Publication Draft

REPUBLIC OF ZAMBIA

MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

DIWA LOCAL FOREST: P155 MANAGEMENT PLAN 2025-2035

APPROVAL PAGE

DIWA LOCAL FOREST No. P155 - 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

Forest resources are important because they provide essential functions and services to local communities and the country at large, for conservation of biodiversity, and supporting social and livelihood wellbeing. Natural resources management trends in all the corners of the global are moving away from the predominantly earlier practiced protective 'plan and control' management approach to more collaborative and participatory management approaches. Zambia has adopted Participatory Forest Management (PFM), and Community Forest (CF) approaches to forest management allowing for co-management of forest resources between the Zambia Forestry Department (ZFD) as custodian of Zambia's forest resources and communities, partnering organizations and institutions. The change in forest management approach is driven by the need to promote sustainable use and management of forest resources in the country. The high demand for forest products and services has rendered the present use and management of forest resources unsustainable, this is because of increase in human population, and the ever-changing socio-economic and environmental conditions around the country. It is for this reason that the Diwa Forest Management Plan (DFMP) has been formulated.

Signature:

Director of Forestry

Date:

ACKNOWLEDGEMENTS

The creation of this Forest Management Plan was made possible with support from the Zambia Integrated Forest Landscape Project (ZIFLP). The Forestry Department extends sincere appreciation to Their Royal Highnesses, the Headmen, and the Diwa Local Forest community for their dedication and support toward the plan and, more importantly, the sustainable management of the forest.

The Forestry Department in Eastern Province also thanks all participants of the consultation workshop for their valuable input in shaping the Forest Management Plan. This Plan could not have been completed without contributions from ZAMSTATS, as well as current and former staff of the Forestry Department.

Special recognition goes to the teams responsible for forest inventory, livelihood data collection, analysis, and reporting, whose efforts were essential in generating the necessary information for the Plan. The participation of the local community was especially important during the livelihood and biodiversity surveys, as well as in the participatory discussions. The involvement of Their Royal Highnesses in awareness meetings leading up to the livelihood surveys is also deeply appreciated.

The Forestry Department gratefully acknowledges the financial assistance provided by the World Bank and its partners through ZIFLP in developing the draft Plan. Lastly, while it may not be possible to name everyone involved, the Department sincerely appreciates the contributions of all individuals who played a role, directly or indirectly, in the preparation and completion of this Forest Management Plan.

EXECUTIVE SUMMARY

Forest Management Planning is a fundamental requirement for achieving Sustainable Forest Management (SFM) and is mandated under the provisions of the Forests Act No. 4 of 2015. Forests play a critical role in conserving biodiversity and supporting the sustainable use of forest ecosystems, where woodlands and trees are considered among the nation's most valuable natural heritage resources. The vision of the National Forestry Policy, 2014, is to achieve sustainable forest management across all forest types, thereby enhancing the provision of forest products and ecosystem services. These contributions are essential to climate change mitigation, poverty reduction, increased income generation, job creation, and the protection and maintenance of biodiversity. The Policy strongly promotes participatory forest management, emphasizing the active involvement of local communities, traditional authorities, the private sector, and other stakeholders in forest resource governance. This includes participation at all levels planning, decision-making, implementation, monitoring, and evaluation.

This Forest Management Plan for Diwa Local Forest is designed to provide guidance to the forest management team and stakeholders. It serves as a strategic tool for shaping collaborative approaches, facilitating partnerships, and addressing the pressing challenges facing the forest. In the case of Diwa Local Forest, these challenges are critical, and failure to act promptly could lead to the loss of the forest and the ecological functions it was set aside to preserve. Communities surrounding the forest have a vital role to play in its sustainable use through participating in decision-making, active management, protection efforts, and benefit sharing. Therefore, strong community collaboration is essential to safeguarding the remaining forest cover in Diwa Local Forest. This will ensure the forest continues to contribute to local and national development, and secures its benefits for future generations of Zambia.

Translating Policy into practice

This Forest Management Plan translates national forestry policies into a strategic framework designed to guide the development of annual operational programmes for the effective and efficient management of Diwa Local Forest. It will govern forestry activities over a 10-year period by applying clear prescriptions that outline specific targets, actions, and monitoring mechanisms. As part of the broader forest management system, the plan will regulate areas such as protection, silviculture, conservation, and other key activities to ensure sustainable forest use.

At the core of this plan is Community-Based Natural Resource Management. By encouraging active community involvement in managing Diwa Local Forest, this approach seeks to balance access rights to forest products with agreed responsibilities for protection and management. The aim is to end open access, strengthen forest stewardship, and unlock the economic potential of the forest for local development. Given their proximity, surrounding communities stand to lose the most from degradation and gain the most from sustainable forest management.

Zambia's Community Forestry model offers both incentives and capacity-building opportunities to help realize this vision.

To support successful implementation and ongoing monitoring, this plan has been developed using current and comprehensive data on the forest reserve, including information on its location, extent, land ownership and rights, topography, climate, soils, biodiversity, economic potential, and management challenges and opportunities. It not only outlines the approved management objectives and activities but also serves to clearly communicate these to resource users and all stakeholders involved.

The plan was developed through an inclusive, participatory, and strategic planning process involving all key stakeholders. Data collection and consultations were funded by the Zambia Integrated Forest Landscape Project (ZIFLP), an initiative of the Government of Zambia under the Ministry of Green Economy and Environment.

Forest resource & community well being assessment

In 2021, the Forestry Department conducted a comprehensive forest resource assessment in line with the Forests Act of 2015. This process actively involved surrounding local communities and their traditional leaders to gather relevant information for the development of this Forest Management Plan. At the same time, ZAMSTATS carried out forest livelihood and economic surveys with communities living near the Diwa Local Forest.

Traditional authorities were consulted, and their consent was obtained to proceed with data collection and to initiate participatory land use planning. Local stakeholder meetings were held with representatives from communities, local organizations, and various government departments. These sessions aimed to raise awareness on climate change, identify major greenhouse gas emission sources in the province, explain the legal and policy framework, introduce the collaborative planning process, and explore potential partnerships for forest management.

The data collected made it possible to evaluate the forest's condition, its economic and biodiversity value—including species diversity and abundance. Evidence of past use, current pressures, and management challenges were reflected in the distribution and density of tree species. These findings, alongside national policies and local development priorities, will inform the short-, medium-, and long-term management of the Diwa Local Forest.

Inventory results reveal that the total standing volume of all species is estimated at 16.69 m^3 per hectare, with a total bole volume of 5.79 m^3 per hectare. For trees with a diameter at breast height (DBH) ≥5 cm, the total biomass is estimated at 24.76 tonnes per hectare, with above-ground carbon estimated at 12.39 tonnes per hectare. The basal area is calculated at 2.93 m^2 per hectare—a figure significantly lower (by a factor of more than 5) than what is expected for this forest type. This highlights the degraded condition of Diwa Local Forest and confirms that it is currently not achieving its optimal growth potential.

Summary socio economic analysis

As of the 2021 livelihood survey, Diwa Local Forest Reserve was surrounded by approximately 17 villages and farming blocks, as detailed in Annex III, with a total population of 1,282. The main ethnic group in the area is the Chewa, under the leadership of Chief Chikuwe. The population living adjacent to the forest primarily consists of small-scale farmers who depend on the forest to meet some of their livelihood needs. The main crops cultivated in the area include maize, sunflower, soya beans, and groundnuts. Land tenure in the communities surrounding the Diwa Local Forest is predominantly customary, with households generally lacking formal title deeds or letters of allotment.

Forest change & issues analysis

A consultation meeting of stakeholders for Diwa Local Forest was held on 15th December, 2023 at Jemita Lodge, in Chipata. Participants were requested to review the uses and users of the forest, the issues that are contributing to forest loss and forest degradation, but importantly to propose local solutions to these issues. Utilising forest cover imagery, participants were able to relate to the areas of forest and forest loss through agriculture and settlement across the forest and surrounding areas. This was used to focus discussion on issues, identifying different zones of use and management, possible strategies and priorities for management as well as agreeing permitted and non-permitted activities within each of the identified zones.

Stakeholders' observations and Concerns

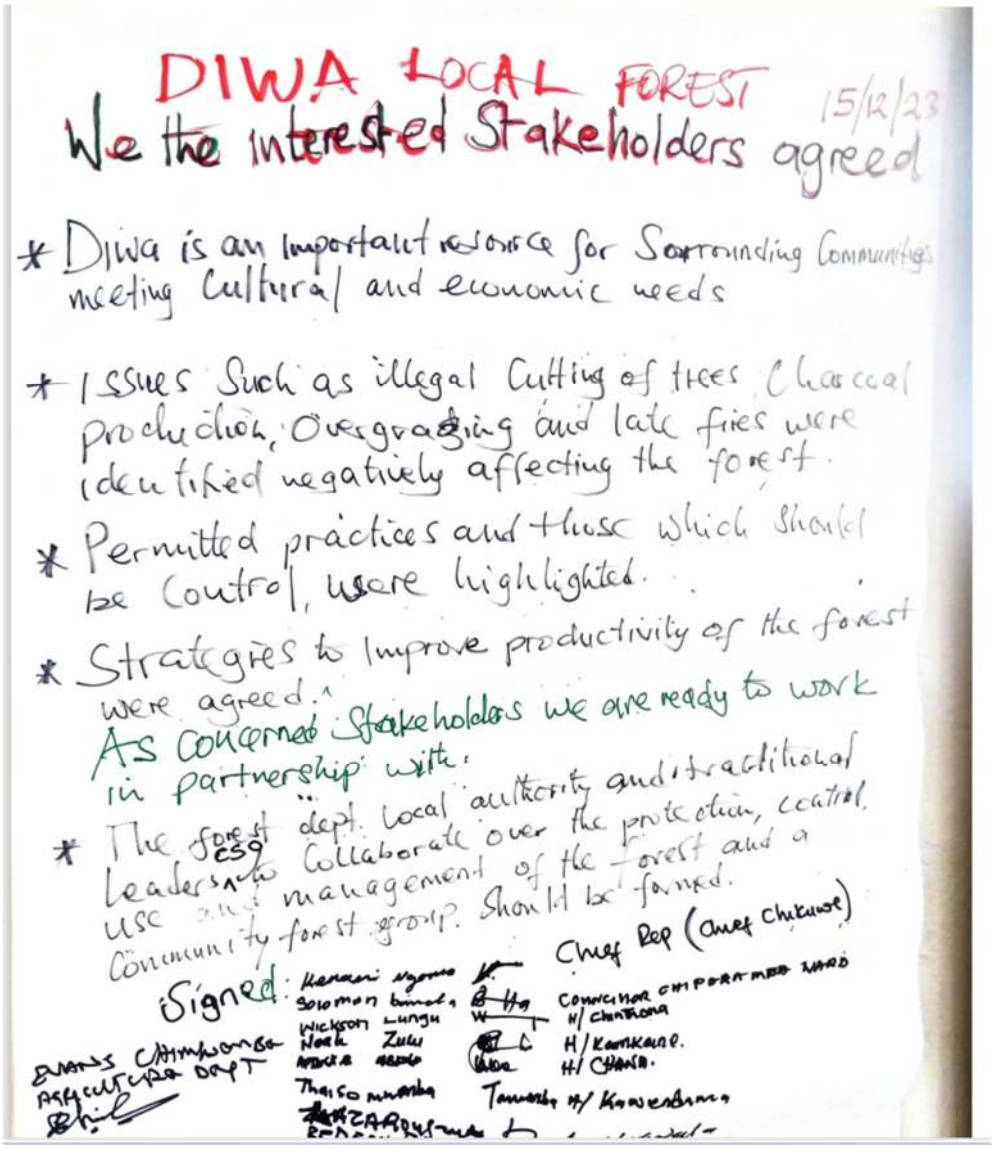
The stakeholders made several observations and raised concerns, notably the following:

- The forest is vital to the surrounding communities and serves as a habitat for wildlife. Forest loss poses a serious threat to both people and animals that depend on it.
- There are significant encroachments within the DLF. It is therefore imperative to protect the remaining forest, restore it to its former state, and find lasting solutions to illegal settlements.
- There is a need to change community mindsets to foster appreciation of the severe consequences of deforestation. Equally important is the provision of sustainable and alternative livelihoods.
- To address the issue of inadequate human resources, it was recommended to reintroduce forest guards to patrol the DLF and to strengthen enforcement through stricter laws.
- Village headpersons and indunas have been allocating land to outsiders, contributing to encroachment. Measures should be taken to prevent further encroachments and to find ways to restore the forest.
- The community forestry model should be promoted, as it encourages local ownership and participation in forest conservation.

Making a commitment to work together for change

Recognizing the urgent challenges facing the Diwa Local Forest, and expressing deep concern over ongoing degradation and encroachment, the Forestry Department, Local Authority, Traditional Leaders, and other stakeholders affirmed the need for joint action. In a show of collective responsibility and shared interest, all parties agreed to collaborate in the protection, sustainable use, and effective management of the protected forest area.

To formalize this commitment, a Declaration of Intent was signed, pledging cooperation in the sustainable management and restoration of the Diwa Local Forest.


DIWA LOCAL FOREST 15/12/23

We the interested Stakeholders agreed

* Diwa is an important resource for Surrounding Communities meeting Cultural and economic needs
* Issues such as illegal Cutting of trees Charcoal production, Overgrazing and late fires were identified negatively affecting the forest.
* Permitted practices and those which should be control, were highlighted.
* Strategies to improve productivity of the forest were agreed.
As concerned Stakeholders we are ready to work in partnership with.
* The forest dept. local authority and traditional Leaders to Collaborate over the protection, control use management of the forest and a Community forest group. Should be formed.

Signed:

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

Objectives and management actions

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

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

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

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

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

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

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

Proposed management actions

The following management actions which are proposed for Diwa Local Forest reflect the statutory purpose of the Local Forest as set out in section 19 of the Forests Act, 2015. The actions are intended to address and reverse the degrading factors threatening the current existence of the Local Forest.

1 Forest Conservation through Community Participation and Livelihood Development

Community empowerment lies at the heart of participatory forest management and is essential for the effective coordination and sustainable stewardship of forest resources. This Plan acknowledges that the communities surrounding Diwa Local Forest are not only key stakeholders in its conservation but also direct beneficiaries of its sustainable management.

The goal is to address the social, cultural, and economic needs of these communities, thereby enhancing their livelihoods. To achieve this, the Plan promotes community forestry and the establishment of a Community Forest Management Group. This group will collaborate in managing Zones 1 and 2 of the Diwa Local Forest and oversee the development of a buffer zone in the immediate surrounding area. This buffer will serve both as a protective measure and as a platform for implementing greenhouse gas emission reduction interventions.

2 Forest Protection, Restoration, Management and Conservation of Biodiversity

Diwa Local Forest is a vital forest ecosystem that hosts a rich diversity of plant and animal species. It is surrounded by a growing population that relies heavily on the forest for both subsistence and, increasingly, economic purposes—including the collection of mushrooms, wild fruits, caterpillars, honey, firewood, and poles.

