fruits • Charcoal production • Water catchment • Animal grazing • Honey • Fishing • Fibre • Grass • Medicine	• Local communities • Animals /Livestock • Birds • Insects

Where- it is used/harvested

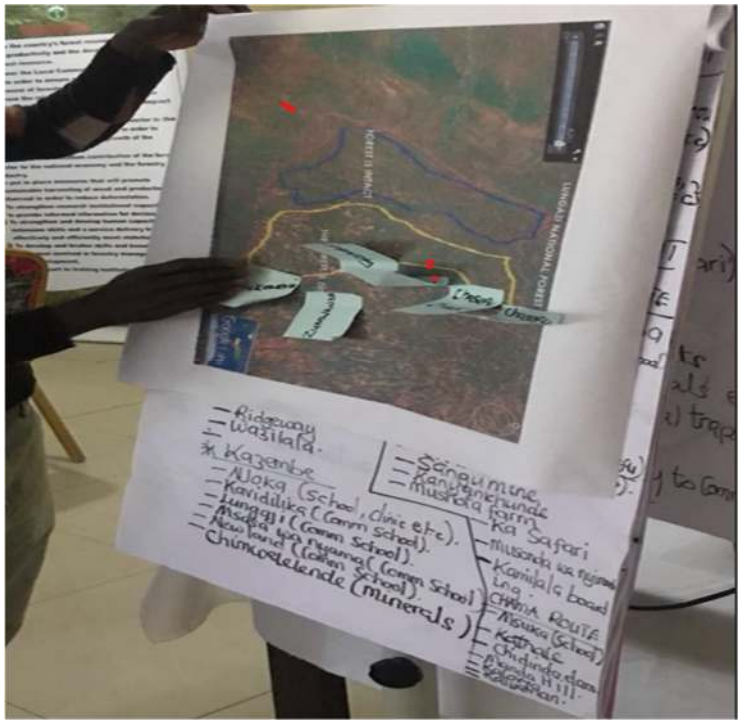
4. Zoning of forest
5. List permitted practices/prohibited practices in each zone identified.

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.



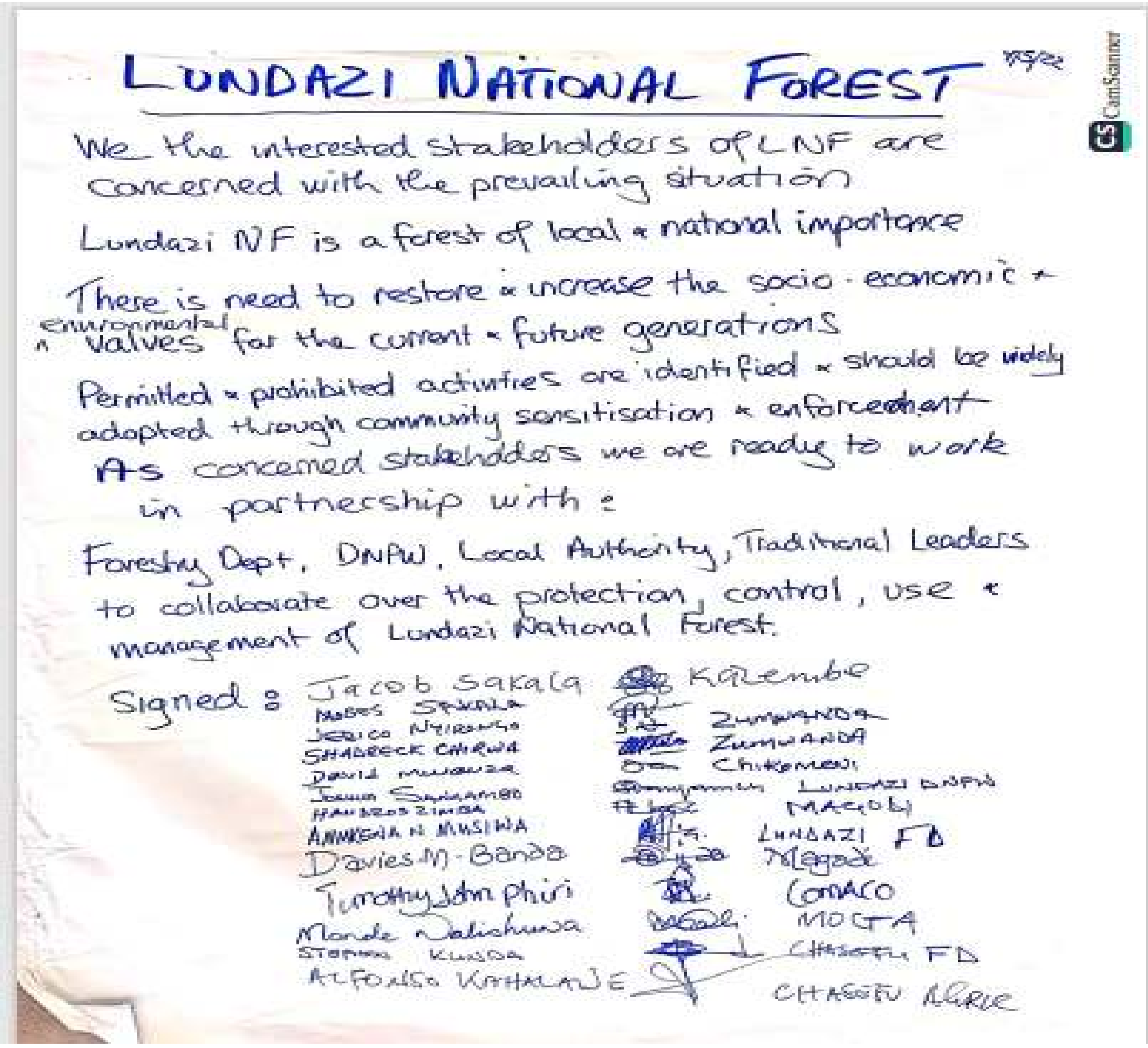
6. List suggestions/strategies to improve productivity/management of the forest.
   - What should be the priority?
     - Forming committee at Community level to spearhead in the mgt. of the forest.
     - Intensify By laws at community level.
   - Who should be involved?
     - Traditional Leaders
     - Local Communities

