APPROVAL PAGE

The Government of the Republic of Zambia through the Ministry of Tourism and Arts, Department of National Parks and Wildlife hereby approve the implementation of this General Management Plan for Luambe National Park.

Signature.....
Hon. Ronald .K. Chitotela
Permanent Secretary
Ministry of Tourism and Arts
Date:...14/04/21.....

Signature.....
Mr. Patrick .A. Lungu
Permanent Secretary
Ministry of Tourism and Arts
Date:...14-4-21.....

Signature.....
Chuma Simukonda DSc.
Director
Department of National Parks and Wildlife
Date :...14/04/21.....

FOREWORD

This General Management Plan (GMP) for Luambe National Park provides guidelines for tourism development, conservation and management of natural and cultural resources. It provides a framework for the conservation of both natural and cultural resources inside the National Park. It will be in force for 10 years and is subject for review after five years.

The GMP was generated through a consultative, interactive and participatory Strategic Planning Process (SPP) involving key stakeholders and it was produced with financial support from the Zambia Integrated Forest Landscape Project (ZIFLP).

This GMP reflects the Department of National Parks and Wildlife (DNPW) and its partners' determination to preserve the park's biodiversity and cultural heritage, whilst providing investment opportunities through sustainable tourism development. The GMP has been developed to provide the management and development philosophy of the park and offers an important framework for addressing management problems related to resource protection and management, tourism development, cultural resources management and sustainable use of wildlife resources.

In line with the DNPW Administrative Structure, Luambe National Park is managed through the South Luangwa Area Management Unit (SLAMU). The Area Warden and Park Ranger are stationed at the Area Management Unit Headquarters in Mambwe District. They oversee the operations and management of the National Park.

My hope and wish is that this GMP will not just be a document destined to be shelved. It should be viewed and treated as a useful, practical, handy and dynamic document, which will be updated and continually revised. In other words, it should be the most important document on which all those concerned and responsible for Luambe National Park should rely upon.

Chuma Simukonda DSc.
Director - National Parks and Wildlife

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LIST OF ABBREVIATIONS AND ACRONYMS

AMU	Area Management Unit
CP	Cooperating Partner
CRB	Community Resource Board
DNPW	Department of National Parks and Wildlife
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPB	Environmental Project Brief
EMA	Environmental Management Act No. 12 of 2011
EPPCA	Environmental Protection & Pollution Control Act No. 12 of 1990
GMA	Game Management Area
GRZ	Government of the Republic of Zambia
GMP	General Management Plan
IUCN	International Union for the Conservation of Nature
LNP	Luambe National Park
PA	Protected Area
SADC	Southern African Development Community
SEA	Strategic Environmental Assessment
SI	Statutory Instrument
SIMAP	Strategic Investment Management Action Plan
SPP	Strategic Planning Process
SLAMU	South Luangwa Area Management Unit
WPO	Wildlife Police Officer
UN	United Nations

ZIFLP	Zambia Integrated Forest Landscape Project
ZTA	Zambia Tourism Agency

DEFINITIONS

Area Management Unit (AMU) is an administrative geographically delineated area unit under Department of National Parks and Wildlife for wildlife estate in Zambia. An AMU covers one or more National Parks, Game Management Areas and open areas.

Bed-Night Levy is a payment demanded from an operator by Department of National Parks and Wildlife for the nights spent by clients calculated on the basis of the number of beds available.

Bush Camp is a small-scale integration of a site, accommodation units, and minimum equipment to service tourists. The accommodation units are semi-permanent structures.

Lodge is an integration of a site, accommodation units, offices or equipment for either tourism or park management in and around the park. Although the term is comprehensively used, it mainly means the site of accommodation units for tourist (refer to "Lodge") unless an additional word such as "wildlife", "gate" or "staff' is accompanied with it.

Camping Site is a site set aside for campers. Accommodation is mainly Tents, while communal toilets, bathrooms and kitchens are provided.

Developer means any person who, or entity which, proposes to undertake a new project or to repair or extend an existing project which falls within the list of projects provided for in the First Schedule and Second Schedule who, or which, is responsible for obtaining the appropriate authorisation;

Environmental Impact Assessment (EIA) means a systematic examination conducted to determine whether or not a proposed project, or alteration to an existing project, or alternatives, may have significant adverse or beneficial impacts on the environment.

Environmental Impact Statement means the statement described in Regulations 8, 11 and 12 of the EIA Regulations of 1997.

Environmental Mitigation Audit means the systematic, documented, periodic and objective evaluation of the implementation and performance of the impact management plan included in an environmental impact statement and as included in any authorisation licence, permit or permission pertaining to a proposed project or alteration of an existing project.

Miombo is a vernacular word that has been adopted by ecologists to describe those woodland ecosystems dominated by trees in the genera *Brachystegia*, *Julbernardia* and *Isoberlinia* of the family Fabaceae, subfamily Caesalpinioideae (CSA/CCTA 1960; Wild and Fernandes 1967).

Mitigation Measures include engineering works, technological improvements, management measures and other ways and means of preventing, ameliorating or compensating for adverse environmental impacts and losses suffered by individuals and communities and for enhancing benefits.

Outpost is a camp for wildlife police officers set in the periphery of the park in most cases or in the Game Management Area (GMA) to service the outlying areas. Entrance and exit gate camps are also included.

Park Headquarter is an administrative Centre for the Luambe National Park, at which there are permanent structures of management facilities and project staff accommodation.

Permanent Structure is a building structure whose base and walls are made of stone or concrete.

Picnic Site is a site provided to day visitors for temporary rest and has sitting facilities to allow visitors take quick meal or snacks. No cooking facilities are provided.

Project Brief means a report made by the developer including preliminary predictions of possible impacts of a proposed project on the environment and constituting the first stage in the environmental impact assessment process;

Project means any plan, operation, undertaking, development, change in the use of land, or extensions and other alterations to any of the above and which cannot be implemented without an authorisation licence, permit or permission from an authorising agency or without approval from a line ministry before entry into a project implementation programme;

Safari Lodge and Safari Camp is an integration of a site, accommodation units, offices and equipment to service tourists. The accommodation units are permanent structures. Safari lodge refers to a large-scale tourist unit with full catering services.

Tourist is a person who enters the park for the purpose of recreation and enjoyment paying appropriate fees.

Visitor is a person who temporarily enters the park legally. This may, for example, be a tourist, government employee on business, etc.

EXECUTIVE SUMMARY

This 10-year (2021-2031) General Management Plan (GMP) has been produced according to the Department of National Parks and Wildlife (DNPW) Strategic Planning Process (SPP). A participatory approach has been adopted to develop the GMP, which has brought together representatives from all the major Luambe National Park stakeholders.

Luambe National Park Purpose

The purpose of Luambe National Park as agreed and defined by the deliberations of the stakeholders through the planning workshop process is: -

To preserve the diverse species of fauna and flora, historical sites and ecological connectivity for National Parks in the Luangwa Valley for research and tourism development for the current and future generations.

Zoning Scheme

There are three management zones identified in the park and these are: -

1. Natural Preservation Zone
2. Tourism Development Zone
3. Special Protection Zone

Proposed Future Conditions

The proposed future conditions for Luambe National Park are the proposed developments which ought to be developed within a ten-year period when this GMP will be in force. These include among others Safari lodge, Bush camps, Camp sites, Picnic sites, Management roads, Game Viewing roads, Foot trails and other developmental infrastructure and facilities that may be used for Park's Operations and Management, Research and Education facilities, etc.

The types of tourism products that have been recommended in this GMP for the Park relate to overnight accommodation facilities, game viewing, bird viewing / watching, walking safaris, photographing, filming, sound recording, angling, visiting cultural sites, etc.

However, it should be noted that tourism products are not static and to this effect, DNPW shall encourage innovation and shall be available to include any new tourism products that are environmentally friendly and acceptable in the park.

Environmental Consideration

The environmental considerations of the GMP for Luambe National Park provide a formalized approach for dealing with the environmental impacts of the plan with a view to providing enough information to enable management make informed decisions on the environmental consequences of developmental proposals in the park. All developments to be implemented are expected to have environmental impact assessment studies undertaken. These impacts need to be assessed and mitigated in order to ensure that developmental projects are consistent with the objectives of this GMP. All developmental projects in Luambe National Park will be subjected to either an Environmental Impact Assessment (EIA) or an Environmental Project Brief (EPB) as required by the Zambia Wildlife Act No. 14 of 2015 and Environmental Management Act No. 12 of 2011. Whereas EIAs are site specific, the Strategic Environmental Assessment (SEA) addresses issues/impacts at higher level. This is undertaken to evaluate the environmental consequences of proposed policies, plans or programs associated with the management of the whole park.

Strategic Investment Management Action Plan

The Strategic Investment Management Action Plan (SIMAP) is developed in respect of the five main themes - Natural Resources, Operations and Management, Visitor Use and Experience, Local Community Associated Management and Cultural Resources. This SIMAP will be subject to review every five years.

The SIMAP is executed through a "SMART" approach. The tasks must be Specific, Measurable, Achievable, Realistic and Time-bound. Based on their significance, urgency and duration required for implementation, the Action Plans are classified into nine options. The time-frame of implementing the SIMAP is based on three scenarios whose implementation is: -
Scenario 1: Within 2 years of ratifying the GMP;
Scenario 2: Within 2 - 4 years of ratifying the GMP;
Scenario 3: Beyond 4 years of ratifying the GMP.