However, with the rising population, the pressure on forest resources is expected to increase, leading to intensified and unsustainable exploitation and further

degradation. Protecting this forest habitat is therefore essential—not only to preserve its biodiversity and ecosystem services but also to support the livelihoods of the surrounding communities. Sustainable forest management cannot be achieved without recognizing and addressing the needs of local communities. Gaining their support and working collaboratively with them is critical. As such, the strategy will be to develop joint protection mechanisms in partnership with these communities. In return, communities will be allowed agreed levels of resource utilization that meet their basic subsistence needs, while ensuring the long-term conservation of biodiversity and the integrity of the forest ecosystem.

Safeguards & other crosscutting issues

In implementing the proposed management actions, cross-cutting issues, along with environmental and social safeguards, will be systematically mainstreamed across all aspects of forest management. All specific activities, including the annual workplan and operational plans, will incorporate social and environmental screening processes. These screenings will be tailored to the nature of the planned activities and reviewed on an annual basis to ensure relevance and effectiveness.

To ensure accountability and community trust, a Grievance Redress Mechanism (GRM) will be established and made operational at both the District and Provincial levels. This mechanism will provide a structured process for grievances to be raised, documented, addressed, and tracked over time. Gender equity will be a guiding principle in the management of Diwa Local Forest. Women will be fully integrated into all aspects of forest governance, decision-making, and benefit sharing, and will be empowered through equal participation and representation at all levels of management.

Contribution to Emissions Reduction in Eastern Province

The improved management of Diwa Local Forest, through the proposed interventions, will contribute directly to emissions reduction by promoting Sustainable Forest Management (SFM) practices. Central to this approach is the expansion of community forestry and the strengthening of collaborative management frameworks for Diwa and other protected forest areas across the Province. In addition to reducing deforestation and forest degradation, the strategy will support carbon sequestration through the establishment of plantation forestry and the production of long-lived timber products, which store carbon over extended periods. These combined actions will play a significant role in mitigating climate change while supporting sustainable livelihoods and ecosystem resilience.

Delivering sustained results

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

Definition of Terms

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

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

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

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

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

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

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

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

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

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

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

ACRONYMS

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

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DIWA LOCAL FOREST MANAGEMENT PLAN

1 INTRODUCTION

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

1.1 Purpose of the forest management plan

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

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

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

1.2 Duration of forest management plan

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

1.3 Policy 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 Management 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

Diwa Local Forest (Reserve No. P. 155) forms part of the forest estates in Eastern Province. This proposal is situated in Kasenengwa District approximately 20.8km north-west of Chipata City. It covers the whole of Diwa hill.

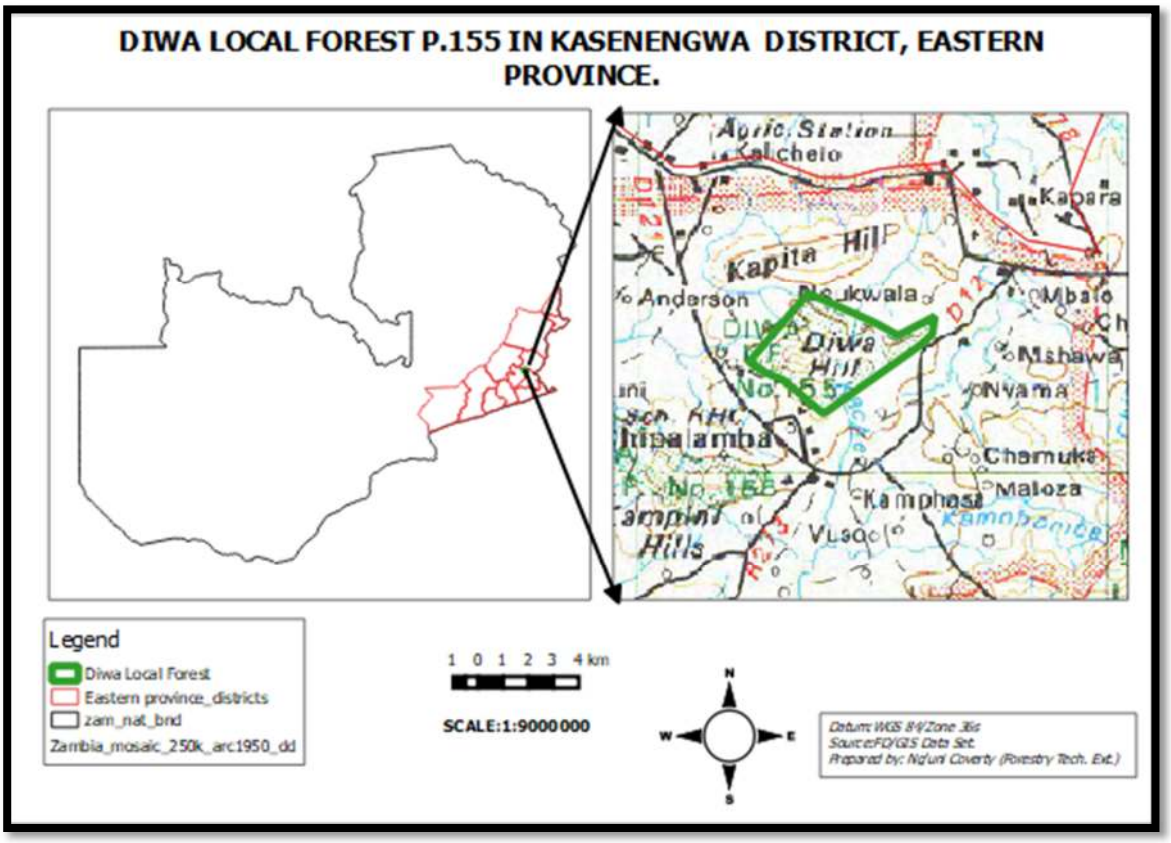


Figure 1: Map of Diwa Local Forest

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

2.2 Ownership and control

Diwa Local Forest No. P. 155, was originally declared a forest reserve and gazetted under Statutory Instrument No. 263 of 1966 and deposited in the office of the Surveyor-General on Map No. FR 505. It is a protected forest area with the designation of "Local Forest" covered by section 17 of the Forests Act, 2015. The Forestry Department according to the Forest Act No.4 of 2015 is responsible for the protection and management of Diwa Local Forest.

2.3. Reasons for reservation

The protected forest area formed part of the series of indigenous pole production for local demands for the Chewa (under Chief Chikuwe). The Chewa Native Authority were to manage it on a simple early burning coppice system.

2.4. Physical and Biophysical Environment

Topography, Geology & Soils

The main feature of Diwa Local Forest is the Diwa hill area, there are no streams within the area. The soils are mainly brown or reddish-brown sandy loams with quartz stones and gravel. Diwa hill is of quartz.

Rainfall & Temperature

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

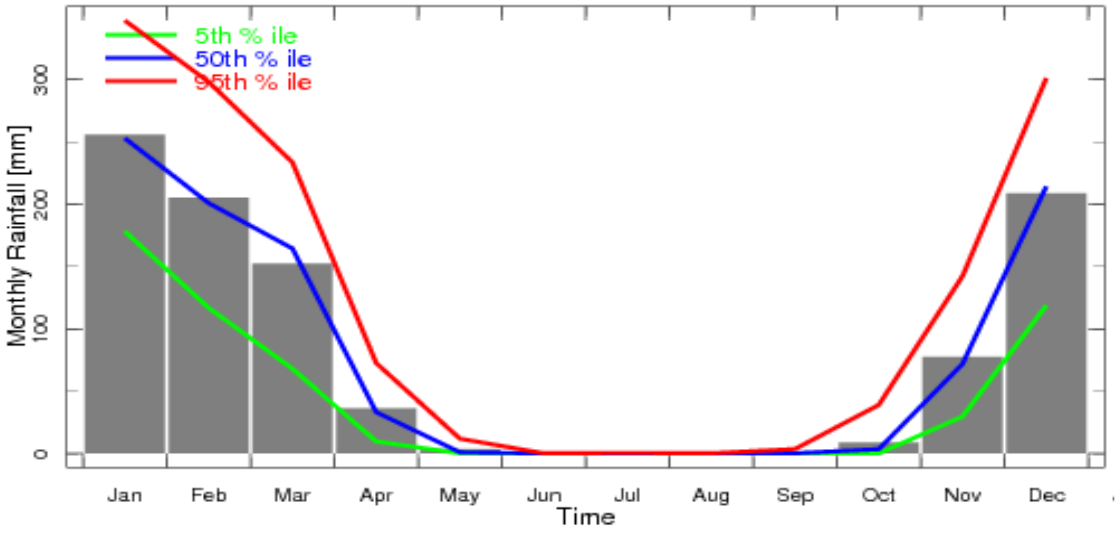


Figure 2: Monthly rainfall, Eastern Province Source: The Zambia Meteorological Department

Normally, temperatures are very high, especially during the dry months which occurs between August and December. The maximum average monthly temperature is between 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.

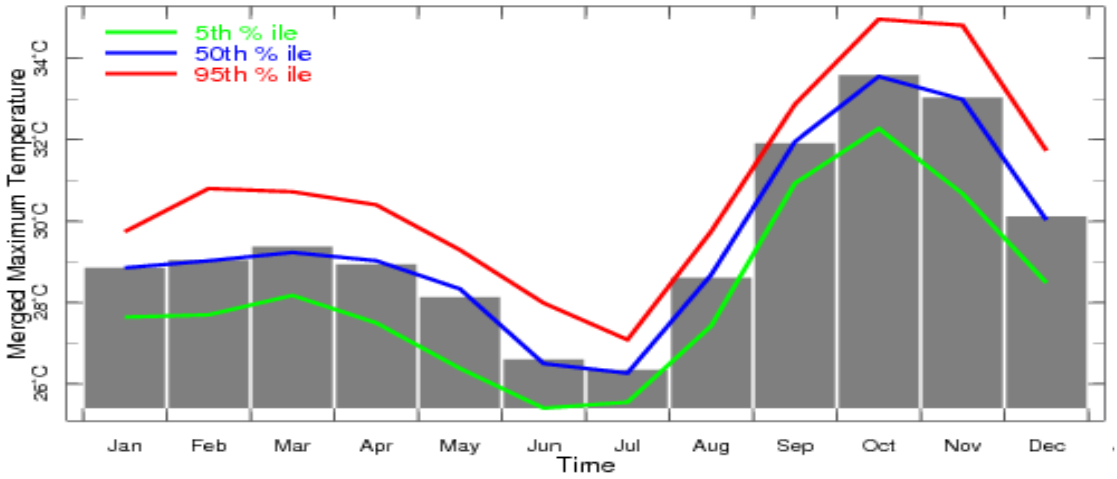


Figure 3: Monthly temperature, Eastern Province Source: The Zambia Meteorological Department

Vegetation Type

Diwa Local Forest is a homogeneous forest. The vegetation type is miombo woodland on the plateau with a diverse tree flora including *Julbernardia paniculata*, *Brachystegia boehimii*, *Brachystegia*, *Parinari curatellifolia* and many other species with *Brachystegia spiciformis* being the dominant species. The diversity of the forest including the number of tree, shrub, and herb species as well as the composition, structure, and economic value (based on the availability of timber, medicinal, and food plants), is detailed in Chapter 4 under Growing Stock. The future utilization of the forest, particularly in relation to area development and community benefits, is further outlined under the Proposed Management Actions.

Fauna

Although no major wildlife species were directly observed during the reconnaissance survey and forest inventory, their presence was indicated by indirect evidence such as footprints, droppings, and oral testimonies from community members familiar with the area. Smaller animal species such as squirrels, birds, snakes, and lizards were observed during the surveys.

3 PAST MANAGEMENT

Diwa Local Forest was declared and gazetted in 1966 as a protected forest area under Notice No. 263 of 1966, and later reaffirmed under Statutory Instrument No. 66 of 1975. The management of the forest has since been guided by the original objectives outlined in the reservation proposal at the time of gazettement. The reservation forms part of a broader network of indigenous pole production forests, established primarily to meet local demand for poles, and to ensure a sustainable supply of non-forest products such as mushrooms, wild fruits, and honey for both current and future generations, especially for communities living in and around the forest reserve. Although no major wildlife species were directly observed during recent surveys, smaller animal species such as squirrels, birds, Snakes and Lizards were encountered during the surveys.

The Public Service Reforms Programme (PSRP) of 1997, coupled with an economic downturn, had a significant adverse impact on the management capacity of national forests, including Diwa Local Forest. These challenges were further compounded by a rising population, high poverty levels, and a reduction in Departmental manpower, leading to increased pressure on forest resources.

As a result, Diwa Local Forest has, over the years, experienced escalating illegal activities such as encroachments, the establishment of agricultural fields, timber logging, and charcoal production. These activities have severely degraded much of the forest's flat land, with only the Diwa Hills remaining relatively undisturbed.

Various interventions have been undertaken to address these challenges, including consultative meetings with traditional leaders (chiefs) and broader stakeholder engagements. In 2015, a programme was initiated to issue eviction notices to individuals illegally settled within the forest reserve.

To support boundary protection, forest beacons were established along the reserve’s perimeter through assistance from the USAID-funded Forest Reserve Support Project (FRSP), implemented between 2015 and 2018.

To support improved management and enforcement, the forest reserve was its boundaries cleared and beacons maintained in 2021, with financial support from the Zambia Integrated Forest Landscape Project (ZIFLP). The project further supported the Department to conduct prescribed burning in 2021 and 2022, most recently in 2025.

These efforts are part of a broader strategy to restore and sustainably manage Diwa Local Forest.

4 GROWING STOCK

Assessing the growing stock of the forest is a fundamental component of Sustainable Forest Management (SFM). At its core, such assessments ensure that the rate of tree and forest product removal does not exceed the forest's natural capacity for regeneration and growth. This principle is essential to avoid forest depletion and degradation over time.