– Technical groups (stakeholders)

- How do we work together?
  – Formation of Community Forestry Groups (CFMGs)

Declaration

The stakeholders meeting for Lundazi National Forest that was held on 6th May 2022, at Tigone Lodge, in Lundazi district. The stakeholders signed a joint declaration pledging to collaborate in the sustainable management of Lundazi National Forest.



LUNDAZI NATIONAL FOREST

We the interested stakeholders of LNF are concerned with the prevailing situation

Lundazi NF is a forest of local & national importance

There is need to restore & increase the socio-economic & environmental values for the current & future generations

Permitted & prohibited activities are identified & should be widely adopted through community sensitisation & enforcement

As concerned stakeholders we are ready to work in partnership with:

Forestry Dept, DNPW, Local Authority, Traditional Leaders to collaborate over the protection, control, use & management of Lundazi National Forest.

Signed: Jacob Sakala, Kalembe, Moses Sakala, Zumwanda, Jessica Nyirenda, Zumwanda, Shadreck Chirwa, Chikomeni, David Mwanza, Lundazi DNPW, Macobi, Anansia N Musinda, Lundazi FD, Davies M. Banda, Megade, Timothy John Phiri, Comaco, Monde Walishuwa, MOGA, Chasefu FD, Alfonso Kathalawe, Chasefu Agric

Annex VI: References

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

- Fanshawe D.B (1971), The Vegetation of Zambia, Forest Research Bulletin No. 7 Ministry of Rural Development, Republic of Zambia, Government Printer, Lusaka, Zambia
- Hollingworth, L.T D. Johnson, G. Sikaundi, S. Siame, (2015) Fire Management Assessment of Eastern Province, Zambia. Washington. DC: USDA Forest Service.
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- ILUA II (2016) Integrated Land Use Assessment Phase II- Report for Zambia.
- The Food and Agriculture Organization of the United Nations and the Forestry Department, Ministry of Lands and Natural resources, Lusaka, Zambia
- ILUA II (2016) Integrated Land Use Assessment Phase II- Technical Report for Eastern Province.

Annex VII: Cost of Implementing management actions

The various prescribed activities are outlined and their corresponding costs are indicated

REPUBLIC OF ZAMBIA

Ministry of Green Economy & Environment

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

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

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

Forestry Department

Supported by:

Zambia Integrated Forest Landscape Project

Improving lives through sustainable management of natural resources

WORLD BANK GROUP

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