Monitoring Plan

A monitoring framework of this GMP makes up the final section of this document. The framework is designed to provide guidance for the regular assessment of the positive and negative impacts, resulting from the implementation of the major Management targets and actions laid out in this GMP. It also forms a basis for subsequent adaptive management. The framework includes easily assessable measures for measuring these impacts. Monitoring of GMP impacts is a key aspect of the ultimate success of the plan, in ensuring that the overall benefits from the implementation of this GMP are maximized, and that any negative impacts are appropriately mitigated.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Luambe National Park was gazetted as a National Park on 1st February, 1971 and since then it has been managed on an adhoc basis. The basis for the formulation of this GMP has been the need to improve management of resources in the park, enhance conservation efforts and income generation through improved sustainable tourism development.

1.2 LOCATION, SIZE AND ACCESSIBILITY

1.2.1 Location and Size

Luambe National Park is located in Lumezi District of Eastern Province of the Zambia. It lies in the Luangwa Valley between **032º10'19" E, 12º23'55" S** in the North and **032º10'32" E, 12º36'30" S** in the South. It is bordered by Munyamadzi Game Management Area (GMA) on the west and surrounded by Lumimba GMA on the north, south and east. It covers an area of approximately 254 km^2 (Figure 1).

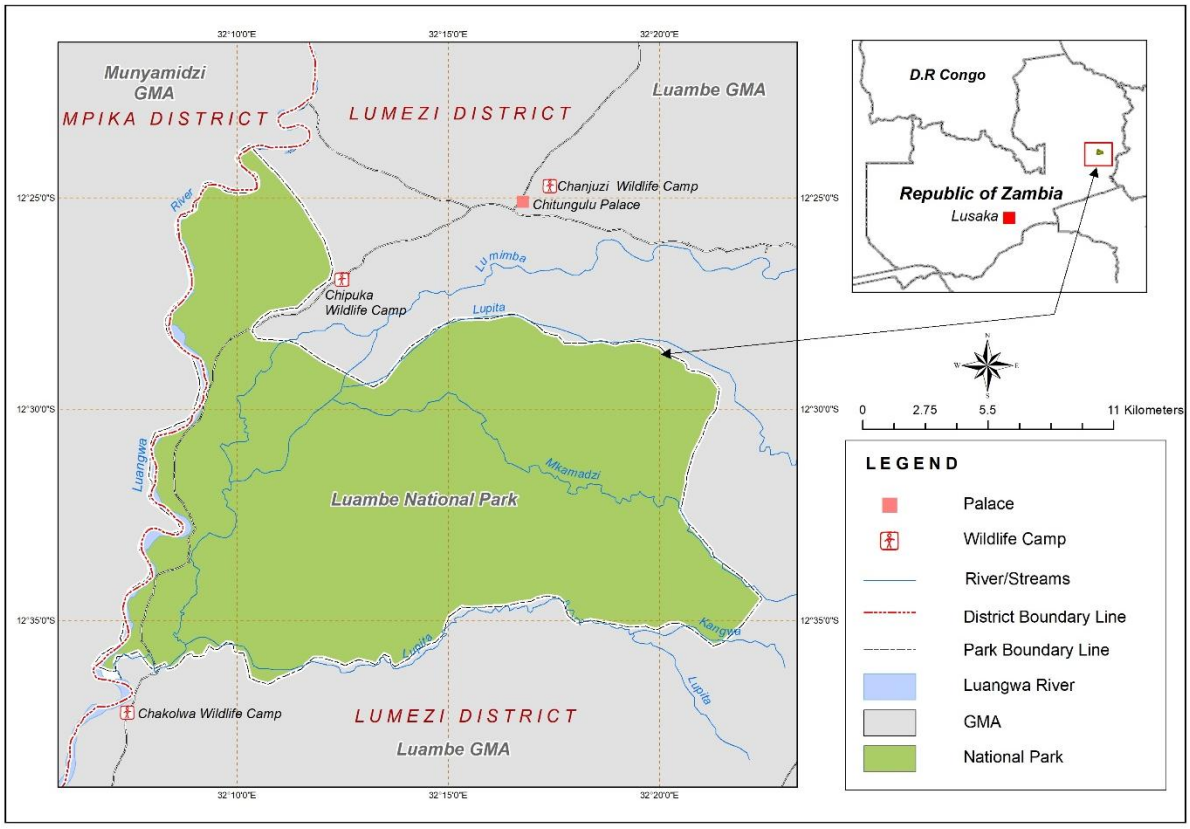

Figure 1: Location of Luambe National Park

1.2.2 Accessibility

Luambe National Park can be accessed by road, air and water. It is mainly accessed by D104 road from Mambwe district via the park to Lundazi district. However, the road is limited to dry season because most parts of the park are water logged during the rainy season.

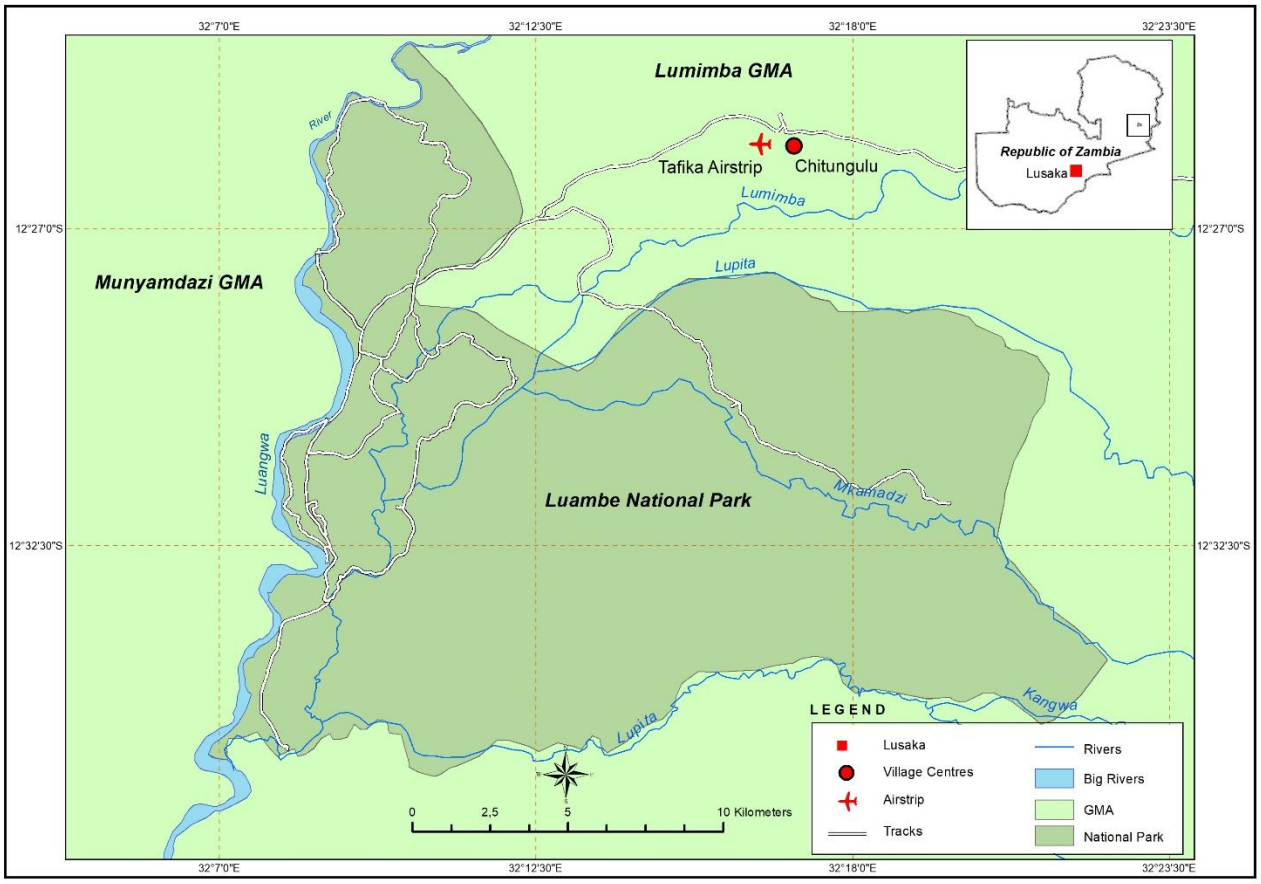

Figure 2: Access in the Luambe National Park

CHAPTER TWO

2.0 PHYSICAL AND BIOPHYSICAL ENVIRONMENT

2.1 PHYSICAL ENVIRONMENT

2.1.1 Climate

Luambe National Park lies in the Central African Plateau whose rainfall pattern is controlled by the movements of the Inter-Tropical Convergence Zone and increases from south to north. A tropical continental type of climate with three distinct seasons characterizes it i.e., hot rainy season from late November to April; a cool-dry season, from May-August; and a hot - dry season, from September to early November. The Park generally experiences a hot climate with mean daily maximum temperatures in the range of 32-36ºC. The minimum and maximum temperatures are 15ºc (June – July) and 40ºc (October) respectively. The mean annual rainfall is in the range of 400 - 800 mm whereas in some years it goes up to 1,000 mm.

2.1.2 Soil classification and distribution

There are three main categories of soils in Luambe National Park. These include:(1) Poorly drained, deep, dark, Sandy to Heavy clayey soils along river systems. (2) Moderately drained to poorly drained, clayey, deep yellowish-brown soils found under Mopani and upland areas (3) Shallow soils in hilly areas. These three major soils are further classified into seven main specific sub units as highlighted below.

2.1.2.1 Unit I

This unit comprises of imperfectly drained structure less, loose sandy soils on top with a well-structured sub angular blocky sandy clay sub soil, while the deeper layers become highly compacted. The main feature of this unit is that it has alternating layers of loose sand soils and compact clay soils found along the Luangwa River.

2.1.2.2 Unit II

This unit is found in Dambo areas which experiences prolonged flooding in the rain season. It has a combination of sandy and heavy clayey soils. They are poorly drained places with sandy soils which are whitish in colour while clay soils have dark greyish brown to black colours.