In 2021, the Forestry Department, with financial support from the Zambia Integrated Forest Landscape Project (ZIFLP), conducted a forest inventory in Diwa Local Forest. The purpose was to evaluate the condition, productivity, and biodiversity of the forest ecosystem, and to guide future management decisions. The location of the sample plots measured is found in Annex 1. Measurement of trees and soils followed the Department's Guidelines and the software forestcalc (version 6.4.1) used to process the data to provide the summary information contained in this chapter. The information collected allows assessment of the condition of the forest, the value of the forest both economic as well as biodiversity value in terms of species diversity and abundance. Past management, exploitation as well as current management and pressures on the forest can be seen in the species abundance and size distribution in the areas assessed. These as well as the current Policies and development priorities can guide the short to medium and long-term management of Diwa Local Forest. The following table presents the summary information from the forest inventory:

Stratum total by all species

Diameter Class	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Vol (m^3)/ha	0	4.00	1.86	0.96	4.90	3.74	1.23	16.69
Bole Vol (m^3)/ha	0	1.59	0.69	0.33	1.57	1.14	0.46	5.79
Density/SPH	0	266.77	40.01	9.70	16.97	4.86	1.21	339.53
Basal area (m^2)/ha	0	1.01	0.41	0.21	0.70	0.39	0.20	2.93
Biomass, Total (Tons)/ha	0	5.90	2.76	1.40	7.29	5.59	1.83	24.76
Carbon, Total (Tons)/ha	0	2.96	1.37	0.70	3.64	2.79	0.91	12.39
Volume by Species Use								
Vol (m^3)/ha Sawlog	0	0.00	0.04	0.00	0.27	0.00	0.00	0.31
Vol (m^3)/ha Poles	0	0.94	0.36	0.16	0.74	0.00	0.00	2.21
Vol (m^3)/ha Fruits	0	0.46	0.49	0.00	0.36	0.00	0.00	1.30
Vol (m^3)/ha Medicinal	0	1.41	0.40	0.37	0.19	0.00	0.00	2.37
Vol (m^3)/ha Firewood	0	0.91	0.27	0.13	2.37	3.74	1.23	8.66
Vol (m^3)/ha Others	0	0.26	0.30	0.30	0.97	0.00	0.00	1.81
Seedlings								1,604

Table 1: Stratum total for all species

4.1 Tree species abundance

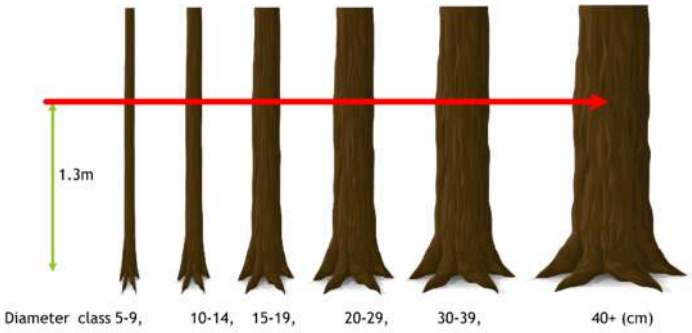
The inventory data indicates that there are over 36 different types' tree species that include tree seedlings in the forest. However, the ten most frequent species are shown below.

Species	Local Name (Nyanja)	Species Code
Brachystegia Boehmii	Mufendaluzi	46
Pseudolachnostylis Maprouneiflia	Musolo	258
Brachystegia Floribunda	Mbovu	49
Diplorhynchus Condylocarpon	Mtowa	114
Diospyros Mespilliforms	Mchenja	112
Brachystegia Bussei	Mikongolo	47
Brachystegia Spiciforms	Puti	49
Lannea Discolor	Shaumbu	194
Dalbergiella Nyasae	Kasalusalu	13
Julbernardia Paniculata	Kamphoni	89

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.



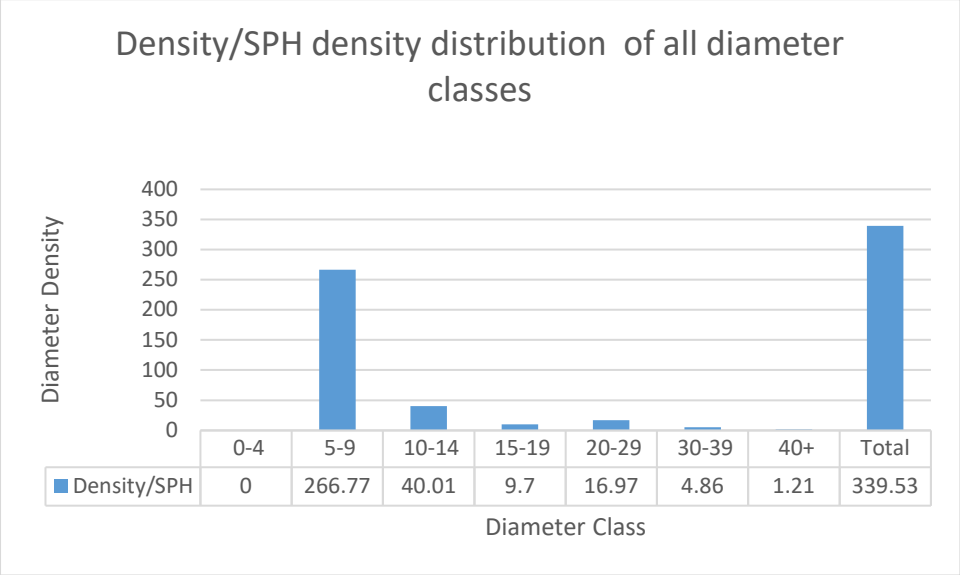


Figure 4: Density by diameter class/ha for all species

In Diwa Local Forest, a stocking density for trees ≥ 5 cm DBH was estimated as 340 stems per hectare.

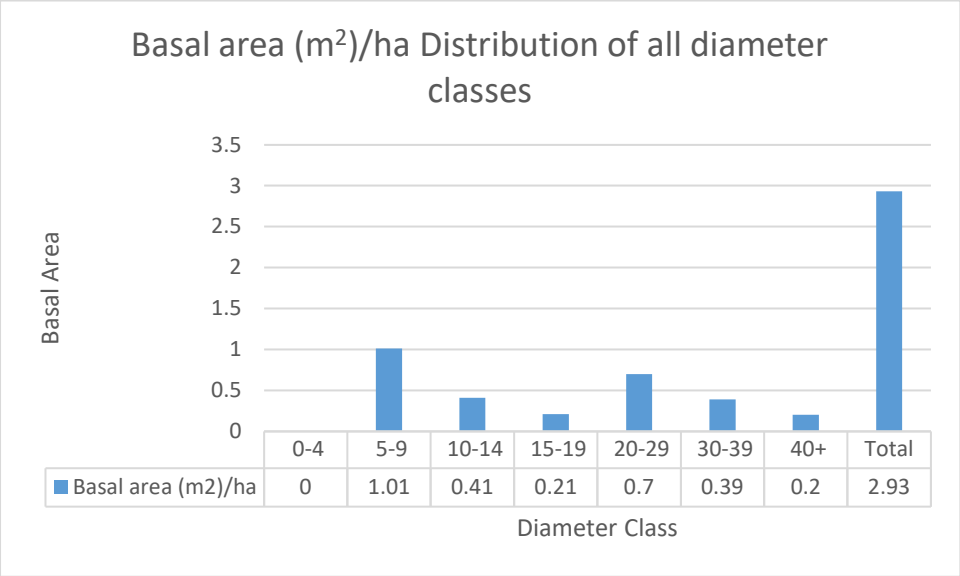


Figure 5: Basal area (m^2) by diameter class/ha for all species

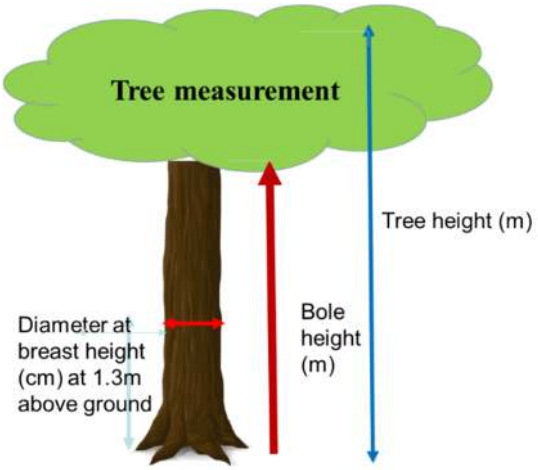
The stocking by diameter class basal area per hectare is more in 5-9cm class. The data indicates that there has been much tree harvesting resulting in high coppicing and regeneration. This indicates that the forest in terms of growth potential is in a relatively good position for growth allowing succession 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 bussei* with 32 stems per hectares, this is followed by *Pseudolachuostylis mapiouneifolia and Diplorhynchus Condylocarpon.*

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

A figure of 2.93 m^2 per hectare is a very low figure for basal area in a similar type of forest type by over a factor of 5. This confirms the status of Diwa Local Forest as a forest of concern following past and most likely current high levels of exploitation of large sized trees as well as other degrading factors of fire and grazing.

4.3 Total Volume estimate of all Species

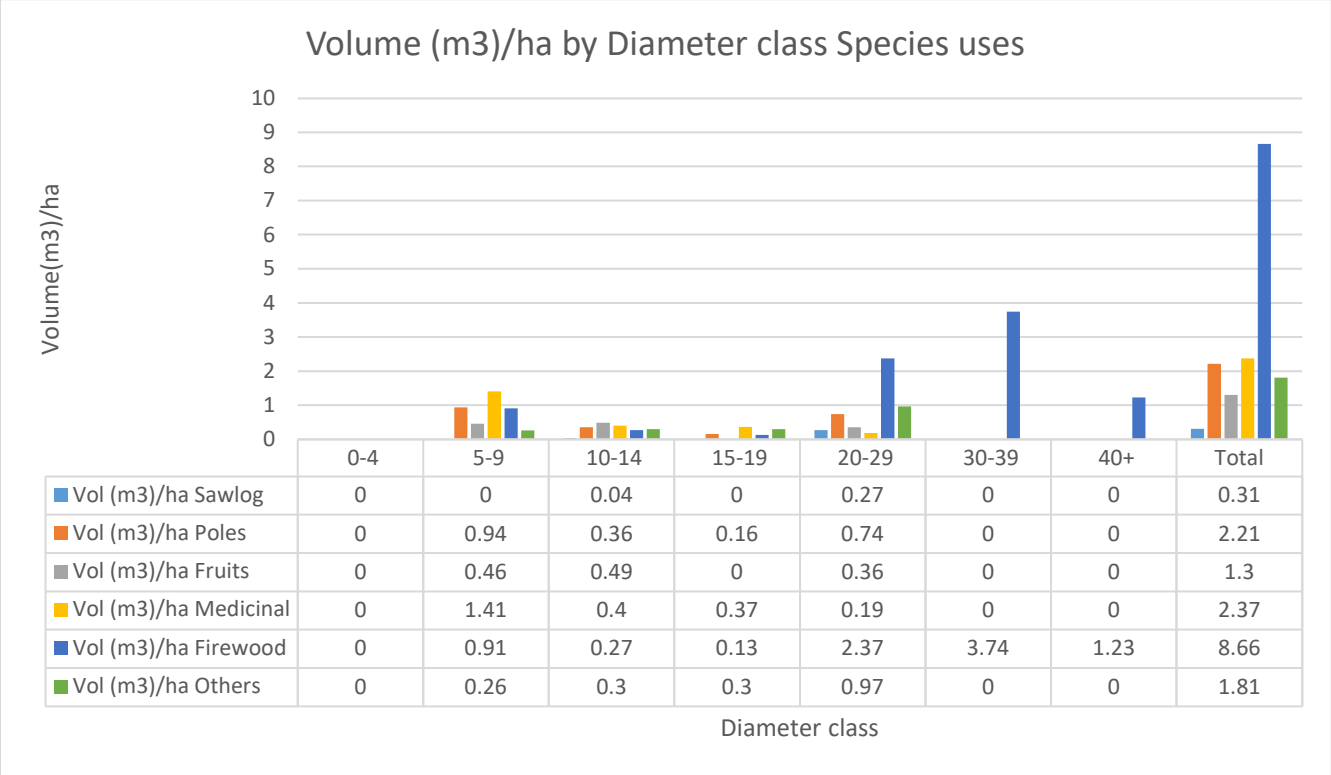
Calculating volume of the standing trees of DBH > 5cm is a further measure of the condition of the forest, site quality and previous management and exploitation. Tree volume to different heights is measured and calculated by individual trees and summed to give a total volume estimate per hectare. An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



The total standing volume per hectare for all species in Diwa Local Forest is estimated at 16.69m3/Ha., with a total bole volume estimated at 5.79m3/Ha. Total Biomass for trees ≥5cm DBH is estimated at 24.76 tonnes/ha and it has carbon estimated at 12.39 tonnes/ha. These figures are also low for this forest type.

Technical characteristics

The volume of other technical characteristics or use are computed per hectare as follow: Saw-log 0.31m^3, Pole 2.21m^3, Firewood/charcoal 8.66m^3, Fruit 1.3m^3 and others 1.81m^3. The poles are evenly distributed mainly in diameter class 5-9, 10-14, 15-19 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 illegal exploitation of forest resources and other degrading factors.

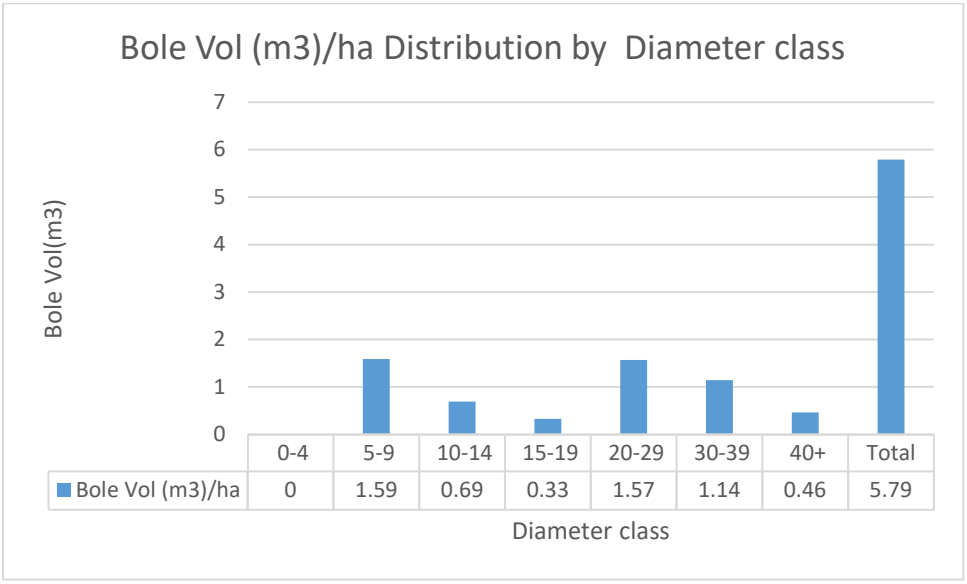


	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Vol (m3)/ha Sawlog	0	0	0.04	0	0.27	0	0	0.31
Vol (m3)/ha Poles	0	0.94	0.36	0.16	0.74	0	0	2.21
Vol (m3)/ha Fruits	0	0.46	0.49	0	0.36	0	0	1.3
Vol (m3)/ha Medicinal	0	1.41	0.4	0.37	0.19	0	0	2.37
Vol (m3)/ha Firewood	0	0.91	0.27	0.13	2.37	3.74	1.23	8.66
Vol (m3)/ha Others	0	0.26	0.3	0.3	0.97	0	0	1.81

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 5.79 cubic meters with higher in diameter class 5 – 9 and less from 30 and above. The outcome indicate that there is a lot of tree harvesting resulting in high coppicing and regeneration smaller size classes.



	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Bole Vol (m3)/ha	0	1.59	0.69	0.33	1.57	1.14	0.46	5.79

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 chrysothrix* and the medium valued are *Brachystegia spiciformis* and *Julbenadia globiflora*, are not abundant in the forest. The harvestable volume is low. Therefore, Diwa Local Forest in its current condition cannot sustain timber logging operations or timber concession because it is highly encroached and degraded in most areas.