2.1.2.3 Unit III

This unit comprises of poorly drained sandy clay soils on top, very dark greyish brown with cracks throughout the profile with a sub angular blocky structure on the top tending to highly compact and massive structure on the sub soil, very hard when dry, and very sticky yellowish-brown mottles when wet. They can easily be identified by their dark coloured soil matrix and are predominantly under acacia vegetation.

2.1.2.4 Unit IV

These soils are mainly found under Mopane woodlands. There is a variety of soils in this unit with notable types being; dark coloured heavy clay types existing in places near drainage systems and tend to have cracking clays in some places. Further away from rivers there are moderately yellowish-brown sandy soils to over 30cm depth while the sub soil tends to have firm clayey compact soils which are mostly very deep. They are also influenced by occasional flooding and tend to have lighter textures where the trees have been disturbed. They are the majority soils that occupy the larger part of the park.

2.1.2.5 Unit V

This unit is in the middle slope areas and is comprised of yellowish to reddish soils which are moderately drained in many instances but tend to be imperfectly to poorly drained in some areas where Dambos and depressions are found. They are under a mixture of tree species including Combretum and Acacia. These soils are also in different types of grasslands commonly found in Dambo areas. They can easily be identified by their reddish colours on the surface with huge cracks forming on them.

2.1.2.6 Unit VI

This unit comprises a variety of upland soils the main ones being: Deep, excessively drained bleached sandy textured soils on the top which is 50 cm over silty clay sub angular blocky reddish brown mottled sub soil, this type is moderately drained.

The second type is reddish brown loamy sand soil over sandy loam sub soil, loose and massive, non-sticky and non-plastic.

The third one is moderately deep to shallow rocky soils found in the eastern parts of the park. This rocky type is found near steep slopes on both parts of the Mkomadzi River.

The predominant vegetation in this type of soils is Miombo woodland with some riparian species along the river while Combretum are present in Dambo environments.

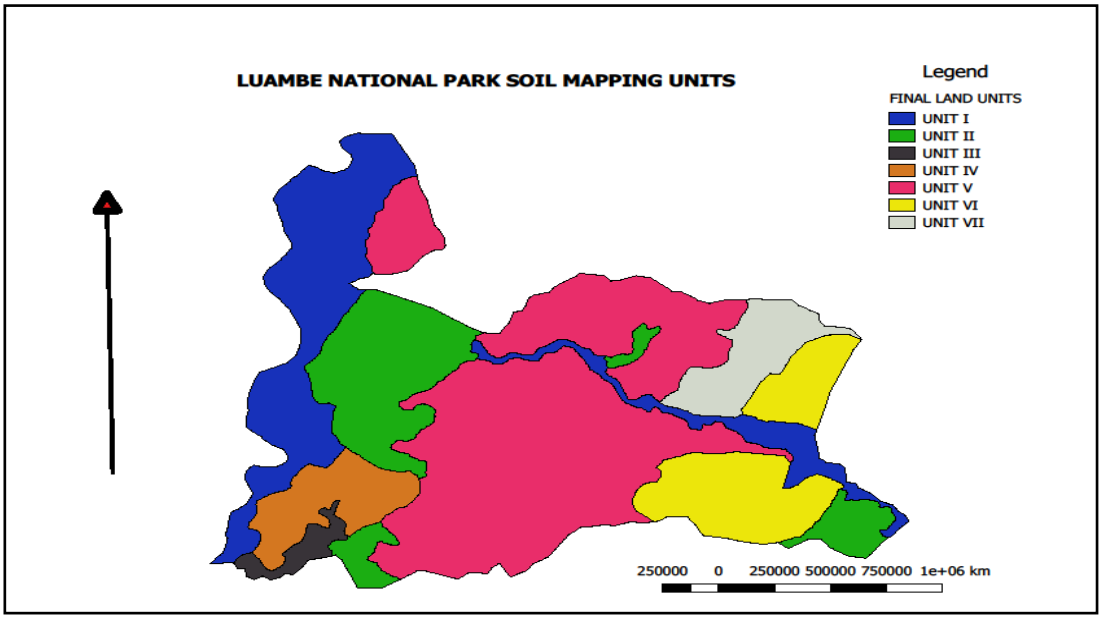

Figure 3: Distribution of soil mapping units in Luambe National Park

2.1.3 Hydrology

The main water body is the Luangwa River that flows from north to south of the park. Its tributaries include the following: Lupita, Lumimba, Mkomadzi, Ntumbe, Kangwa and Chisupa (illustrated in figure 4). The Park is also comprising of seven lagoons and three streams and the lagoons are Chankusi, Songa, Mwenda, Kataba, Musolo and Katete while the streams are Kasikizi I and II, and Itumbe. Most of the tributaries dry up in dry season leaving isolated pools of water along river- beds. One characteristic of these rivers is the high level of siltation and extensive sand beds which come as a result of water deposits from high lands. The rivers thus are easily saturated during rainy season and flood very often. In addition, the river banks are highly vulnerable to erosion which sometimes results into a shift in the course of the rivers.

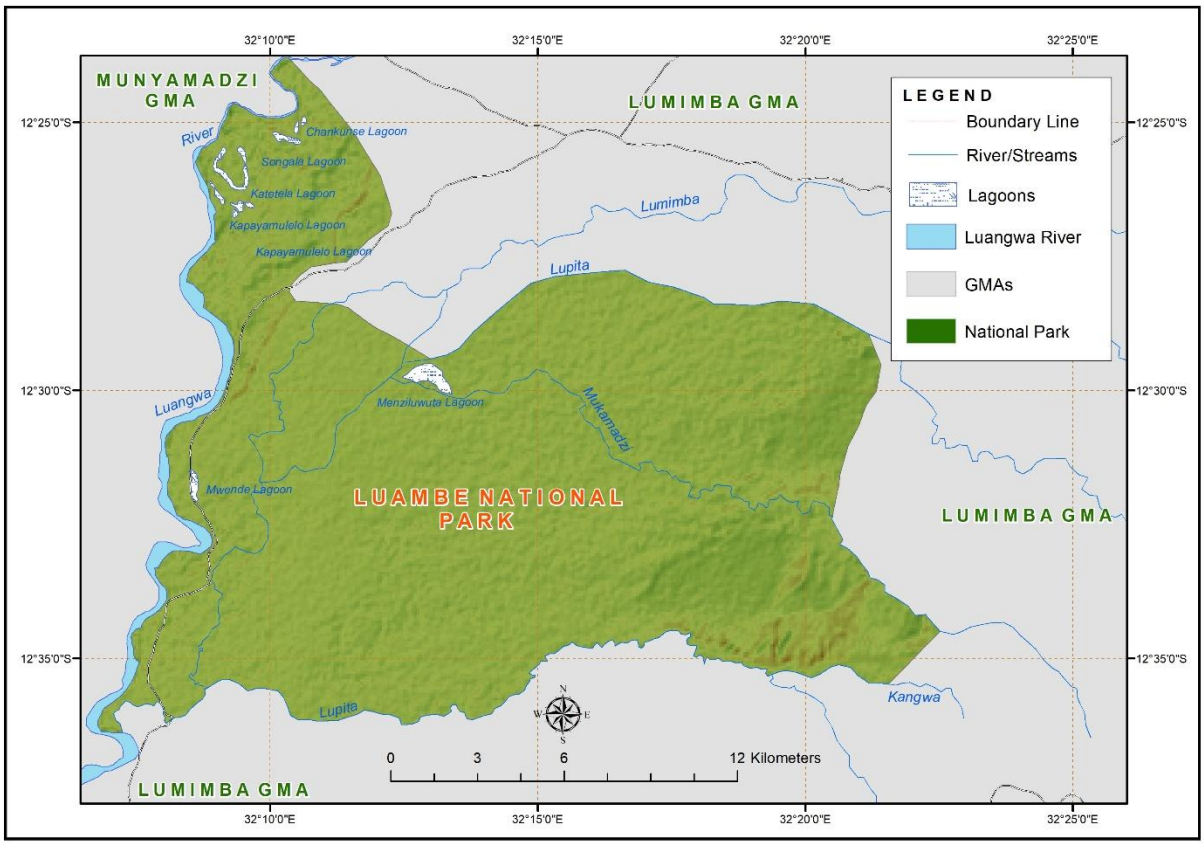

Figure 4: Hydrology in Luambe National Park

2.1.4 Geology and Topography

The main geological features comprise the 'Undifferentiated Sandstones, especially weakly cemented sandstones of quartz type and cemented with iron oxides. There are also mineral rich Sandstone and Calcareous beds, other rock types observed included; Limestone, Quartzitic granite, gneiss, schist and much younger Karroo sediments.

There are three levels of land form in the area; the more resistant rocks have left a range of undulating land form in the east. In between the Luangwa valley and the high land is a gently sloping with moderate to imperfect drainage conditions depending on the micro land form. Several dambos or plains are common in this park. In general, the park is lowest at Luangwa River which lies at 560m above sea level and highest in the east at above 650m above sea level.

2.2 BIOLOGICAL ENVIRONMENT

2.2.1 Flora

Luambe National Park has nine vegetation communities namely: Grasslands, Hyphaene woodland, Thickets, Wetlands, Miombo woodland, Mopane woodland, Combretum-Faidhebia Woodland, Acacia-Combretum Woodlands and Riparian Forest.

2.2.1.1 Grasslands

Grasslands mostly occur in the floodplains of the Luambe National Park where they form narrow to broad striations along the riverine areas traversing the Miombo and other woodlands. Tall grasses in the floodplain belong to genus *Andropogon, Cymbopogon, Hyparrhenia and Hyperthelia*. *Setaria* species dominate on dambos occurring on clay soils. The hot, low altitude valley has prominent grass genera that include *Andropogon, Aristida, Chloris, Dichanthium, Digitaria, Dinebra, Echinochloa, Elionurus, Enteropogon, Eragrostis, Hemarthria, Heteropogon, Hylebates, Hyparrhenia, Isachne, Leptochloa, Oryza, Oxytenanthera, Panicum, Pennisetum, Phacelurus, Rhytachne, Sehima, Setaria, Sporobolus, Tragus, Tripogon, Tristachya* and *Urochloa* (ZAWA 2014).

2.2.1.2 Hyphaene woodland

This type of vegetation lies in low terrain, which border on the main tributaries of the Luangwa River. Pure stands of palms mostly occur on alluvial clay soils with impeded drainage. *Hyphaena petersiana* is the dominant palm species with *Borassus aethiopum* occurring occasionally. In the grass layer, *Setaria* is the common species (ZAWA, 2014).

2.2.1.3 Thickets

Thickets in the Luambe are very dense, almost impenetrable community of shrubs with scattered tall emergent trees and an abundance of climbers. This vegetation type is found as broad bands along the fringes of the meander belts. It is postulated that thickets represent vegetation that is regenerating after a phase of biotic disturbance from overgrazing and felling of trees by large animals. Floristically, the dominant species are *Capparis tomentosa, Combretum elaeagnoides*, and *C. obovatum*. In thickets, there is reduced light availability for grasses and hence limited grass or fuel. The main species are sciophilous, which include *Hylebates cordatus, Leptochloa uniflora, Oplismenus burmanii* and *Setaria homonyma* (ZAWA, 2014).

2.2.1.4 Wetlands

Wetlands are found in areas where the water table is high to cause seasonal water logging. Oxbow lakes, flood channels and sunken depressions in the form of circular are all forms of wetlands. Common aquatic plants on the lagoon include *Azolla nilotica, A. pinnata, Ceratophyllum*

dermesum, Ipomoea aquatica, Ludwigia stenorraphe, Marsilea minuta, Neptunia oleracea, Pistia stratoites and *Trapa natans* (ZAWA, 2014).

2.2.1.5 Miombo woodland

Major species in the miombo woodland include *Brachystegia, Isoberlinia* and *Julbernardia.* (ZAWA, 2014). In the upper most canopy, the species comprise of *Brachystegia allenii, B.boehmii, B. bussei, B.manga, B. spiciformis, B. stipulata, B. utilis, Isoberlinia angolensis, Julbernardia globiflora*, and *Julbernardia paniculata*. Other trees associated include *Albizia amara, Afzelia quazensis, Anisophyllea pomifera, Azanza garckeana, Bobgunnia madagascariensis, Burkea africana, Diplorhynchus condylocarpon, Gyrocarpus americanus, Monotes africanus, M. angolensis, Parinari curatellifolia, Pericopsis angolensis, Rothmannia englerana, Uapaca kirkiana, U. nitida, Vitex doniana*. There are also small trees and shrubs which consist of *Abrus precatorius, A. pulchellus, A. schimperi, Annona senegalensis, Brackenridgea arenaria, Bridelia carthatica, Byrsocarpus orientalis, Canthium zanzibarica, Cassipourea mollis, Commiphora mollis, C. pedunculata, Crossopteryx febrifuga, Cryptosepalum maraviense, Dalbergia boehmii, D. nitidula, Dichrostachys cinerea, Euphorbia decidua, E. candelabrum, E. cooperi, Gardenia volkensii, Grewia flavescens, G. micrantha, Hymenocardia acida, Lannea humilis, L. katangensis, Lecaniodiscus fraxinifolius, Leptactina bengeullensis, Lippia woodii, Ochna confusa, O. gambleoides, O. schweinfurthiana, Ozoroa insignis, O. pwetoensis, Pavetta schumanniana, Premna senensis, Rhus longipes, R. natalensis, R. pentheri, Securidaca longipedunculata, Steganotaenia aralicea, Strychnos cocculoides, S. innocua, S. pungens, S. spinosa* and *Tricalysia junodii*.

2.2.1.6 Mopane woodland

This vegetation type with *Colophospermum mopane* as the dominant species is underlain by Karroo lithological formations. Physiognomically, there are three types of mopane in the Luambe which include tall mopane, short mopane and scrub mopane (ZAWA, 2014).

Tall mopane has trees with a height of 21 m and above. Soils associated with tall mopane woodlands maybe well drained alkaline and saline sandy-loam soils. Colophosphermum mopane forms pure stands, but occurs with Adansonia digitata, Acacia nigrescens, Albizia adianthifolia, Balanites aegyptiaca, Commiphora karibensis, C. mollis, C. mossambicensis. Grasses commonly found include *Aristida hordacea, Brachiaria deflexa, Digitaria milanjiana, Microchloa caffra, Panicum massaiense* and *Setaria pumila* (ZAWA, 2014).

Low mopane occurs on heavy clay soils with a lower most soil horizon that impedes drainage due to a hard pan. Growth of mopane trees extends up to a height of 10 m due to limitations imposed by the edaphic conditions. The low mopane is slightly open and has an invasion of woody elements of other woodland types. The grasses are composed of *Aristida adscensionis, A. junciformis, Cleistachne sorghoides, Digitaria ternata, Dinebra retroflexa, Echinochloa colona, E. frumentacea, Eragrostis gangetica, E. namaquensis, Eriochloa macclounii, E. meyerana, Panicum madiperense, P. massaiense, P. phragmatoides, P. schinzii, Rhytachne latifolia,*

Rottboellia cochinchinensis, Sacciolepis interrupta, Schmidtia pappophoroides, Setaria incrassata, S. pumila and *Thelepogon elegans* (ZAWA., 2014).

The scrub mopane is a structurally stunted woody community with trees having a height of 2.5 m high. This type of mopane occurs on a thin layer of soil underlain by a calcareous sandy clay loam. Heavy browsing is assumed to be a major factor in the stunted growth. The grass species include *Aristida adscensionis, A. rhinochloe, Chloris virgata, Eragrostis aethiopica, Hackelochloa granularis* and *Schmidtia pappophoroides* (ZAWA, 2014).

Mopane woodlands rarely accumulate moribund grass material as their grass is sweet and nutritious to wild animals all year round. Hence, there is usually insufficient grass material to support a fire. Prescribed fires are recommended in this vegetation type in order to reduce the density of bushes and encourage the growth of grass (Zieger et al., 1998).

2.2.1.7 Combretum-Acacia Woodland

This vegetation type occurs within the meander belt and experiences occasional flooding in years of exceptionally high rainfall as it lies within the reach of annual floods. This woodland is observed in some sectors of meander belts where the tributaries adjoin the Luangwa River. In certain areas of the park, the woodland forms a broad belt outside the floodplains of the main rivers. *Combretum-Acacia* woodland is linked to soils with high fertility. The vegetation type is characterized by species of *Acacia* and *Combretum* some of which were observed as Combretum *imberbe* and *Faihebia albida* are the dominant trees, which occur in association with *Kigelia africana, Lonchocarpus cappasa* and *Ziziphus mucronata*. *Mimosa pigra* inhibits the lower stratum, which has grass species composed of *Andropogon gayanus, A. shirensis, Hyparrhenia cymbaria, H. dichroa, H. filipendula, H. nyassae, H. rufa, Hyperthelia dissoluta*, *Pennisetum polystachion Andropogon eucomus, Cymbopogon caesius, Dinebra retroflexa, Digitaria milanjiana, Hemarthria altissima, Panicum subalbidum, Pennisetum macrourum, P. purpureum, Setaria incrassata,* and *S. sphacelata*. (ZAWA, 2014).

2.2.1.8 Riparian Forest

Riparian forest occur as narrow strips of vegetation along the Luangwa River, lagoons and tributaries. This vegetation type is continuous and is composed of both evergreen and deciduous trees and shrubs. The major species include; *Berchemia discolor, Breonadia salicina, Diospyros mespiliformis,* and *Trichilia emetica*. Grasses compose of the following; *Bothriochloa bladhii, Brachiaria eminii, B. eruciformis, Chloris pychnothrix, Eragrotis gangetica, E. namaquensis, E. rigidior, Panicum dregeanum, P. madiperense, Paspalum scrobiculatum, Setaria sagittifolia, S. sphacelata,* and shade prefering grasses include *Hylebates cordatus, Leptochloa fusca, L. panicea, L. uniflora, Oplismenus burmannii, Phyllorachis sagittata* and *Setaria homonyma* (ZAWA., 2014).