Technical characteristics- Volume of all species by use

No	Description	Volume(m^3/ha)	Explanation
1	Sawlogs	0.31	These are merchantable trees with the average diameter of 30cm and above, but not present in significant quantities.
2	Poles	2.21	These are tree species with relative straight bole length with the average diameter at breast height of 5cm to 29cm
3	Fruits	1.3	The tree species include all fruit bearing either edible or not edible
4	Medicinal	2.37	All medicinal plants
5	Firewood	8.66	These include all dead and or diseased trees which can be used for firewood
6	Others	1.81	These include all tree species which are not classified in any of the above categories

Table 3: Trees in Diwa Local Forest in terms of forest product categories.

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

Based on the inventory data, the biomass and carbon figures by size class and total are 24.76t/ha and 12.39t/ha respectively. This is based on the methodological framework developed by the IPCC documented in the 2006 guidelines for national greenhouse inventories volume 4, chapter 2 and 4. 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 or carbon sequestration.

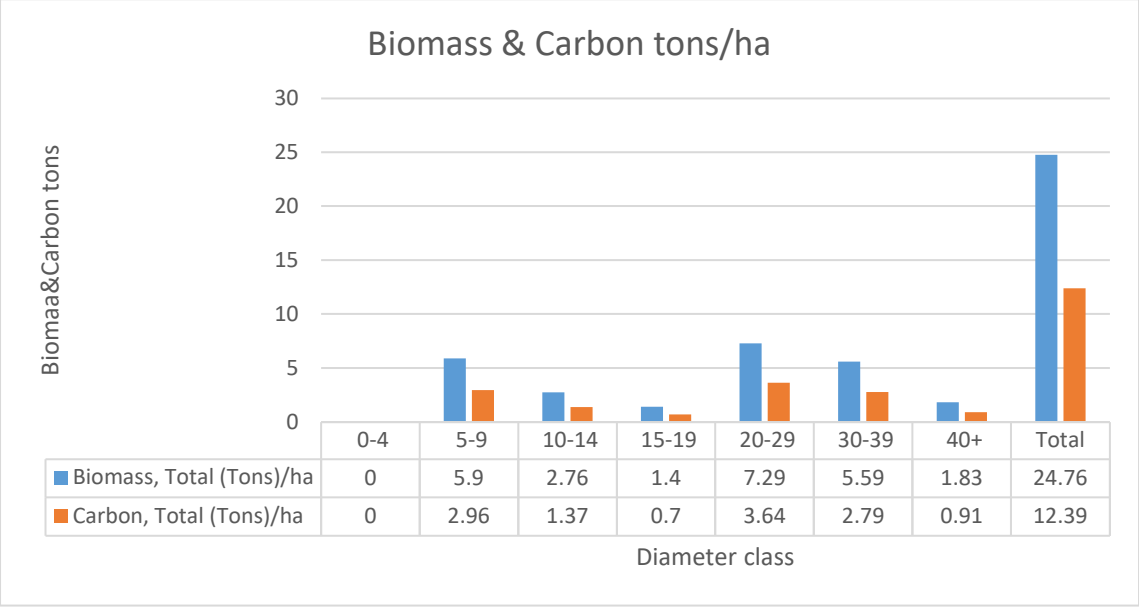


Figure 8: Biomass and Carbon above ground by diameter class/ha for all species

4.6 Forest condition and restoration assessment

In order to restore the ecological functions of the forest as well as the socio economic needs of the community, Forestry Department conducted forest restoration analysis with imagery. This indicated that approximately the following:

Landcover category	*Area (ha)*	*Percentage*
Forest	*410.5*	*80.7*
Cropland	*95.7*	*18.8*
Degraded (scrub)	*2*	*0.47*
Degraded forest (open)	*0.2*	*0.03*
Total	*508.4*	*100*

Diwa Local Forest faces intense pressure, with a high likelihood of further degradation and loss. The proposed management approach prioritizes the protection of remaining forested areas and the restoration of degraded land, with strong community participation. This strategy seeks to deliver positive environmental, social, and economic benefits. The land cover analysis serves as a basis for determining appropriate restoration measures, which are presented in the chapter on proposed management options.

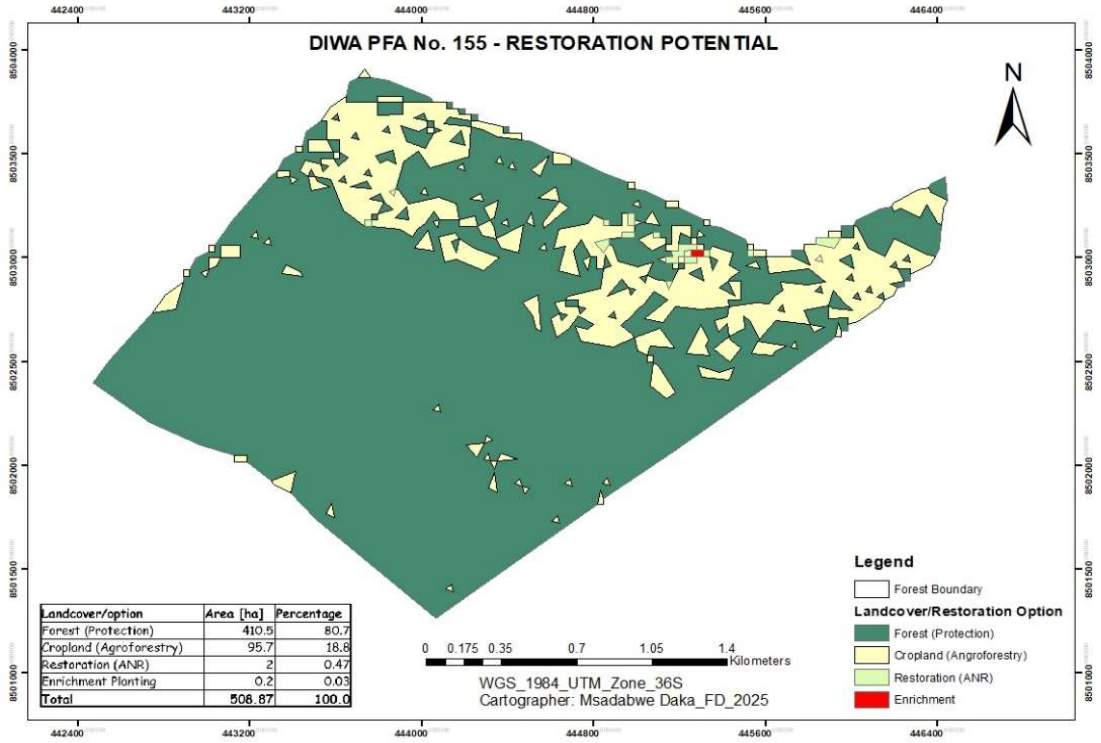


Figure 9:Diwa landcover Restoration Map

Restoration Map narration

The projected restoration potential map was developed using Sentinel-2 2025 images (date filtered: 2024-01-01 - 2025-07-01) at a resolution of 30 meters. Land use land cover (LULC) classification was performed using a supervised classification method for accurate IPCC classes, with all computations performed in Google Earth Engine. The Normalized Difference Vegetation Index was calculated for: Forest Land, Cropland, Grassland, Wetlands, Settlements, and Other Land. Since forest shapefiles were utilized, the area of different land classes was calculated using Compute Geometry in ArcMap. Therefore, the combined area may not necessarily be the same as the original gazetted forest area.

5 SOCIO-ECONOMIC CONDITIONS

5.1 Livelihood Data analysis

In November 2021, the Zambia Statistics Agency (ZAMSTATS), through its Eastern Regional Office, conducted a Forestry Livelihood Survey focused on communities surrounding Diwa Local Forest. The primary objective of the survey was to assess the well-being of forest-dependent communities, evaluate the utilization and management of tree resources, and determine the benefits derived from the forest reserve by local populations. Understanding the demographic characteristics of the area is essential to contextualizing community livelihoods and resource use. Demographic data provides valuable insights into the living conditions, population structure, and household dynamics, all of which influence the degree of forest dependency and shape management needs. Moreover, this information serves as a critical foundation for analyzing broader socio-economic issues, including economic activities, poverty levels, and food security status within the forest-adjacent communities.

The findings from the livelihood survey offer important evidence for designing inclusive forest management strategies, promoting sustainable resource use, and improving community resilience through targeted interventions**.** Considering the household population distribution. Diwa Local Forest can be translated as having an average size of the household membership of about 5 per household.

Methodology

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

Let K = N/n Where:
N = total number of households assigned sampling serial numbers
n = total desired sample size to be drawn from an EA
K = Sampling interval in each EA calculated as K = N/n

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

Household and Population dynamics

As of the 2021 Forestry Livelihood Survey, Diwa Local Forest Reserve was surrounded by approximately 17 villages and farming blocks, as detailed in Annex III, with a combined population of 1,282 people. The predominant ethnic group in the area is the Chewa, who form the majority of the forest-adjacent communities.

The local population consists mainly of small-scale farmers who rely on the forest to support various livelihood needs, including the collection of non-timber forest products and access to forest-based resources. The main crops cultivated in the area include maize, sunflower, soya beans, and groundnuts, reflecting a mix of subsistence and small-scale commercial agriculture.

Land tenure in the areas surrounding Diwa Local Forest is primarily under the customary land tenure system. Most households do not possess formal land documentation, such as title deeds or letters of allotment, which poses challenges for land governance, resource planning, and enforcement of forest boundaries.

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 Diwa Local Forest was found to be mainly primary level that contributed 75.0 percent, while never attended school contributed about 12.5 percent. The rest being secondary education indicating 11.0 percent. As shown in the table below:

Percentage distribution of education attained	Percent
Never attended School	12.5
Primary	75.0
Secondary	11.0
Total	100.0

Table 4: education levels attained.

Economic activity

Diwa Local reserve population depends on farming as their main occupation. The results showed that 90.0 percent of the household population surrounding Diwa Local Forest reserve had farming as their main occupation, while the rest of economic activities contributed 2.5 percent those in paid employment and 7.5 percent in small businesses.

Percentage distribution of main economic activity	Percentage
Business	7.5
Employment	2.5
Farming	90.0
Total	**100.0**

Table 5: percentage distribution of main economic activity

Types of energy used for cooking.

Almost all households in the localities surrounding Diwa Local Forest use firewood as their energy for cooking. The livelihood survey revealed a percentage of about 97.0 percent using firewood as energy for cooking while 3.0 percent use charcoal as energy for cooking. It shows how threatened the forest is as every household depends on the forest for cooking energy.

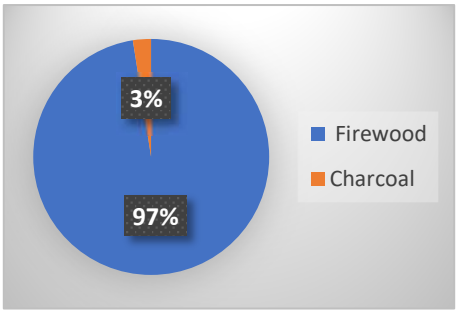


Figure 10: Energy sources for cooking

Main tree resources used for firewood.

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

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

Table 6: 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 Diwa Local are as shown in the table below.

Non wood Forest products
• Mushroom • Caterpillars • Fruits

Table 7: Non-Wood Forest Products used by households surrounding Diwa Local forest LF Reserve

Willingness of community to participate in forest

The livelihood survey revealed that 75 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.

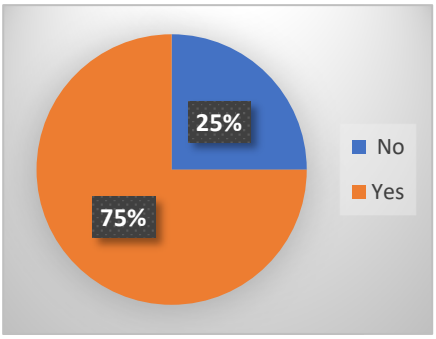


Figure 11: Distribution of willingness to participate when called upon to support FM

Land Occupation and Use

The livelihood survey for the communities surrounding Diwa Local Forest revealed that most of the land is owned by households that showed 91 percent ownership compared to those who don't own at 9 percent. All land occupied by households is mainly used for agriculture purpose.

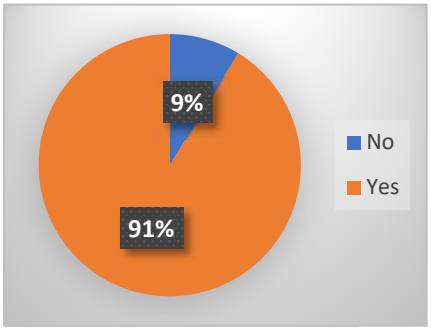


Figure 12: Ownership of land for the surrounding communities

Willingness to plant trees on land owned.

The survey revealed the willingness to planting trees by the households owning land. Those willing to plant trees on their land contributed 78 percent, while those not willing to plant trees had 22 percent contribution as shown in the figure below.

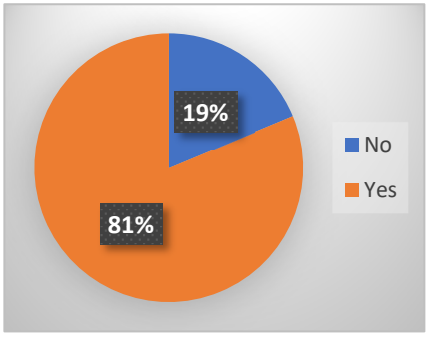


Figure 13: Willingness of surrounding communities to plant trees

5.2 Utilization, issues and solution proposed by stakeholders

Diwa Local forest consultative meeting held on 15th December 2023, the stakeholders identified the uses and users of the forest reserve.

The uses were identified:

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

The Users of the forest:

1. The community surrounding Diwa LF
2. Animals
3. People outside Diwa community

Issues and solutions identified

Issues	Solutions
- Deforestation	- Reforestation
- Late burning	- Early burning/fire break
- Illegal settlement	- Eviction
- Loss of forest land to agriculture	- No expansion of farmland
- Illegal allocation of land by some tradition leaders	- Sensitization management among the leaders/ coordination

5.5. Enterprise opportunities

A healthy forest ecosystem provides a crucial foundation for income generation from forest products by safeguarding biodiversity, maintaining soil fertility, and preserving water resources essential for sustainable production. Ecologically intact forests promote the growth of high-value timber and non-timber forest products (NTFPs), which can be sustainably harvested and commercialized by local communities and other stakeholders. Through effective management, forests can continue to supply these resources over time, ensuring lasting economic benefits without compromising ecological integrity.

Diwa Local Forest offers several income-generating and enterprise opportunities, guided by the current condition of the forest, the interests of local communities and stakeholders, and most importantly, the commitment to sustainable forest management through established institutional frameworks. The development of community-based forest enterprises relies on key factors such as the state of forest resources and product availability, market access, identification of enterprise groups, and strong governance systems to regulate forest access, use, and conservation.

Based on findings from the resource assessment and mapping, socio-economic surveys, stakeholder consultations, and the community forestry management planning process, the following enterprise opportunities have been identified:
Potential Forest product enterprises

- Beekeeping
- Plantation establishment

A successful development of the identified enterprise opportunities will depend on conducting detailed value chain analysis and enterprise development assessments for specific forest products. These assessments are essential to evaluate the economic viability and financial sustainability of each potential enterprise. This process ensures alignment with the Forestry Department's Forestry Enterprise Strategy for 2025–2030, which is designed to promote sustainable forest management and increase value addition across forestry value chains, with a strong emphasis on empowering local communities.

5.3 Encroachment- illegal settlements and cropping

Diwa Local Forest is currently experiencing a dynamic state influenced by various external pressure factors. Several key factors contribute to ongoing pressure and encroachment. These include high poverty levels coupled with low household incomes, illegal harvesting of both timber and non-timber forest products, and increasing land demand driven by agricultural expansion and settlement growth. Over the years, various measures have been undertaken to address these challenges, including engagement with traditional leaders, stakeholder meetings, and the issuance of notices to individuals illegally settled within the reserve. Despite these efforts, several cropping areas have continued to expand within the gazetted forest area. To support boundary protection, forest beacons were established along the reserve's perimeter through assistance from the USAID-funded Forest Reserve Support Project (FRSP), implemented between 2015 and 2020. In 2018 a programme of issuing notices to those illegally settled within the Reserve was conducted following a nationwide instruction from the Minister of Lands and Natural Resources.

In 2023, a stakeholder consultative meeting resulted in a strong consensus and unified commitment among participants. This engagement generated significant interest from both community members and traditional authorities in adopting Community Forest Management (CFM). Their involvement is guided by Zambia's legal framework for sustainable forest management, including the Forest Act, the National Forestry Policy, and Statutory Instrument No. 11 of 2018 on Community Forest Management.

6 PROPOSED MANAGEMENT ACTIONS

In light of the current condition of Diwa Local Forest and the alarming rate of deforestation and forest degradation, the overall objective is to secure the forest's ecological functions by actively engaging local stakeholders and surrounding communities in developing and implementing sustainable management and restoration strategies. 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 Local Forest will inform similar processes for other selected protected forest areas in Eastern Province and across Zambia. All approaches will conform to the stated purpose of a Local Forest as described in section 19 of the Forests Act, 2015:

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

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

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

Opportunities for collaboration with partners and seeking investment and sustainable financing through climate change mitigation/emissions reduction

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

6.1 Zoning the forest for effective management

This management plan recognizes the 2 major zones identified within the forest area during the stakeholder consultation of 15th December 2023, which identified use of the forest, the main users of the forest, issues affecting Diwa Local Forest, local solutions and permitted activities. A third 'buffer' zone which is the immediate area surrounding the Local Forest will focus on developmental activities as well as emissions reductions related activities.

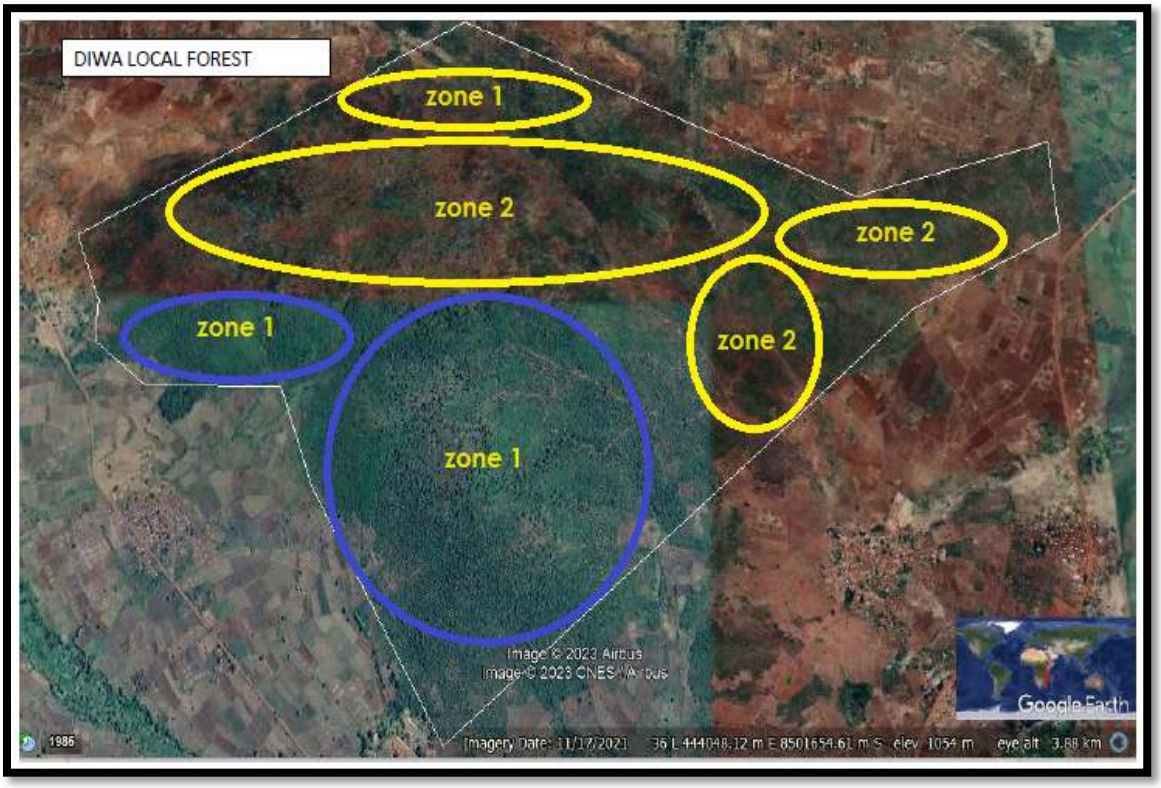


Figure 14: Zoning of Diwa Local Forest based on community consultation

Zone 1: Forest Protection, Management and Conservation of Biodiversity

Diwa Local Forest is a vital forest ecosystem that harbors a diverse range of plant species and fauna, contributing significantly to both biodiversity conservation and the provision of critical ecosystem services. Initially, the forest was reserved to support indigenous pole production, with the aim of meeting local demand for forest products in a sustainable manner. However, unsustainable resource use driven by a growing population and increasing dependence on the forest for livelihoods is

placing mounting pressure on the ecosystem. This has led to escalating levels of resource exploitation and degradation, threatening the forest's ability to meet current and future ecological and socio-economic needs. Without considering the needs of local stakeholders and communities, gaining their support, and working with them, rather than against them, forest protection and management goals and objectives will not be reached. Consequently, the strategy will be to work together with communities to develop joint protection systems in return for agreed levels of utilization within the capacity of the forest to meet subsistence needs whilst safeguarding the environmental aspects including conservation of biodiversity in this protection zone.

Zone 2: Forest restoration zone

This covers the areas already impacted by human activity including seasonal and permanent farming including settlement. The main focus within this zone is to re-establish tree cover and therefore conform with the purpose of the Local Forest. This will involve promoting forest restoration approaches 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 Local 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.

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.

6.2 Forest landscape restoration guiding principles

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

- *Focus on the entire landscape*. Consideration and restoration across the entire landscape of DLF 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.

6.3 Core forest management actions

The identified management actions are described as follows:

Action 1: Forest Protection, Management & Conservation of Biodiversity

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

Forest protection is therefore key in the sustainable management of forest resources. Traditionally, patrolling has been relied upon as the main protection activity but, despite these efforts and in view of the staffing levels, it has not been possible to control the level of unregulated use. Experience has shown that adequate levels of forest protection cannot be achieved through confrontation and conflict between the managers and forest-adjacent communities. In practice, both local people and the government have a mutual interest in conserving the forest, and utilizing forest products in a sustainable way. Without considering the needs of local communities, gaining their support, and working with them, rather than against them, forest protection and management goals and objectives will not be reached.

Consequently, the strategy will be to work together with communities to develop joint protection systems in return for agreed levels of utilization within the capacity of the forest to meet subsistence needs whilst safeguarding the environmental aspects including conservation of biodiversity.

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

1. Stakeholder engagement, community awareness raising and mobilisation;
2. Stakeholder mapping including forest use, users and geographic interest.
3. Forming community level institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.
4. Developing forest product and issues based operational management plans for areas of interest.
5. Agreeing roles, rights, responsibilities and obligations for shared management.
6. Implementing practical forest protection and management interventions that bring value and other environmental and social benefits.
7. Conducting joint monitoring and evaluation of management and benefit sharing measures to ensure a sustainable partnership.

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

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

- To develop a shared management approach to forest protection, management and utilisation.

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	Conduct meetings to determine effective span of management	FD	FPIC Meetings conducted

No	Specific Objectives	Strategy	Actions	Responsible	Indicators
		geographic interest.	control across DLF		
		3. Forming community level institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.	Through participatory processes, form local committee responsible to coordinate and assist management of the DLF	Community groups & FD	
		4. Developing forest product and issues based operational management plans for areas of interest.	For each Zone and area of shared management, development management plans and resource use rules		
		5. Agreeing roles, rights, responsibilities and obligations for shared management.			Signed CFM agreements. Annual work plan reports
		6. Conducting joint monitoring and evaluation of management and benefit sharing measures to ensure a sustainable partnership.	See monitoring section of DLFMP		
2	To protect the Forest from late fires	Practice early burning within and outside the forest by involving local communities.	-Conduct prescribed and early burning. -Training the local communities on fire management techniques -Sensitizing the local community on the	FD/ Adjacent communities	Area in hectares of controlled burning

No	Specific Objectives	Strategy	Actions	Responsible	Indicators
			importance of early burning.		
3	To secure the boundary and define the extent of the boundary and prevent possible encroachment	Involve forest adjacent communities in Forest protection and management.	-Carry out annual Boundary maintenance. -Beacon maintenance - Erection of sign post on roads entering the Forest	FD/ Community	Distance in km of forest perimeter cleared
4	To conserve and enhance the biodiversity of the forest reserve through environmental awareness and education.	Enhance understanding of the forest ecosystem and its function and benefits to community groups and schools.	-Awareness on biodiversity with regard to indigenous knowledge. -Promote local participation and ownership through meetings.	FD/NGOs	
5	To ensure protection against pests and human damage	Frequent monitoring of forest resources	Inspections for diseases and pests and detection of possible illegalities.	FD/ Community	Hectarage of forest protected from pests and human damage
6	To significantly reduce levels of illegal forest product harvesting.	Involve the local communities in the management of forest resources in order to create a sense of ownership. Engage honorary forest Officers/guards	-Conduct sensitization meetings. -Conduct forest patrols.	FD/ community and other security wings	Number of illegal harvesters/ activities reduced
7	Improve local awareness of biodiversity and its value.	Seek greater participation of local communities in research and other biodiversity activities	1.Conduct research that documents and utilizes the indigenous knowledge of	FD/Forestry Research	Levels of community participation in forest management activities is sustained over time.

No	Specific Objectives	Strategy	Actions	Responsible	Indicators
		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		

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 Diwa Local Forest are key stakeholders in the conservation of this forest as well as beneficiaries from its sustainable management. This action aims to meeting the social, cultural and economic needs and thereby improving the livelihoods of the communities around and within Diwa Local Forest. Within this management action, the following interventions will be undertaken in Zone 2 of the Local Forest as well as extension services and activities Buffer development area on the areas surrounding Diwa Local Forest;

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

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 Local 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 communities in CSA and agroforestry.	FD/ Agric/ CSO's/ community	Tonnage of GHG emissions in the forest reserve reduced by 20% 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	FD/ DoE/ community	Volume of wood cut for energy reduced by 25% by mid-term review

Specific Objectives	Strategy	Actions	Responsible	Indicator
		the improved cook stoves.		
5 Reduce forest dependency by local communities.	Promoting diversification of activities, particularly on-farm activities such as agroforestry and establishment of wood-lots, to create alternative Sources for forest products.	Involve local communities in woodlot establishment.	FD/ Adjacent communities	Number of people dependent on the forests reserve reduced by half at mid-term review
6. To contribute towards meeting social, cultural and economic needs and improving the livelihoods of forest-adjacent communities.	Forest resource condition is improved through management actions emphasizing the use of best practices.	Training forest-adjacent communities in sustainable forest enterprises, such as beekeeping, and other non- wood forest enterprises	FD/ NGOs	Forest enterprise activities developed and producing income.
7. To reduce carbon emissions from deforestation and forest degradation by ensuring community benefit from carbon credits.	Establish an incentive benefit sharing mechanism through the carbon trading scheme to be established by Government in Eastern province	Stake holder participatory awareness meetings (Traditional leaders, Government, NGOs and the community)	FD/NGOs	Tonnage of GHG sequestered increased thereby income shared to community is improved year on year.

6.4 Promoting Forest Based Enterprises

Taking into account the current state of the forest including its vegetation composition and insights gathered from socio-economic assessments and stakeholder consultations, a number of viable enterprise opportunities have been identified and previously outlined. Through the implementation of proposed management actions, and where appropriate within the relevant forest zones, these forest-based enterprises will be promoted in line with the objectives of Local Forests as outlined in the Forests Act of 2015. This legislation supports the sustainable use of forest resources to meet the social, cultural, and economic needs of local communities, while ensuring the protection of key ecosystems particularly those related to land and water resources of strategic local importance. These initiatives reflect the essential principles of sustainable forest management. Accordingly, the following enterprise initiatives are recommended for advancement with the active participation of local stakeholders:

Forest product/ enterprise	**Beekeeping**	**Woodlots establishment**
Market/ demand	High, local & urban (Chipata)	Local poles & timber for construction
Product supply	Patches of flowering trees with suitable pollen fodder, water restricted to certain areas	Availability of the forest.
Potential entrepreneurs	Individual beekeepers	Individuals /famers
Opportunities	Honey off-takers are available in the district as a ready market.	Creation of woodlots in abandoned fields (where regeneration is not feasible.
Challenges	Investment in beehives and all processing equipment and tools, Need for a honey bulking centre and water reticulation system investment. technical & business skills training	High initial capital to establish woodlots.
Source of investment finance	Development projects & partners, Community Development Fund (CDF)	Development projects & partners, CDF

Table 8:Promoting potential forest based enterprises

The enterprise development process will be a core component of community engagement and the enhancement of community forestry practices and partnerships within the reserve. This process will facilitate continuous monitoring and mentoring, the development and review of annual work plans, and the periodic revision of Community Forest Management (CFM) plans. These efforts will incorporate practical tools such as a forest product importance, use and

management matrix and tailored forest enterprise development activities. Once there is consensus on an enterprise concept, a comprehensive assessment of market potential and value chain dynamics will be undertaken to shape the idea into a viable and bankable business opportunity. Critically, support for business development and investment will focus on strengthening capacity in the following four key areas, essential for building resilient, sustainable, and community-led forest enterprises:

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

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

6.5 Law enforcement Strategy

This Law Enforcement Strategy aims to protect and sustainably manage Diwa Local Forest; 155, through effective enforcement of legal provisions, regulations, and community participation. Ensuring compliance is essential to prevent illegal activities such as illegal logging, poaching, and forest encroachment.

Objectives

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

Key Enforcement Strategies

Regulation of Forest Activities

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

Monitoring and Surveillance

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

Community Involvement in Law Enforcement

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

Collaboration with Stakeholders

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

6.6 Fire management strategy

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

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

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

- **A fire detection system:** The process and procedures to report the incidence of fire to promote prompt reaction and therefore protection.