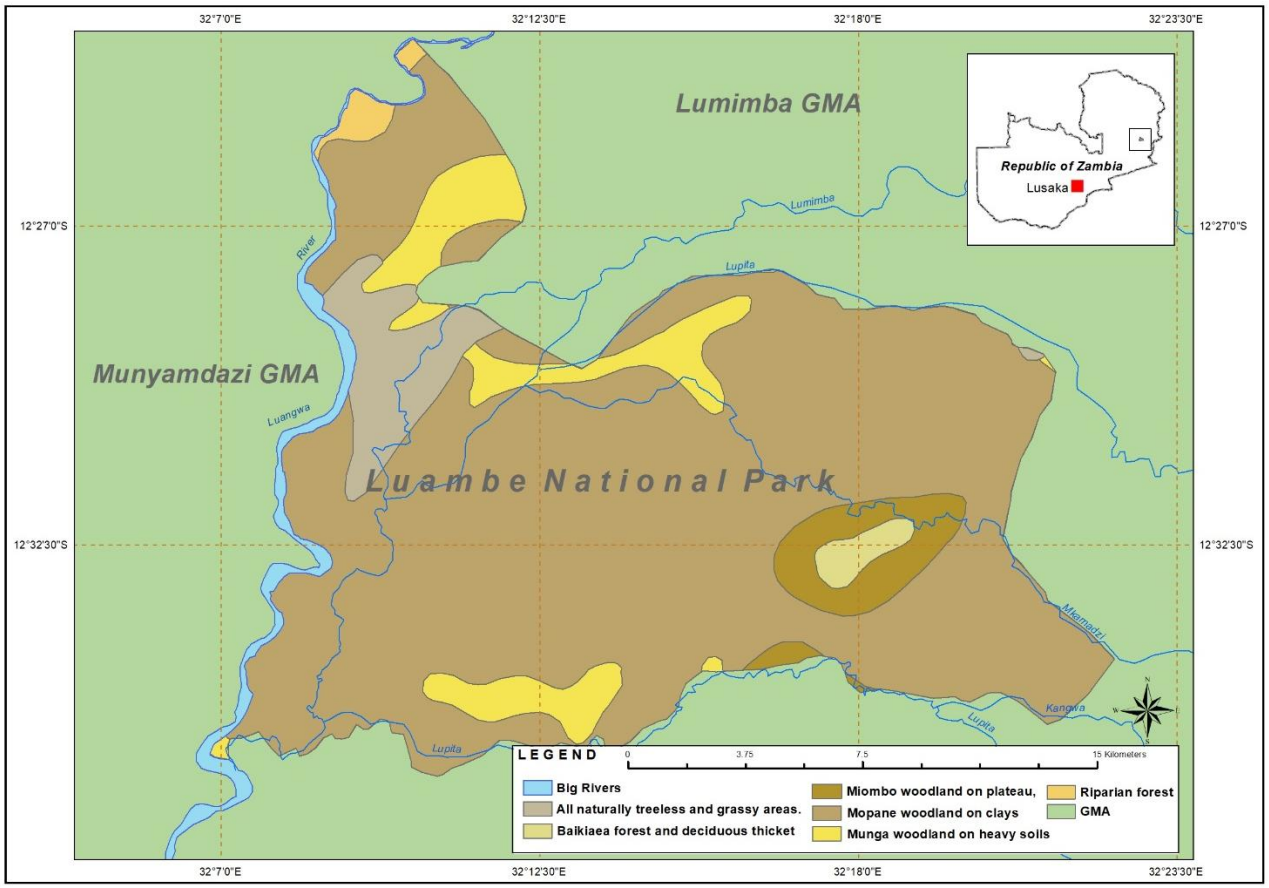

Figure 5: Vegetation in Luambe National Park

2.2.2 Fauna

There are five fauna groups in Luambe National Park which include mammals, fish, reptiles, amphibians and invertebrates.

2.2.2.1 Mammals

Thirty-two (32) mammal species have been recorded in Luambe National Park (Appendix I). However, this list is not exhaustive as more species maybe listed with more ecological surveys and opportunistic sightings. The conservation status of mammals according to the International Union for Conservation of Nature (IUCN) Red list of Threatened Species, indicates that there are twenty-three (23) species, one (1) specie, three (3) species and five (5) species categorized as least concern, endangered, near threatened and vulnerable respectively (Appendix I). Details of the abundance and densities of large herbivores for which population estimates were available in a recent aerial survey are provided in Table 1 (DNPW 2016).

Table 1: Population estimates and IUCN status for large herbivores in the Luambe National Park

No	Common name	Scientific name	Population	Density	IUCN Status
1	Hippo	*Hippopotamus amphibius*	2258	69*	Vulnerable
2	Impala	*Aepyceros melampus*	936	2.72[b]	Least concern
3	African Buffalo	*Syncerus caffer*	1911	5.5[b]	Least concern
4	Common Warthog	*Phacochoerus aethiopicus*	60	0.17[b]	Least concern
5	Thornicroft's Giraffe	*Girraffa camelopardalis thornicrofti*	8	0.02[b]	Vulnerable
6	Puku	*Kobus vardonii*	455	1.32[b]	Near threatened
7	Plains Zebra	*Equus burchelli*	243	0.71[b]	Near threatened
8	Roan antelope	*Hippotragus equinus*	34	0.09[b]	Least concern
9	Greater Kudu	*Tragelophus strepsiceros*	19	0.05[b]	Least concern

Endangered (EN) – High risk of extinction in the wild, Vulnerable (VU) – High risk of endangerment in the wild, Near threatened (NT) – Likely to become endangered in the near future, Least concern (LC) – Lowest risk. Does not qualify for a higher risk category. Widespread and abundant taxa are included in this category. * Hippos/km, [b]Number/Km^2

2.2.2.2 Reptiles

Luambe National Park is endowed with at least fifteen species of reptiles cardinal to its conservation and management status (Appendix 2).

Eight out of the 15 species are listed as Least Concern, while the other seven recorded have not been evaluated. These non-evaluated species include common African Python, Boomslang, Green Mamba, black Mamba, Puff Adder, Black Necked Spitting Cobra and Striped Skink (www.iucnredlist.org) (Table 2 and Appendix 2)

Table 2: Category of reptile species in the park under IUCN Red list

No	Category	Number of species
1	Not evaluated	Common African Python, Boomslang, Green Mamba, Puff Adder, Black necked splitting cobra, Nile Monitor, Stripped Skink
2	Endangered	0
3	Least concern	Black Mamba, Vine Snake, Striped bellied Sand Snake, Olive Marsh Snake, Nile Crocodile, Savanna Monitor, Leopard Tortoise, Common flap Necked Cameleon
4	Vulnerable	0

2.2.2.3 Amphibians

There is inadequate information on amphibians found in Luambe National Park. However, the survey conducted revealed the presence of tadpoles and frogs particularly in still waters. Frog species named in the local language include, Lundeba, Chesi, Finye and Chele Mapumba. One frog known to occur in the park is the Phrynobatrachus mababiensisclade (Schick et.al 2010).
A total of eighty-five (85) species of amphibians have been recorded in Zambia belonging to the Anura order, 13 families and 25 genera (SASSCAL 2018). Two species of amphibians are endemic to the country and these are the Barotse Shovel-snout Frog (*Hemisus barotseensis*) and the Kafue Reed Frog (*Hyperolius pyrrhodictyon*). On the Nyika plateau is a rare and restricted species, the Nyika Dwarf Toad (*Mertensophyrne nyikae*). There are eighty species (94%) of amphibians which are considered as of least concern in Zambia (SASSCAL 2018).

2.2.2.4 Fish

Luambe National Park is characterized by rivers, streams and lagoons. Over twenty (20) fish species are found in these water bodies (Table 3).

Table 3: Fish species in the Luambe National Park

Type of fish species		**Conservation status**	
Common name	**Scientific name**	**Zambian criteria**	**IUCN criteria**
Catfish	*Clarias gariepinus-*	Vulnerable	Vulnerable
Squeakers	*Synodotis spp*		rare
Barbus	*Barbus barnard*	Threatened	rare
Barbus	*Barbus barnard jubb*	Threatened	rare
Churchil	*Petrocephalus catostoma*	Threatened	rare
Breams	*Cichlids spp*	Threatened	endangered
Labeo	*Labeo altivelis*	Endangered	critically
	Mormyrus labiatus	Threatened	endangered
	Hydrocynus vittatus	Vulnerable	
Green headed bream	*Oreochromis macrochir-*	Extinction/ (rare)	endangered
Large mouth	*Serranochromis angusticeps*	Extinct (rare)	endangered
	Alestes lateralis	Threatened	rare
	Marcacenus macrolepidotus	Threatened	endangered
Cat silver	*Shilbe intermedius*	Vulnerable	rare

2.2.2.5 Invertebrates

A number of insect species such as ants, bees, butterflies, moths, grasshoppers as well as centipedes, spiders and scorpions have been recorded in Luambe National Park. There are **4** species of butterflies, **2** species of bees, **3** species of dragon flies, **3** species of bugs, and **3** species of ants. There are also **3** types of snail species and **3** types of flies in the Park among which Tsetse flies (Trypanosoma brucei brucei) are predominant (Table 4).

Table 4: Invertebrate species in Luambe National Park

Invertebrate Type	Common Name	Scientific Name	IUCN Red List
Butterflies	Guinea fowl	*Hamanumida Daedalus*	Not evaluated
	Spotted Joker	*Byblia Ilithia*	Not evaluated
	Broad boarded grass yellow	*Eurema Brigitta*	Least concern
	African Migrant	*Catopsilia Florella*	Not evaluated
Bees	Banded Bees	*Amegilla (atrocincta)*	Not evaluated
	Honey Bees	*Apis Mellifera*	Least concern
Dragon flies	Banded groundling	*Brachythemis Leucostica*	Least concern
	Violet dropwing	*Trithemis annulata*	Least concern
Damsefly	Spreadwings	*Family Lestidae*	Not evaluated
Bugs	Ground bug	*Dieuches*	Not evaluated
	Red bug	*Scantius Forsteri*	Not evaluated
	Red bug	*Cenaeus carnifex*	Not evaluated
Ants	Red driver ants	*Dorylus Helvolus*	Not evaluated
	Spotted sugar ants	*Camponotus Maculatas*	Not evaluated
	Harvester Ant	*Messor Capensis*	Not evaluated
Scorpion	Thick-tailed scorpions	*Parabuthus capensis*	Not evaluated
Spiders	Cork-lid trapdoor spiders	*Stacimopus species*	Not evaluated
	Grass funnel web spiders	*Olorunia species*	Not evaluated
	Wall spiders	*Anyphops capensis*	Not evaluated
Millipede	Giant/Yellow-banded black millipede	*Doratogonus Flavifilis*	Least concern
Snails	White terrestrial snails		
	Black marine snails		
	Marine pod-like snails		
Beetles	Addo flightless Dung beetles	*Circellium bacchus*	Not evaluated
	Large copper dung beetle	*Kheper Nigroaeneus*	Not evaluated
Flies	Tsetse flies	*Trypanosoma brucei brucei*	Not evaluated
	Bush Mosquito	*Aedes*	Not evaluated
	Malaria Mosquito	*Anopheles Cinereus*	Not evaluated
	Banded blowfly	*Chrysomia albiceps*	Not evaluated

CHAPTER THREE

3.0 CULTURAL RESOURCES

Cultural resources carry out numerous functions that are beneficial to human welfare (UN Foundation ,2004). Given the significance of these sites it is critical that Park Management has the information to manage these resources effectively. There are only three cultural resources of the same category in Luambe National Park. These were old settlements.

3.1 Luambe Village

Luambe Village is an Old Settlement located at 12°29”56 latitude, 32°09”13 longitude along D104 road. The site is of local importance as it relates to the history and subsequent migrations of the Bisa and Chewa people of Chitungulu Chiefdom.

The site has a water well that stands as testimony of the old settlement and serves as memory of lifestyle of the people of Chitungulu chiefdom.

Plate 1: Water well at Old Settlements in the Park

3.2 Kapeta Village

The Old Kapeta village site is located at 12°30”39 latitude, 32°08”17 longitude. It is about half a kilometer south of the Nabwalya Chiefdom crossing point.

The site shows long habitation of people as observed from the change of vegetation and presence of non-indigenous tree species, Cassia Spectabilis (locally known as Makeche). The site also possesses some stone materials which could have been collected for use by inhabitants.

Kapeta village was a big community and after the declaration of Luambe National Park, the people split into two groups, one settled in Mwanya Chiefdom and other group in Chitungulu Chiefdoms. While the people in the village belonged to Chitungulu Chiefdom, Chief Mwanya was willing to host some of them.

Plate 2: Stone and *Cassia spectabilis* at the old Kapeta Species in the Park

3.3 Chakolwa Village

Chakolwa old village site is located at 12°30”39 latitude, 32°08”17 longitude along D104 road. Chakolwa village was also split into two groups at the declaration of the National Park, one group settled in Mwanya chiefdom while the other one settled in Chitungulu Chiefdom. The site is historically important and has high potential for tourism development as it provides information of early inhabitants of the park as evidenced by the alien Cassia Spectabilis tree species.

Plate 3: Old Chakolwa Village site

CHAPTER FOUR

4.0 PARK PURPOSE, EXCEPTIONAL RESOURCE VALUES AND SIGNIFICANCE

4.1 PARK PURPOSE

The following statement represents the purpose of Luambe National Park: -

To preserve the diverse species of fauna and flora, historical sites and ecological connectivity for National Parks in the Luangwa valley for research and tourism development for the current and future generations.

4.2 EXCEPTIONAL RESOURCES AND VALUES

The following exceptional resources and values were identified for Luambe National Park: -

1. Presence of endangered wild dogs
2. Presence of the rare and endangered birds such as the Pel's fishing owl and Bat hawk
3. Presence of Old settlement sites such as Luambe village in the Luangwa Valley
4. Harbors critical breeding habitat for African Peter
5. Presence of Chipuka Plains which hosts a diverse species of birds such as Southern Carmine bee-eater, grey crowned crane.
6. Has good sightings of Cookson wildebeest and Leopard.

4.3 PARK SIGNIFICANCE STATEMENTS

The following are the park significance statements for Luambe National Park: -

1. Luambe is the third smallest National Park in Zambia with the habitat that supports a wide variety of animals.
2. The Park acts as a corridor and buffer zone for South Luangwa, North Luangwa and Lukusuzi National Parks due to its central location.
3. Luambe National Park is the only Park where the rare and endangered bird species such as the Pel fishing owl and Bat hawk are easily sighted.
4. It is the only National Park in the Luangwa valley with a good number of old settlements.
5. The Park provides habitat for some endangered species of birds such as Grey-crowned cranes.

CHAPTER FIVE

5.0 MANAGEMENT PROBLEMS AND OBJECTIVES

5.1 OVERVIEW

The management problems and objectives in the National Park are categorized into five themes namely: -

1. Natural resources management;
2. Operations and management;
3. Visitor use and experience management;
4. Local community associated management
5. Cultural resources management

Table 5: Themes, Management Problems and Management Objectives

Themes	Management Problems	Management Objectives
Natural Resources	Occurrence of uncontrolled late fires	To mitigate occurrences of late fires
	Inadequate information on natural resources for the park	To lobby for funding to undertake research on natural resources
	Unclear Park boundary	To create a cut line to clearly define the boundary
	Illegal offtake of natural resources	To reduce illegal offtake of natural resources
	Inadequate water points	a) To create water points in the park b) To water and deepen the existing Lagoons
	Siltation	a) To identify activities that cause siltation b) To educate people on the impacts of siltation
Management and Operations	Inadequate number of WPOs	To recruit and train WPOs
	Inadequate patrol field equipment	To procure field equipment
	Inadequate and dilapidated accommodation and office block	To rehabilitate and build standard staff accommodation and office block
	Poor road network to and within the park	To improve road network in the park
	Lack of road maintenance equipment	To procure road maintenance equipment
	Inadequate utility vehicles	To procure more utility vehicles
	Inadequate communication systems	To procure and install communication systems
Visitors Use and Experience	Inadequate tourism facilities	To increase the number of tourism facility
	Lack of information centre	To establish an information centre in the park
	Lack of signage in the park	To erect signage in the park
	Inadequate game viewing roads in the park	To construct and maintain game viewing roads in the park

	Lack of Revenue Officers	To employ Revenue officers for the park
	Underdeveloped tourism products	To develop tourism products for the park
Local Community Associated Management	Low staffing levels of trained community scouts in the surrounding GMAs	To train and employ community scouts
	Inconsistent payments of salaries to community scouts	To improve remittance of community shares by Government to CRBs
	Poor conditions of service for community scouts resulting into low motivation	To improve the conditions of service
	Inadequate information and understanding by the community regarding their role in wildlife management of the park	To sensitize the community on their role in wildlife management
Cultural Resources	Inadequate information on cultural resources and sites in the park	To conduct research on cultural resources and sites
	Lack of heritage personnel	To recruit cultural personnel
	Lack of publicity of the cultural resources in the park	To publicize the cultural sites
	Lack of signage	To erect signage to the culture sites
	Undeveloped cultural sites	To develop the cultural sites

CHAPTER SIX

6.0 MANAGEMENT ZONE PLAN

6.1 OVERVIEW

This Chapter presents the Zoning Scheme for Luambe National Park. The scheme is designed to harmonize and reconcile the different land-use options of the National Park. It identifies geographical areas within which similar land-uses shall be practised. Importantly, it defines what can and cannot take place in the different zones with regards to conservation and development efforts. The respective delineated zones constitute the zone description of natural resources status; zone purpose; zone accessibility; zone visitor use and experience; zone permissible activities; zone prohibited activities, zone permissible developments and zone prohibited developments.

6.2 MANAGEMENT PLAN ZONING CONCEPT

Management zoning is concerned with what should be done and where. The aim is to zone the area in such a way that the activities to be undertaken in each zone would be responsive to needs for enhancing the requirements for sustainable natural resources conservation.

6.3 RATIONALE FOR THE ZONING CONCEPT

A number of factors were taken into consideration when developing the zoning scheme for the park in order to ensure that it: -

1. Offers protection to all identified exceptional resources and values;
2. Takes note of the physical limitations imposed by the landscape and important ecological features;
3. Provides a diversity of appropriate visitor experience and visitor use levels within the set limits;
4. Offers dispersal areas and control visitor numbers to ensure quality experience and appropriate numbers, types and placement of tourist facilities within the park
5. Provides a better means of surveillance by the Park Management.

6.4 LIMITS OF ACCEPTABLE USE (LAU)

The regulatory principle for setting parameters of use for different zones of the Protected Area is that tourists' use of the Protected Area will have primary emphasis on the desired conditions of the resources and values rather than the maximum amount of using the Protected Area could possibly endure. This GMP is not attempting to maximize on the use of resources by determining the "carrying capacity" of how much use and development the Protected Area can abide.

Therefore, the planning effort for this GMP promoted the concept of "Limits of Acceptable Use" (LAU) that are agreed for each zone and the entire Protected Area. The LAU system lays primary focus on the conditions desired (both biophysical and social), rather than on the maximum amount of use and development of the Protected Area can endure. The zoning scheme developed for the Protected Area is steered by the LAU concept through defining the desired future conditions, which must be achieved by implementing the different strategies in the plan.

6.5 MANAGEMENT ZONES

There are three (3) management zones that have been identified for Luambe National Park, namely:

1. Natural Preservation Zone
2. Tourism Development Zone
3. Special Protection Zone

6.5.1 Zone I - Natural Preservation Zone

Description: This Zone covers an area of approximately 225 km^2 which is the largest zone of the park. Its boundaries are largely marked by water bodies i.e., the Lumimba, Kangwa and Lupita Rivers. The western and northern boundary is marked by Lupita and partly Mkomadzi River on the eastern boundary. It is the only zone that comprises all vegetation types that exist in the park.

Purpose: To conserve biodiversity and ensure provision of ecosystem services while allowing for tourism development.