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

6.7 Environmental and social safeguards and other crosscutting issues

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

In brief, safeguards will ensure:

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

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

6.8 Infrastructure Development

In order to achieve the forest management objectives for Diwa Local Forest, maintenance of infrastructure is required. To date, the forest itself yields very little in terms of direct revenue, the maintenance of infrastructure is an ongoing problem for forest management, where funds are always scarce. Maintenance of the track road connecting Diwa Local Forest to the main road is a major challenge.

No	**Specific Objectives**	**Strategy**	**Actions**	**Responsibility**	**Indicators**
1	To maintain the infrastructure necessary to achieve the multiple objectives of forest management.	Maintain the existing infrastructure	1. Maintain the road network.	FD/Maintenance/ Infrastructure	All infrastructure maintained to optimum standards

6.9 Sources of revenue

Climate change emissions reduction trading

The Government of the Republic of Zambia has identified climate financing as a potential source of revenue to support climate change mitigation and adaptation activities to safeguard the natural environment and importantly the ecosystem services that society as a whole and specifically rural communities depend on for their livelihoods and well-being. In the Eastern Province, the Ministry of Green Economy and Environment is implementing the Jurisdictional Sustainable Landscape Programme (EP-JSLP). The Programme Development Objective (PDO) is

"to promote greenhouse gas (GHG) emissions reduction or removals in the Eastern Province, while simultaneously improving rural livelihoods including forest and wildlife conservation and management. These emissions reductions are being measured, verified, traded and revenue distributed according to an agreed Benefit Sharing Plan. An estimate has been made of the potential revenue that might be generated through the GRZ emissions reduction trading under the JSLP benefit sharing mechanism. The GHG baseline inventory indicated that the major emissions in the Province are coming from forest land through degradation from forest fires. Implementing improved forest management, conducting fire management and protecting the integrity of the forest areas including from forest loss, degradation and encroachment can be measured and monetised.

In the case of Diwa Local Forest and based on the intact forest area of 80.7% may generate emissions reduction of 343 tonnes of carbon equivalent which may be monetised to generate around $1,030 or ZMW 25,740 annually. This may increase as prescriptions of forest restoration may result in increase carbon sequestration that can be measured and monetised.

6.10 Summary Budget of Forest Management Plan Implementation

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

Forestry Programme	**Cost in ZMW for 10 years**
1 Forest Conservation through Community Participation and Livelihood Development	1,371,433
2 Forest Protection, Restoration, Management and Conservation of Biodiversity	4,259,012
Grand Total (ZMW)	**5,630,445**
Potential revenue generation (10 years)	838,293
Funding gap (ZMW)	4,792,293

Table 9:Summary Budget of Forest Management Plan Implementation

7 STAKEHOLDERS ROLES AND RESPONSIBILITIES

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

District Forest Office (DFO)

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

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

Provincial Forest Office (PFO)

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

- **Monitoring and Evaluation:** Regularly assessing the implementation of the FMP at district and community levels using predefined performance indicators to measure progress and identify gaps.
- **Disbursement of Funds:** Managing financial resources allocated for forest management activities, community support programs, capacity-building, and infrastructure development.

- **Facilitation of Audits:** Overseeing and supporting the auditing process of District Forest Offices and community initiatives to ensure transparency, accountability, and proper use of resources.
- **Coordination and Support:** Offering technical guidance, resources, and capacity-building support to District Forest Offices, community groups, and other stakeholders involved in forest management.
- **Policy and legal framework:** Ensuring that the FMP aligns with national forestry policies and legal frameworks, particularly the Forests Act, 2015.
- **Stakeholder Engagement:** Facilitating communication and collaboration among government agencies, communities, NGOs, private sector partners, and other relevant entities.

Role of the Local Authorities

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

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

Role of Traditional Authorities

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

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

Role of Communities

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

- Controlling access to forest resources to prevent illegal activities and overexploitation.
- Actively participating in decision-making processes related to forest management.
- Implementing community-based sustainable forest practices as outlined in the management plan.
- Protecting the forest from illegal activities such as logging, poaching, and encroachment.
- Ensuring equitable sharing of benefits derived from forest resources, including income, employment, and social services.
- Reporting violations and participating in community-led enforcement efforts.
- Maintaining the community forest management groups and ensuring transparency and accountability in their operations.

Role of Honorary Forest Officers (HFOs)

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

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

Role of Private Sector and Civil Society Organizations (CSOs)

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

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

8 MONITORING AND EVALUATING IMPLEMENTATION

Monitoring and Evaluation (M&E) of the Forest Management Plan is essential, as it forms the foundation for tracking progress, making necessary adjustments, and improving the effectiveness of targeted activities. Implementation of the Plan will be led by the Forestry Department, in close collaboration with local communities surrounding the forest reserve. The Department will facilitate forums for dialogue, consensus building, priority setting, and the reconciliation of diverse stakeholder interests. M&E activities will be guided by annual work plans developed specifically for Diwa Local Forest, which will operationalize the management actions outlined 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 DLF including the impact of the FMP on the wellbeing of the communities on the forest fringes. Implementation of the FMP will be monitored through a number of identifiable indicators as described in the management actions in Chapter 6. These will be subject to regular review during the plan period. Continuous monitoring during the implementation period will be maintained through preparation and submission of monthly, quarterly and annual progress reports.

8.2 Evaluation

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

Table 10: strategic monitoring indicators

9 ANNEXES

Annex 1: Declaration Order, Topo Map & Inventory Map

SECTIONS 5 AND 6-THE LOCAL FOREST NO. P155

DIWA LOCAL FOREST (DECLARATION) ORDER

Order by the Minister

Statutory Instrument

263 of 1966

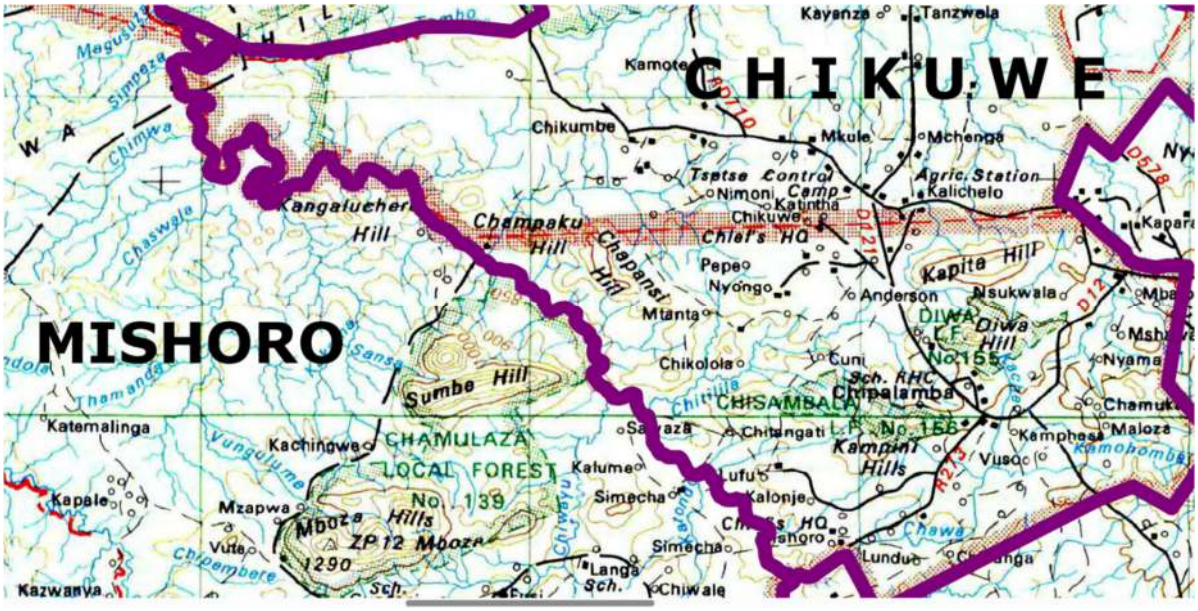
66 of 1975

1. This Order may be cited as the Forest No. P155: Diwa Local Forest (Declaration) Statutory Instruments 263 of 1966, 66 of 1975

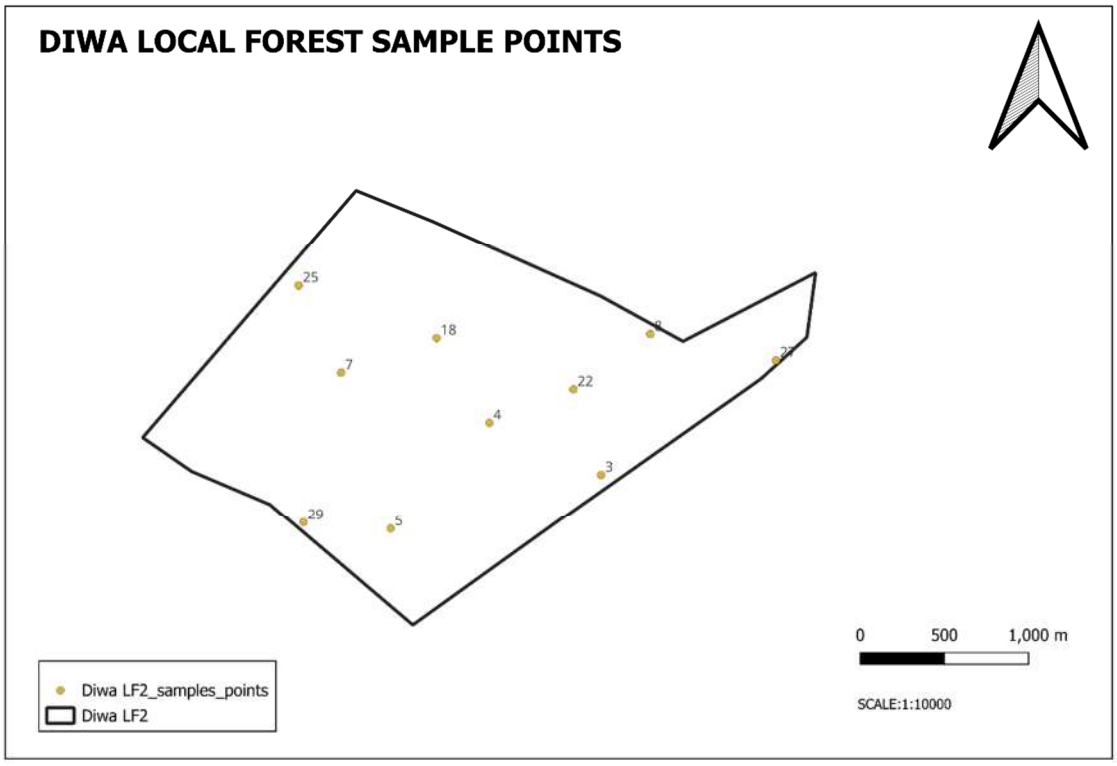
LOCAL FOREST NO. P155: DIWA

Statutory Instruments Starting from Beacon A which lies at the western end of the Diwa Hills north-east off and 0.5632 kilometres from the intersection of the Chiparamba Kalichero road and a footpath connecting Chinthona and Mnkhambwa villages, the boundary follows a straight line on a true bearing of 62 degrees for approximately 1.77 kilometres to Beacon B; thence in a straight line on a true bearing of 116 degrees for 1.609 kilometres to Beacon C; thence in a straight line on a true bearing of 78 degrees for 0.724 kilometres to Beacon D on a small footpath; thence in a southerly direction along this footpath for 0.29 kilometres to Beacon E; thence in a straight line on a true bearing of 233 degrees for 2.82 kilometres to Beacon F; thence in a straight line on a true bearing of 319 degrees for 1.13 kilometres to Beacon G; thence in a straight line on a true bearing of 285 degrees for 0.483 kilometres to Beacon H; thence in a straight line on a true bearing of 354 degrees for 0.241 kilometres to Beacon I; thence in a straight line on a true bearing of 317 degrees for 0.29 kilometres to Beacon A, which is the point of starting. Bearings and distances are approximate. The above described area, in extent 428.98 hectares approximately, is shown bordered green upon Plan No. FR222, deposited in the office of the Surveyor-General, signed by him and dated 26th February, 1964.

1. Map of Diwa Local Forest in relation to Chiefdom boundaries (1958 map)

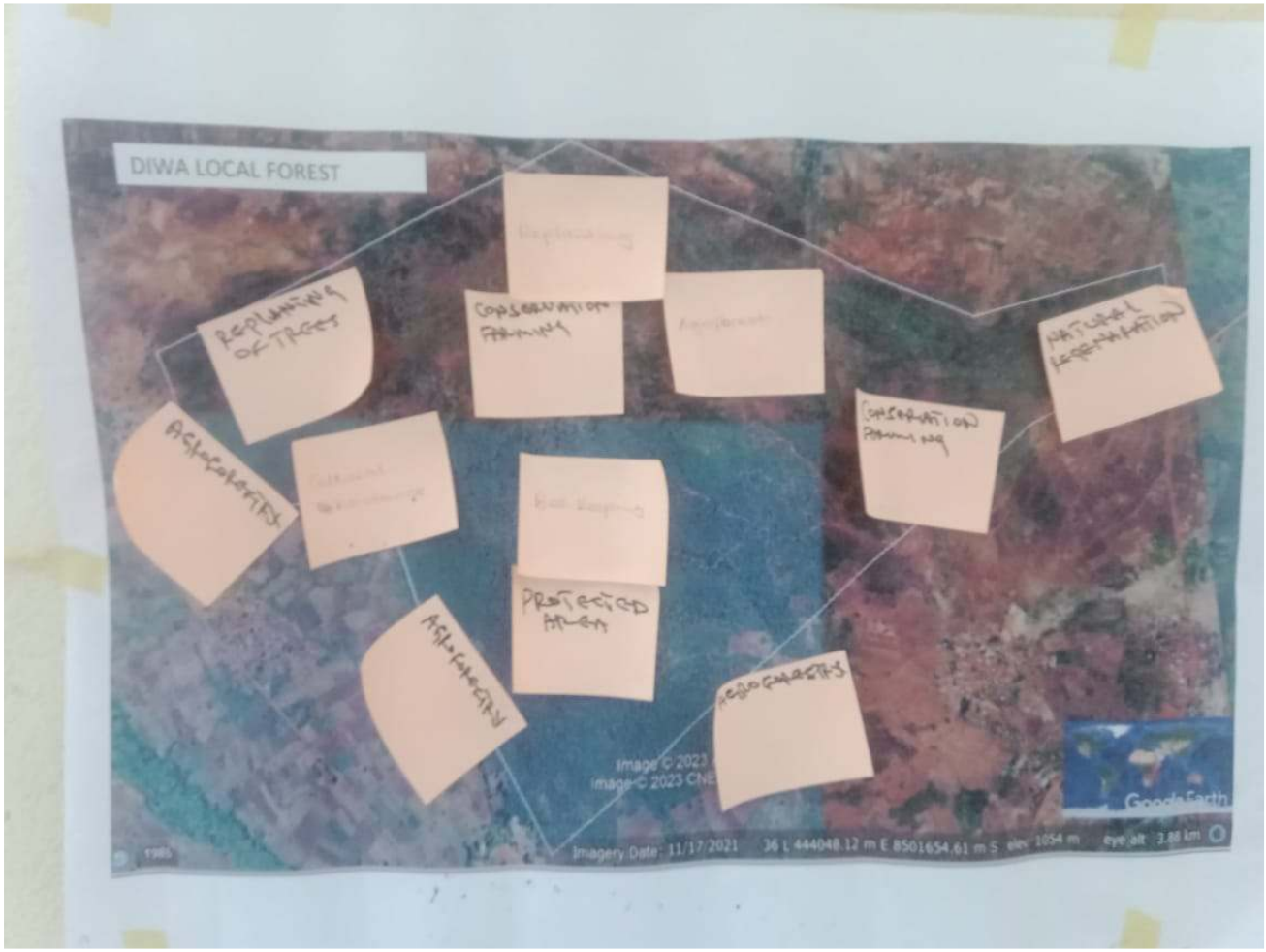


2. Map indicating sample points within the Local forest



1.