Accessibility: Road

Visitor Use and Experience

Photographic Safaris	Bird watching		Educational Tours	Research
Picnicking	Hiking	Game Viewing	Sound recording	Camping

Permissible Activities

Game Viewing	Birding	Management and Operations		Sound Recording	Research	
Photographing	Picnicking	Walking Safaris	Angling	Educational Touring	Filming	Hiking

Permissible Developments

Management and Operations Infrastructure		Camp Site	Picnic Site	Roads	Game viewing loops
Telecommunication Infra.	Bush Camp	Repeater Stations		Bridges and Culverts	Water points

Prohibited Activities

Pollution	Logging	Cultivating	Mining	Collecting of forest products
Entry without permit	Removal of beacons		Hunting	Uncontrolled Fires

Prohibited Developments

Saw mills	Fields	Settlements	Mines	Hotels

6.5.2 Zone II- Tourism Development Zone

Desciption: The Tourism Development Zone is the second largest of the Zone in the park at approximately 73 km^2. It is located in the western region of the park. The western and eastern boundaries of the zone are marked by the major rivers i.e the Luangwa and Lupita rivers respectively. This zone harbours all the identified cultural resources of the park.

Purpose: To provide for Tourism infrastructure development and the associated activities.

Accessibility: Road, water

Visitor Use and Experience

Photographic Safaris	Bird Watching	Boat cruise
Recreation	Filming and Bird Sound Recording	Research and Education
Camping	Game viewing	Lodging

Permissible Activities

Game Viewing	Bird Watching	Boat cruise
Photographing	Filming	Research and Education
Picnicking	Walking Safaris	Lodging
Management and Operations	Angling	Sound Recording

Permissible Development

Electricity Installations	Lodges	Water points	Picnic sites
Boat deck	Game viewing loops	Access Roads	Telecommunication Infrastructure
Photographic Safari Camp	Bush camps	Campsites	Bridges and Culverts

Prohibited Activities

Pollution (Air and noise)	Fishing	Setting up late fires	Collecting of forest products
Hunting	Deforestation	Mining	

Prohibited Developments:

Mines	Settlements	Setting up of beehives

6.5.3 Zone III – Special Protection Zone

Description: This zone consists of four portions which mainly borders the Natural Preservation Zone. Despite having many portions, it is the smallest of all the zones covering an area of approximately 46 km^2. It has two portions on the western side of the park which borders with the tourism Zone and the other two portions of the zone are located on the eastern side of the park. This zone consists of the four major plains found in the park.

Purpose: To provide for the preservation and protection of ecologically sensitive areas such as animal corridors and plains such as the Chipuka plains.

Accessibility: Road

Visitor Use and Experience

Game Viewing	Bird watching	Research and Education	Walking Safaris
	Filming		

Permissible Activities: -

Birding	Game Viewing	Educational Touring

Photographing	Filming and Bird Sound Recording	Research
Walking Safaris	Management and Operations	

Permissible Development: -

Picnic Sites	Water points	Access road	Bore holes

Prohibited Activities: -

Pollution	Farming	Hunting	Deforestation	Mining	Fishing	Setting unplanned Fires

Prohibited Developments: -

Mines	Settlements	lodging facilities

*"**However, it should be noted that tourism products are not static and to this effect, DNPW shall encourage innovation to include any new tourism products that are environmentally friendly and acceptable. Where need be, DNPW and the community shall adjust the GMP to allow the implementation of such innovations and new business strategies".***

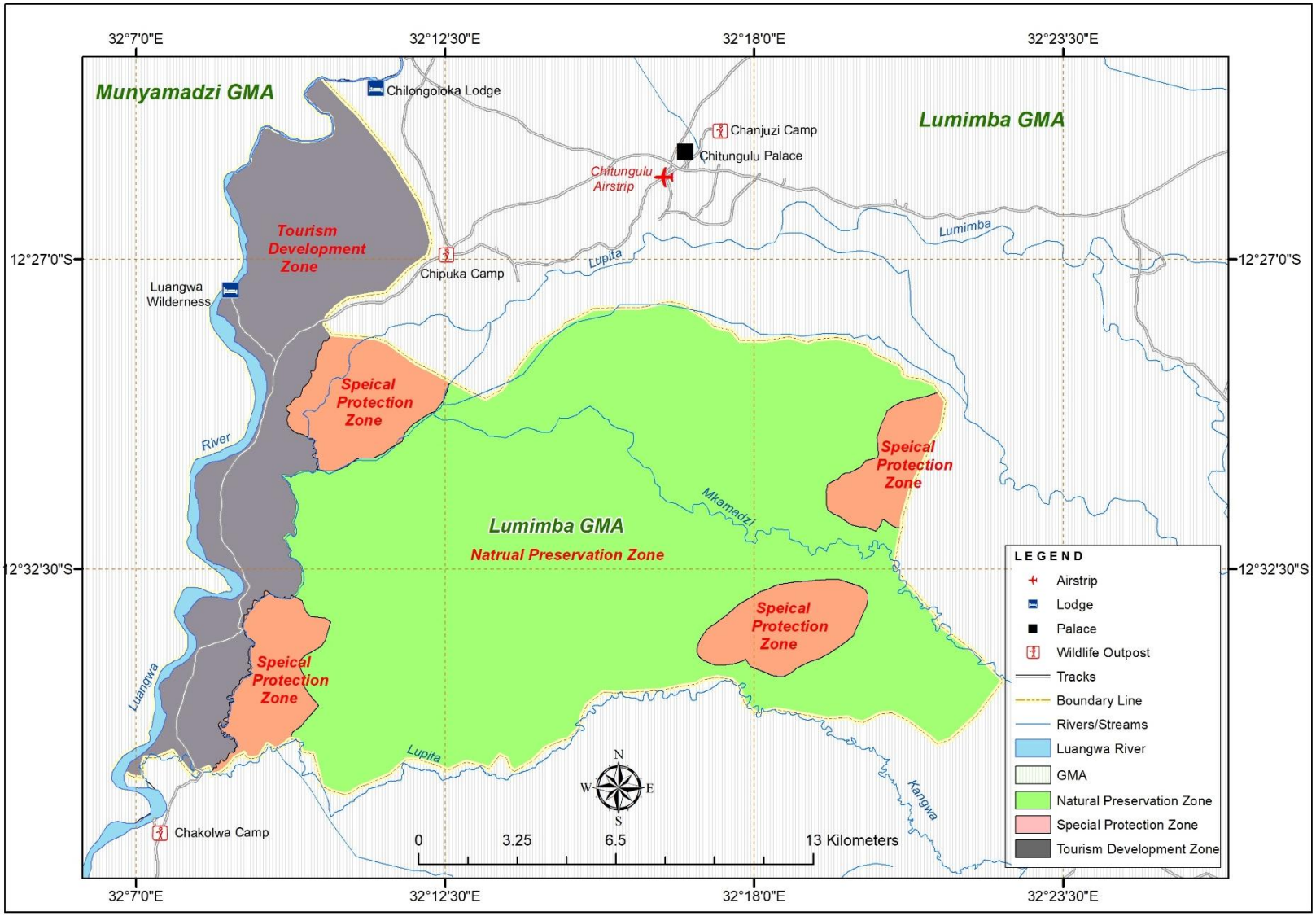

Figure 6: Management zones of the Luambe National Park

CHAPTER SEVEN

7.0 PROPOSED FUTURE CONDITIONS, TOURISM SITES AND EXPECTED TOURISM VOLUMES

7.1 OVERVIEW

Luambe National Park has huge potential for tourism growth due to its ecological connectivity with the surrounding protected areas i.e., Lukusuzi National Park, North Luangwa National Park, South Luangwa National Park, Lumimba GMA and Munyamadzi GMA.

The Proposed Future Conditions, Tourism Sites and Expected Tourism Volumes of Luambe National Park are inferred in order to provide sustainable management of the park. The types of tourism products, overnight accommodation facilities and proposed distributions of site-specific tourism facilities are outlined below.

7.2 PROPOSED FUTURE CONDITIONS

The proposed future conditions for Luambe National Park are the proposed developments which ought to be developed within a ten-year period when this GMP will be in force. These include, among others, Safari Lodges, Bush Camps, Picnic Sites, Management Roads, Game Viewing loops, Foot Trails, Sign Posts, Hides and other developmental infrastructure and facilities that may be used for Protected Area Operations and Management.

7.2.1 Types of Tourism Products

The types of tourism products that have been recommended in this GMP for the National Park relate to overnight accommodation facilities, game drives, walking safaris, game viewing, canoeing, photographing, filming, sound recording, angling and cultural site visits. "***However, tourism products are not static and to this effect, DNPW shall encourage innovation and shall be available to include any new tourism products that are environmentally friendly and acceptable"***

7.2.2 Overnight Accommodation Facilities

A variety of overnight accommodation facilities, which are proposed for the National Park, include 1 Safari Camp, 1 Lodge; 1 Bush Camp; 1 Camp site and 2 Picnic Sites.

7.2.3 Concession sites and Airstrips

Currently, Luambe National Park has one site under concession but has no existing airstrip. In addition, the park has one tourism facility for visiting tourists. In the last two, the park has recorded about 161 tourist arrivals.

7.2.4 Tourist Attraction Sites

Luambe National Park has a number of tourist attraction sites that can commercially improve the park's economic profile and tourism growth. These sites include the following; - Chipuka plains, Cultural sites such as the Old Luambe Village.

7.2.5 Potential for Tourism Development

The park is accessible for most of the year. It has good populations and variety of wild animals, birds as well as intact vegetation. The Park also has available land for Infrastructure development.

7.2.6 Proposed Distribution of Site-Specific Tourism Facilities in Zones

The table below highlights the number of overnight tourist accommodation facilities proposed for the Natural Preservation and Tourism Development zones in the National Park.