3. Map of forest zones relating to forest condition & use



Annex II: Inventory Data

Species	Code	0-4	5-9	10-14	15-19	20-29	30-39	40+	Total
Density	Total	0	266.8	40.0	9.7	17.0	4.9	1.2	339.5
Acacia polyacantha	6	0	2.4	0.0	0.0	0.0	0.0	0.0	2.4
Acacia tortilis	8	0	2.4	1.2	1.2	0.0	0.0	0.0	4.9
Albizia adianthifolia	15	0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
Annona senegalensis	25	0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
Bauhinia petersiana	34	0	4.9	0.0	0.0	0.0	0.0	0.0	4.9
Brachystegia boehmii	46	0	10.9	3.6	1.2	2.4	0.0	0.0	18.2
Brachystegia bussei	47	0	29.1	1.2	0.0	1.2	1.2	0.0	32.7
Brachystegia floribunda	48	0	10.9	6.1	1.2	2.4	3.6	0.0	24.3
Brachystegia longifolia	49	0	3.6	1.2	0.0	0.0	0.0	0.0	4.9
Brachystegia spiciformis	52	0	18.2	0.0	0.0	2.4	0.0	1.2	21.8
Burkea africana	60	0	1.2	1.2	0.0	0.0	0.0	0.0	2.4
Combretum molle	86	0	7.3	1.2	0.0	0.0	0.0	0.0	8.5
Combretum zeyheri	89	0	2.4	0.0	0.0	0.0	0.0	0.0	2.4
Cussonia arborea	98	0	0.0	1.2	0.0	0.0	0.0	0.0	1.2
Dalbergia nitidula	102	0	9.7	0.0	0.0	0.0	0.0	0.0	9.7
Dalbergiella nyasae	103	0	8.5	2.4	0.0	0.0	0.0	0.0	10.9
Diospyros kirkii	111	0	3.6	0.0	0.0	0.0	0.0	0.0	3.6
Diospyros mespiliformis	112	0	15.8	6.1	0.0	1.2	0.0	0.0	23.0
Diplorhynchus condylocarpon	114	0	21.8	0.0	2.4	0.0	0.0	0.0	24.3
Erythrina abyssinica	125	0	0.0	1.2	0.0	0.0	0.0	0.0	1.2
Faurea speciosa	147	0	1.2	1.2	0.0	0.0	0.0	0.0	2.4
Hexalobus monopetalus	178	0	2.4	0.0	0.0	0.0	0.0	0.0	2.4
Julbernardia paniculata	189	0	10.9	0.0	0.0	0.0	0.0	0.0	10.9
Lannea discolor	194	0	17.0	1.2	0.0	0.0	0.0	0.0	18.2
Lannea stuhlmannii	199	0	3.6	0.0	0.0	1.2	0.0	0.0	4.9
Lonchocarpus capassa	200	0	6.1	0.0	0.0	0.0	0.0	0.0	6.1
Ochna pulchra	223	0	2.4	0.0	0.0	0.0	0.0	0.0	2.4

Parinari curatellifolia	233	0	3.6	1.2	0.0	0.0	0.0	0.0	4.9
Pericopsis angolensis	239	0	3.6	0.0	0.0	1.2	0.0	0.0	4.9
Piliostigima thonningii	244	0	7.3	0.0	0.0	0.0	0.0	0.0	7.3
Pseudolachnostylis maprouneifolia	258	0	25.5	2.4	1.2	1.2	0.0	0.0	30.3
Pterocarpus angolensis	262	0	10.9	0.0	0.0	0.0	0.0	0.0	10.9
Strychnos cocculoides	288	0	7.3	2.4	0.0	0.0	0.0	0.0	9.7
Strychnos pungens	292	0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
Strychnos spinosa	293	0	0.0	1.2	0.0	0.0	0.0	0.0	1.2
Unknown	999	0	7.3	3.6	2.4	3.6	0.0	0.0	17.0
Ximenia americana	328	0	1.2	0.0	0.0	0.0	0.0	0.0	1.2

Annex III: Demographics of major forest fringe communities

Demographics of major forest fringe communities Diwa Local Forest

		sex of household head		
		female	male	Total
Locality/village	Belo farm	0	2	2
	Benson Banda	1	2	3
	Bilingo farm	2	1	3
	Chana	1	1	2
	Chayamba farm	2	6	8
	Chibeteka village	22	86	108
	Chinthona	20	43	63
	Eden farm	2	2	4
	Kamukani	4	8	12
	Koloko Frackson	1	1	2
	Mnkhambwa	26	36	62
	Shanzi farm	0	4	4
	Simaili farm	0	1	1
	Simon Banda	0	5	5
	Sub centre	0	2	2
	William farm	0	1	1
	Ziyendela farm	1	1	2
Total		82	202	284

village	male	Female	total
Chana	5	5	10
Chibeteka village	255	246	501
Ziyendela farm	1	6	7
Kamukani	32	28	60

Chinthona	154	135	289
Shanzi farm	8	7	15
William farm	3	3	6
Simon Banda	10	9	19
Koloko Frackson	2	2	4
Benson Banda	6	8	14
Simaili farm	1	1	2
Bilingo farm	2	6	8
Belo farm	5	8	13
Eden farm	9	7	16
Mnkhanbwa	125	150	275
Sub centre	4	4	8
Chayamba farm	16	19	35
	638	644	1282

Table 11: Population Distribution of major forest fringe localities of the Reserve by sex

Annex IV: Stakeholder consultations- Chiefs

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

Chief Chanje (standing in for Chief Chikuwe)

Chief Chanje is the chief standing in for Chikuwe chiefdom for the Chewa people where Diwa Local Forests falls.

FINDINGS

Below are the findings from the chief when visited:

Chief Chanje (Standing in for Chief Chikuwe)

The Chikuwe chiefdom has Diwa Local Forest which covers 429Ha. The chief appreciated the initiation of developing forest management plans which are community driven as the local communities are the beneficiaries of all the products in the forest. They echoed on the previous forest management that was biased to Forestry Department leaving the communities surrounding the forests. Below are issues to be added in the management plans

- General sensitizations in climate change issues and more engagements between the department and the community.
- Need for more sensitizations in the constructions and use of energy saving cook stoves to all communities surrounding the forest.
- The plan to also have afforestation activities in areas that are bear both in the forest and surroundings areas and also asked for support for the local groups in form of seeds and seedlings
- His royal highness also mentioned the aspects of no more expansions for Agric activities for the ones inside the forest.
- He further mentioned the urgent need for By Laws regarding illegal harvesting of timber and charcoal burning
- The benefits accrued from the conserved forests to be used for developmental projects within the chiefdom

Picture showing Forestry staff with Chief Chanje (standing in for Chief Chikuwe)

CONCLUSION

The chief appreciated the inclusiveness in forming the Community driven management plan as they are all currently involved in conservation of forest resources in different aspects. He later consented that the department proceeds with the second phase which will be meeting of local authorities, local communities and other stakeholders to get their submission for the Forest Management Plans

Annex V: Stakeholder validation meeting

REPORT FOR THE DIWA LOCAL FOREST MANAGEMENT PLAN STAKEHOLDERS' VALIDATION MEETING HELD AT JEMITA GUEST HOUSE, CHIPATA DISTRICT ON 15TH DECEMBER 2023

1.0 Introduction:

The Forestry Department in 2021/2022 undertook a forest inventory exercise to take stock of the forest resources in Diwa Local Forest (DLF) among others with the view of collecting data to inform the preparation of Forest Management Plans (FMPs). The FMPs are prepared to guide the community-government partnership in the management of protected forest areas (FPAs) in the Eastern Province. Following the forest inventory exercise, Draft FMPs were prepared for all the FPAs in Eastern Province that were included in the Forest Inventory that was undertaken in 2021/2022.

The Stakeholders Validation Meeting for (DLF) which covers an area of 429Ha and extends over Chikuwe chiefdom and in Kasenengwa District was organized to validate the FMP for the DLF which was developed by the Forestry Department.

The Stakeholders Validation Meeting in Chipata brought together participants: 36, females 6 and 30 males drawn from community, government departments, local authority and traditional leaders.

2.0 Official Opening

The District Commissioner Kasenengwa officially opened the Diwa Local Forest FMP validation meeting.

3.0 Meeting's Expectations

The first session was facilitated on teasing the meeting's expectations. Below is what the stakeholders brought out as the four main expectations as:

i) Learn how to manage their local forests
ii) What will be agreed in the consultation will help protect DLF
iii) Come up with strategies to restore DLF.
iv) Share the findings of the forest inventory conducted in DLF.

Why need for FMP

In the Second session, Community was mainly invited to provide their input which would help in protecting and managing DLF, the importance of forests, why local forests were declared etc

- On-going forest degradation
- Rapid deforestation
- Unsustainable livelihood activities
- Inadequate community participation in forest and wildlife management, land use planning

- Increase in adverse effects of climate change
- Poor yield,

Importance of forests

- Soil conservation
- CO2 sequestration
- Habitat protection
- Water cycle

Local forests were declared for:

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

Way forward requirements

Need for: Consensus, active support & collective action

Government desire is to empower local communities and the traditional leaders to protect and manage forests. Legal framework supporting sustainable forest management exist in Zambia which is the Forest Act, National Policy and SI 11 of 2018 for Community Forestry Management. DLF was designated in 1964 as LF for extraction of poles by the local community. LF are therefore designated as such to meet local needs similarly, the solutions for resolving the issues related to the local forests should be proposed by the local communities

Session for Questions:

Below are some of the questions that were brought out:

- What do you do with people who have settled in the protected areas? - - Answer: Options were given on either evicting them or coming out with local rules that will deter further extensions on where they have settled.

Session three: Forest Inventory (Forest condition assessment)

This session gave out results from the inventory exercise that was conducted in 2021.Forests must be sustainably managed through sustainable harvesting that avoids depletion.

Objective of the conducting the inventory was to inform the formulation of the FMP for DLF

Determine actual stocking, distribution of tree species carbon stocks and regeneration potential.

Findings

Majority of trees in the forest were between 5-9cm diameter class. 36 tree species were found in DLF and that DLF not growing at its full capacity

- Over harvesting of tree species
- Human disturbances through over cutting, fires and grazing
- If No intervention forest degradation and depletion will be intensified.

Questions/concerns

It was true that there are human disturbance in DLF as some people have settled there, farming there, and tree cutting. Since DLF is the property of the government how can it then be managed?

- Community said they can manage to protect and manage the DLF

It would be good to hear how and which areas are degraded DLF

Session four: Livelihood Survey Overview presentation (ZAMSTATS)

Below are the statistics:

- 284 HHs with a population 1282(638 males and 644 females).
- 20 HHs formed part of the sample
- Economic activities 90% of HH engaged in agriculture, 7.5% business and 2.5 employed
- Land ownership: 8.8% didn't own any while 91.2 owned land.
- Size/Extent of Land cultivated: 51.3% no change; 32.5 increased while 735 decreased
- Willingness to plant trees: 81.3% expressed willingness while 18.7% declined
- HHs that use the forest resources: 99.6 said they use the forest resources
- Access to forestry extension services: majority 76.2% said they didn't received advice on sustainable woodlots establishment while 23.8% had majority 91.2% said they didn't received advice on sustainable woodlots any information about fire management while 8.8% had
- Type of housing: majority (61.2%) lived in improved traditional houses while 25% lived in traditional Huts
- Source of water: 90% boreholes rest use protected wells, rivers/dams/streams and communal taps.
- Source of energy for cooking: 97.5% used firewood and 2.5 charcoal.
- Source of lighting: 68.8% torch.
- Willingness to participate in forest management: 75 were willing while the rest were not.

Questions/Concerns

Trainings in the construction of energy serving cook stoves to be intensified to ensure sustainability of forestry resources.

There is need to sensitize the communities before conducting surveys so that people give correct information when asked.

Session five: What should be in the proposed FMP

Development objectives of FMP as stipulated in the National Forestry Policy were shared as being:

(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 utilization 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.

The expected management actions were also discussed as:

- Forest Protection, Restoration, Management and Conservation of Biodiversity. This is triggered by:
  - The forest is surrounded by an increasing population
  - The level of unsustainable use is anticipated to intensify 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. Hence 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 local needs.
- Forest Restoration through Community Participation and Livelihood Development. Community empowerment is central to 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 the forest
  - The Plan proposes interventions with community groups to protect, restore and replant, as part of the restoration planning for Diwa Local Forest.

Question

How long does it take to form a CFMG so that communities are empowered to manage their forests? **Answer**: Not very long only that the community has to be taken through seven (7) steps as per the guidelines of community forests.

Later, the session on identifying uses, users, issues, threats and solutions and opportunities was done as group work. Below are the findings:

GROUP WORK- Diwa Local Forest

Concerns from the stakeholders surrounding the forest.

- Needs general meeting with the community.
- There about 33 villages inside the forest.
- The stakeholders needs to do know how best we can manage the forest.

Uses of the forest	**Users of the forest**
- Firewood - Charcoal - Caterpillar	- Local people

- Timber - Mushroom - Medicine (Herbs) - Wildlife - Bamboos - Grass - Water - Fibre - Poles	- People from outside the forest surroundings

-

Where- it is used/harvested

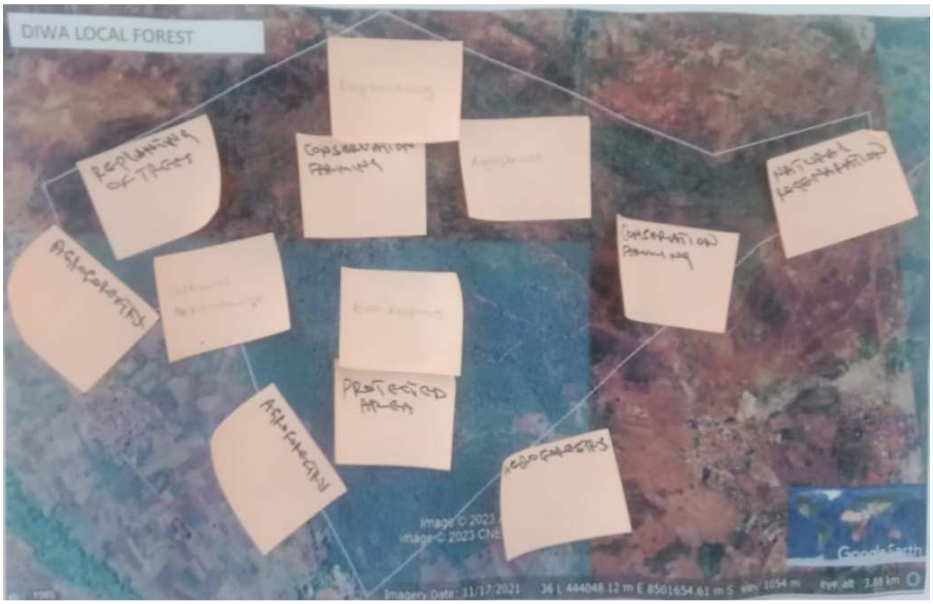
ISSUES	Solutions/opportunities
Indiscriminate cutting of trees	-formation of local rules
Late fires	-Afforestation
Illegal extraction of timber.	-Forest education
Mineral extraction illegally	-Involvement of traditional leaders

Permitted practices were also discussed:
- Mushroom collection.
-Herbal medicine collection without uprooting the tree
- Collection of fruits
- Rotational animal grazing

Prohibited practices were also discussed
-Charcoal and timber production
- No farm land extensions
- No grazing of animals any how

-**3.0 Zoning of forest**

Map was used to identify specific areas were intervention need to take place. The members stuck the innervations on the degraded areas and those that are intact



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

- Sensitizations and Formation of committee
- Afforestation (Promotion of agroforestry trees and tree planting)
- Promoting Assisted Natural regeneration.

What should be the priority?

- Afforestation and formation of management committees

Who should be involved?

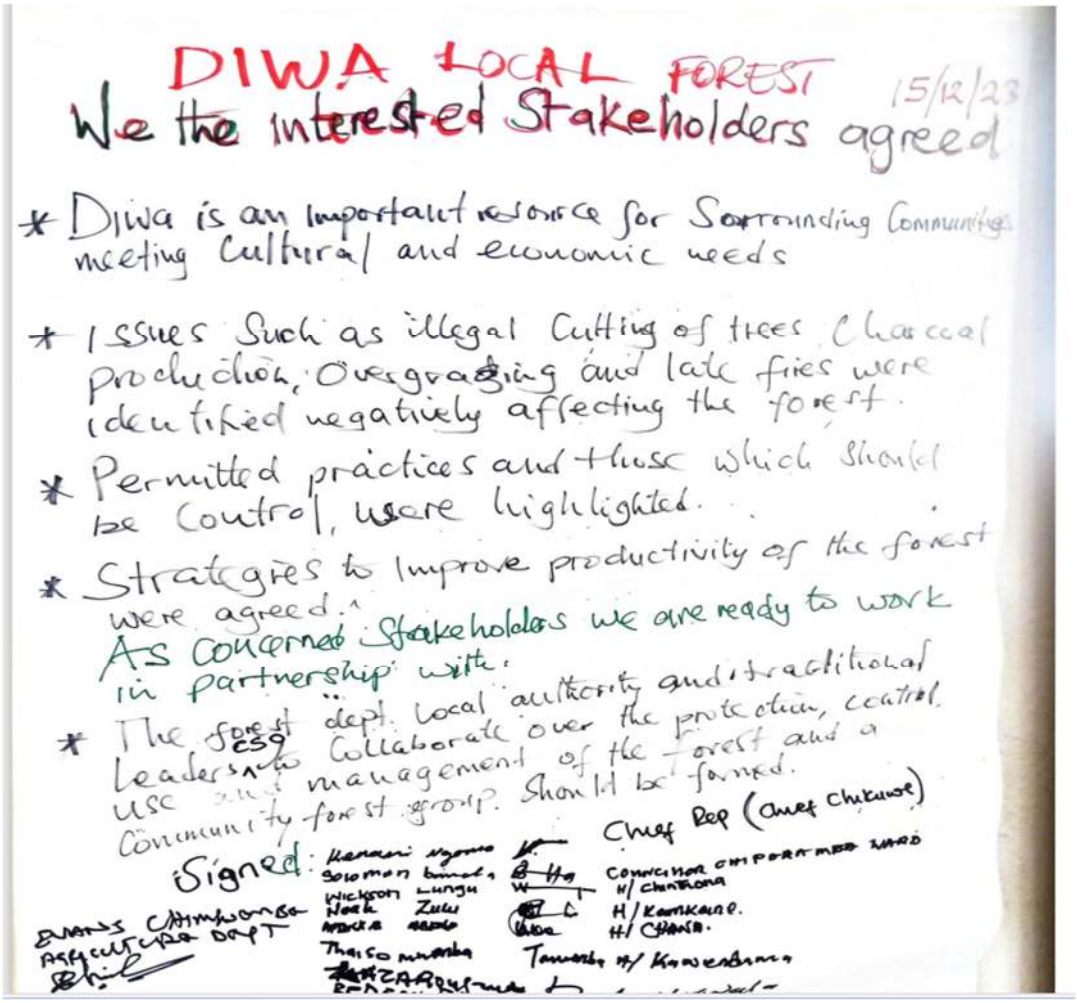
- Local communities
- Traditional leaders: Chief and headmen
- Forestry Department
- Agriculture
- - Church
- Local Authority
- All NGOs and CSOs

How do we work together?

Through Cooperation and coordination in the community

Declaration

The stakeholders meeting for Diwa Local Forest that was held on 15th December, 2023, at Jemita Lodge, in Kasenengwa District. The stakeholders signed a joint declaration pledging to collaborate in the sustainable management of Diwa Local Forest.



DIWA LOCAL FOREST 15/12/23

We the interested Stakeholders agreed

* Diwa is an important resource for Surrounding Communities meeting Cultural and economic needs
* Issues Such as illegal Cutting of trees Charcoal Production, Overgrazing and late fires were identified negatively affecting the forest.
* Permitted practices and those which should be Control, were highlighted.
* Strategies to Improve productivity of the forest were agreed.
* As Concerned Stakeholders we are ready to work in partnership with:
* The forest dept. Local authority and traditional Leaders to Collaborate over the protection, control use and management of the forest and a Community forest group. Should be formed.

Signed:

Chief Rep (Owen Chikuwe)

The DC Kasenengwa with the DLF Stakeholders

Next Steps

i. Development of FMP

ii. Submission of draft FMP to Forestry Department HQ

iii. After review by HQ will be sent back to the community with comments for their review of comments

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
- Government of Zambia, (2018) The National Guidelines for Community Forestry in Zambia, Forestry Department, Lusaka, Zambia. https://ziflp.org.zm/cfm ILUA II (2006) Integrated Land Use Assessment Phase 1- Field Manual.
- Hollingworth, L.T D. Johnson, G. Sikaundi, S. Siame, (2015) Fire Management Assessment of Eastern Province, Zambia. Washington. DC: USDA Forest Service.
- ILUA II (2008) Integrated Land Use Assessment Phase 1- Report for Zambia.
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- ILUA II (2014) Forest Biophysical Field Data Entry Booklet; Forestry Department, Ministry of Lands and Natural Resources, Lusaka, Zambia
- ILUA II (2016) Integrated Land Use Assessment Phase II- Report for Zambia.
- ILUA II (2016) Integrated Land Use Assessment Phase II- Technical Report for Eastern Province.
- The Food and Agriculture Organization of the United Nations and the Forestry Department, Ministry of Lands and Natural resources, Lusaka, Zambia
-

Annex VII: Cost of implementing management actions:

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

#	Core Forest Management Actions																
	Action 1: Forest Protection, Management & Conservation of Biodiversity		Unit of Measure	Quantity	Frequency	Unit Cost	Total Cost Year 1	Total Cost Year 2	Total Cost Year 3	Total Cost Year 4	Total Cost Year 5	Total Cost Year 6	Total Cost Year 7	Total Cost Year 8	Total Cost Year 9	Total Cost Year 10	Total cost
1	**To develop a shared management approach to forest protection, management and utilisation.**	1. Stakeholder engagement, community awareness raising and mobilisation;	Community meetings	3	3	2,500	22,500					-	-	-	-	-	22,500
		2 Stakeholder mapping including forest use, users and geographic interest.	Community meetings	4	1	5,000	20,000									-	20,000
		3. Forming community level institutions to coordinate, manage and control local resource use in partnership with the Forestry Department.	Community meetings	2	3	4,500	27,000										27,000
		4. Developing forest product and issues based operational management plans for areas of interest.	Community meetings	3	2	4,500	27,000		-	-	29,700		-	-	-	-	56,700
		5. Agreeing roles, rights, responsibilities and obligations for shared management.	Community meetings	3	1	4,500	13,500		-	-	-	-	-	-	-	-	13,500
		6 Conduct training in control functions: Permits, rules, financial management, law enforcement	Community meetings	4	1	4,500	18,000		-	-	19,800		-	-	-	-	37,800
		7. Conducting joint monitoring and evaluation of management and benefit sharing measures to ensure a sustainable partnership.	Community meetings	4	1	4,500	18,000	19,800	21,780	23,958	26,354	28,989	31,888	35,077	38,585	42,443	286,874
2	**To protect the Forest from late fires**	Practice early burning within and outside the forest by involving local communities.	350ha	1	1	5000	5,000	5,500	6,050	6,655	7,321	8,053	8,858	9,744	10,718	11,790	79,687
3	**To secure the boundary and define the extent of the boundary and prevent possible encroachment**	1 Carry out annual Boundary maintenance.	12km	1	1	20,000	20,000	22,000	24,200	26,620	29,282	32,210	35,431	38,974	42,872	47,159	318,748
		2 Beacon maintenance	No.	15	1	650	9,750	10,725				15,702		19,000		22,990	78,167
		3 Erection of sign posts	No.	10	1	350	3,500	3,850						6,821		8,253	22,423
4	**To conserve and enhance the biodiversity of the forest reserve through environmental awareness and education.**	Enhance understanding of the forest ecosystem and its function and benefits to community groups and schools.	School visits	3	1	350	1,050		1,155		1,271		1,398		1,537		6,410
5	**To significantly reduce levels of illegal forest product harvesting & other damage.**	Engage honorary forest Officers/guards	coord meetings	1	4	1,500	6,000	6,600	7,260	7,986	8,785	9,663	10,629	11,692	12,862	14,148	95,625
		Conduct patrols	No	2	12	800	19,200	21,120	23,232	25,555	28,111	30,922	34,014	37,415	41,157	45,273	305,999
															Action 1 Sub total		**1,371,433**

Action 2: Forest Restoration through Community Participation & Livelihood Development																	
1. Enter into partnership with clear roles and responsibilities with surrounding communities	Promote community forestry approach / restoration planning	Community meetings	3	3	2,500	22,500		24,750		-	-	27,225		-	-	74,475
2. To protect, restore and replant forest cover in the fragmented forest areas of the National Forest	Support forest restoration activities	Community meetings	3	3	2,500	22,500	24,750	27,225	29,948	32,942	36,236	39,860	43,846	48,231	53,054	358,592
3. To reduce carbon emissions from agric soils and dependency on inorganic fertilizer	Promote CSA through Agroforestry	CSA ha	20	1	500	10,000	11,000	12,100	13,310	14,641	16,105	17,716	19,487	21,436	23,579	159,374
4. To significantly reduce levels of tree cutting for wood energy.	Promotion of energy efficient Cook stoves	Training	1	2	5,000	10,000	11,000	12,100	13,310	14,641	16,105	17,716	19,487	21,436	23,579	159,374
	Roll out programme	stoves	200	2	150	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477	956,245
5 Reduce forest dependency by local communities.	Sources for forest products/ woodlots/ plantations	woodlot establishment	5	1	5,000	25,000	27,500	30,250	33,275	36,603	40,263	44,289	48,718	53,590	58,949	398,436
6. To contribute towards meeting social, cultural and economic needs and improving the livelihoods of forest-adjacent communities.	Forest enterprises promoted & supported	Enterprise groups formed & trained	3	1	25,000	75,000	82,500	90,750	99,825	109,808	120,788	132,867	146,154	160,769	176,846	1,195,307
		Equipment	500	1	900	450,000		-				-		-	-	450,000
		Other Beekeeping accessories				33,000										330,000
7. To reduce carbon emissions from deforestation and forest degradation by ensuring community benefit from carbon credits.	Access to an incentive benefit sharing mechanism through the carbon trading scheme to be established by Government in Eastern province	Community meetings	3	1	2,500	7,500		8,250		9,075		9,983		10,981		45,788
8. To ensure cross cutting issues are mainstreamed in all aspects of forest management for social equity wellbeing and empowerment through sustainable development	1 Ensure that all environmental and social impacts, risks and liabilities are identified and mitigated.	Community meetings	3	1	2,500	7,500		8,250		9,075		9,983		10,981		45,788
	2 Identify training needs.	Community meetings	3	1	2,500	7,500		8,250		9,075		9,983		10,981		45,788
	3 Monitoring safeguards & Grievances	Community meetings	1	1	2,500	2,500	2,750	3,025	3,328	3,660	4,026	4,429	4,872	5,359	5,895	39,844
9. To maintain the infrastructure necessary to achieve the multiple objectives of forest management.	Maintain the existing infrastructure	Site specific				-	-	-	-	-	-	-	-	-	-	-
														Action 2 Sub total		4,259,012
												Grand total for the period of the Plan (ZMW)				5,630,445

		Unit of Measure	Quantity	Frequency	Unit revenue	Total Revenue Year 1	Total Revenue Year 2	Total Revenue Year 3	Total Revenue Year 4	Total Revenue Year 5	Total Revenue Year 6	Total Revenue Year 7	Total Revenue Year 8	Total Revenue Year 9	Total Revenue Year 10	Total Revenue
Revenue			Ha													
Carbon trading benefit share under EP-JSLP		Carbon t/ha	410.5	1	75	30,788	33,866	37,253	40,978	45,076	49,584	54,542	59,996	65,996	72,595	**490,673**
2 Small woodlots	Carbon t/ha	Hectare	5	1	75	375	413	495	644	901	1,351	2,027	3,243	5,514	9,924	**24,886**
3 Agroforestry	Assume 1tC/ha inc to 2 t/ha yr 10	Hectare	20	1	75	1,500	1,650	1,815	1,997	2,196	2,416	2,657	2,923	3,215	3,537	**23,906**
4 Natural regeneration	Assume 1tC/ha inc to 2 t/ha yr 10	Hectare	50	1	75	3,750	4,125	4,538	4,991	5,490	6,039	6,643	7,308	8,038	8,842	**59,765**
	beekeeping	kg	500	1	30	15000	16,500.00	18,150.00	19,965.00	21,961.50	24,157.65	26,573.42	29,230.76	32,153.83	35,369.22	239,061.37
																838,293
																- **4,792,152**

REPUBLIC OF ZAMBIA

Ministry of Green Economy & Environment

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

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

The ZIFLP and EP-JSLP are a cooperation between the Government of Zambia, the World Bank & partners.

Forestry Department

Supported by:

Zambia Integrated Forest Landscape Project

Improving lives through sustainable management of natural resources

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