Table 6: Proposed Tourist Accommodation Facilities in the Luambe National Park

Name of the Zone	Type of Facility	Status of Facility	No. of Tents/Room	No. of Guests
Natural Preservation	Bush Camp	Proposed	8	8
	Camp site	Proposed	10	20
	Lodge	Proposed	20	40
	Picnic Site	Proposed		8
Tourism Development	Lodge	Existing	4	8
	Picnic Site	Proposed		8
	Bush Camp	Proposed	3	6
	Safari Camp	Proposed	9	18
Totals for Minimum Proposed Overnight Facilities			**75**	**138**

CHAPTER EIGHT

8.0 ENVIRONMENTAL ASSESSMENT

8.1 OVERVIEW

The environmental considerations of the GMP for Luambe National Park provides a formalized approach for dealing with the environmental impacts of the proposed projects with a view of providing enough information to enable management make informed decisions on the environmental consequences in Park. All developments to be implemented are expected to have environmental impact assessment studies undertaken. These impacts need to be assessed and mitigated in order to ensure that developmental projects are consistent with the objectives of this GMP.

8.2 ENVIRONMENTAL IMPACT ASSESSMENT

All developmental projects in the Luambe National Park will be subjected to either an Environmental Impact Assessment (EIA) or an Environmental Project Brief (EPB) as required by the Zambia Wildlife Act No. 14 of 2015 and Zambia Environmental Management Act No.12 of 2011.

8.3 STRATEGIC ENVIROMENTAL ASSESSMENT

Where as EIAs are site specific, the Strategic Environmental Assessment (SEA) addresses issues/impacts at higher level. This is undertaken to evaluate the environmental consequences of proposed policies, plans or programmes associated with the management of the whole Park.

8.4 MITIGATION MEASURES FOR POTENTIAL NEGATIVE ENVIRONMENTAL IMPACTS

Mitigation measures against negative environmental impacts on the environment for each developmental projects shall comply with the appropriate or nearest measures described under the Environmental Management Act No. 12 of 2011 and other relevant legislations in the country. In addition, the Management team for the Park shall enforce any other measures that would further secure the environment as long as such measures are not practically unreasonable and are well communicated to the affected party. Mitigation measures and recommendations proposed with regard to developmental projects within and around the Luambe National Park include: opening and grading management roads, game viewing loops, construction of safari lodges, construction of bush camps, developing picnic sites, constructing camping sites etc.

CHAPTER NINE

9.0 STRATEGIC INVESTIMENT MANAGEMENT ACTION PLAN

9.1 OVERVIEW

The Strategic Investment Management Action Plan (SIMAP) is developed in respect of the five main themes - Natural Resources, Management and Operations, Visitor Use and Experience, Local Community and Cultural Resources. This SIMAP will be subject to review every five years.

The SIMAP is executed through a "SMART" approach. The tasks must be Specific, Measurable, Achievable, Realistic, and Time-bound. Based on their significance, urgency and duration required for implementation, the Action Plans are classified into nine options shown in Table 7 below. The time-frame of implementing the SIMAP is based on three scenarios whose implementation is:-

Scenario 1: Within 2 years of ratifying the GMP;
Scenario 2: Within 2 - 4 years of ratifying the GMP and
Scenario 3: Beyond 4 years of ratifying the GMP.

Table 7: Options, Period and Priority of Implementing the SIMAP

No	Options	Priority
1	Short Term	High
2	Short Term	Medium
3	Short Term	Low
4	Medium Term	High
5	Medium Term	Medium
6	Medium Term	Low
7	Long Term	High
8	Long Term	Medium
9	Long Term	Low

Table 8: The Strategic Investment Management Action Plan

Theme	Problem	Objective	Activities	Strategy	Option/ Priority	Time Frame	Responsibility Lead & Other Organisations	Estimated Cost (US$) Per Year	Possible Sources of Funding
Natural Resources	Occurrence of uncontrolled late fires	To mitigate occurrences of late fires	Developing and implementing a fire management plan	Prepare Fire Management Plan	Long term /High	Ongoing	DNPW/CPs	20,000	GRZ and CPs
	Inadequate information on natural resources for the park	To lobby for funding to undertake research on natural resources	Conducting research on natural resources of the park	a) Develop proposals for funding b) Carry out research on natural resource c) Collaborate with other research institutions to conduct research	Long term/ High	Ongoing	DNPW and other research institutions	100,000.00	GRZ and CPs
	Unclear Park boundary	To create a cut line to clearly define the boundary	a) Holding meetings with the community b) Placing beacons along the park boundary c) Clearing Park boundary	a) Sensitize the communities surrounding the park b) Carry out surveys along the park boundary	Long term/ High	On going	DNPW, Survey Dept, Traditional and Chief Affairs Dept, District Commissioner, CRBs	120,000.00	GRZ and CPs

	Illegal offtake of natural resources	To reduce illegal offtake of natural resources	a) Conducting patrols and investigations b) Hold conservation awareness meetings in the surrounding communities	a) Review the current standard operating procedures b) Adopt and implement the revised standard operating procedure c) Sensitize the community on conservation issues d) Promote alternative livelihoods for the community	Long term/ High	Ongoing	DNPW, Judiciary and CPs	1,200,000	GRZ and CPs
	Inadequate water points	a) To create water points in the park b) To water and deepen the existing Lagoons	Identifying sites for water points	a) Conduct suitability assessments b) Drill boreholes for water points	Medium term/ High	Within 2 years	DNPW, WARMA, Lumezi Council, Water affairs dept	30,000.00	GRZ and CPs
	Siltation	a) To identify activities that cause siltation b) To educate people on the impacts of siltation	a) Conducting research on the causes of siltation b) Sensitizing the communities	a) Develop proposals for funding b) Carry out research c) Collaborate with other research institutions d) Monitoring of the rivers	Long term/ High	Ongoing	DNPW and other research institutions	100,000.00	GRZ and CPs

Operations and Management	Inadequate number of WPOs	To recruit and train field officers	Advertising and Recruiting WPOs	Source & mobilize financial resources to recruit and train officers	long term /high	On going	DNPW, CPs	100,000	GRZ & CPs
	Inadequate field equipment	To procure field equipment	Procuring required field equipment	Source & mobilize financial resources for purchasing field equipment	Short term /high	Within 2 years	DNPW, CPs	$200,000	GRZ, CPs
	Inadequate and dilapidated accommodation and office block	To rehabilitate and build standard staff accommodation and office block	Constructing staff houses and office blocks and renovating the existing houses	Source & mobilize financial resources to provide decent accommodation for members of staff	Long term/ high	On going	DNPW, CPs	$900,000	GRZ, CPs
	Lack of road maintenance equipment	To procure road maintenance equipment	a) Procuring motorized grader, tractor & tow grader	Source & mobilize financial resources to procure road equipment	Short term/ & on-going	Within 2 years	DNPW & CPs	$200,000	GRZ,CPs
	Inadequate utility vehicles	To procure more utility vehicles	Procure road utility vehicle	Source & mobilize financial resources to procure utility vehicles	Short term/ high	Within 2 years	DNPW, CPs	$70,000	GRZ,CPs
	Lack of Revenue Officers	To employ Revenue Officers for the park	Advertising and Recruiting revenue officers	To employ Revenue officers for the park	Short term/ high	Within 2 years	DNPW,CPs	$1,000	GRZ, CPs
	Inadequate communication systems	To procure and install communication systems	1.Procuring digital communication system 2. Installing digital communication system	Source & mobilize financial resources to improve communication	Short term/ high	Within 2 years	DNPW,CPs	$200,000	GRZ, CPs
Visitors Use and Experience	Inadequate tourism facilities	To increase the number of tourism facilities	1.Identifying tourism sites 2. Advertising the tourism site.	a) Conduct tourism site identification b) Engage ZTA to market the identified tourism sites	Short term & /high	Within 2 years	DNPW,CPs	$30,000	GRZ, CPs

				c) Accept unsolicited bids for tourism development sites.					
	Lack of an information Centre	To establish an information Centre in the park	Establishing a visitor information Centre	Source & mobilize financial resources to establish the information centre	Medium term /medium	Within 3 years	DNPW, ZTA, operators, CPs	$31,000	GRZ,CPs, ZTA
	Lack of signage in the park	To erect signage in the park	Erecting signage	Source & mobilize financial resources to put up signage in the park	Short term/ Low	Within 2 years	DNPW ,CPs	$5,000	GRZ,CPs
	Inadequate game viewing roads in the park	To construct and maintain game viewing roads in the park	a) Opening roads Conducting road condition surveys	Source & mobilize financial resources to open game viewing roads	Short term/ high	Within 2 years	DNPW, & CPs	$200,000	GRZ, CPs
	Underdeveloped tourism products	To develop tourism products for the park	Identify tourism products	Packaging & marketing tourism products	Short term /high	Within 2 years	DNPW, ZTA, CPs	$ 30,000	GRZ, CPs
Local Community Associated Management	Low staffing levels of trained community scouts in the surrounding GMA	To recruit, train and employ community scouts	Training of Community Scouts	a) Source for funds for training b) Advertising for recruitment.	Short Term /High	On-going	DNPW, NGOs, CPs, CRB	120,000	DNPW, CRB, GRZ
	Inconsistent payments of salaries to community scouts	To improve remittance of community shares by Government to CRBs	Hold meetings With stakeholders	Engagement of Government for timely remittance of community shares	Short Term/ High	On-going	DNPW, government departments, Communities & other stakeholders.	20,000	GRZ, CPs

	Poor conditions of service for community scouts resulting into low motivation	To improve the conditions of service	Holding meetings with relevant stakeholders	a) Review the condition of service	Short Term/ High	On going	DNPW, government departments, Communities & other stakeholders.	16,000	Government departments, CPs and CRBs
	Inadequate information and understanding by the community regarding their role in wildlife management of the park	To sensitize the community on their role in wildlife management of the park	Organizing and holding community sensitization meetings and workshops	a) Identify communities associated with the management of the park b) Conduct workshops for local communities c) Identify roles and responsibilities of community in wildlife management of the park d) Prepare materials for sensitization meetings	Medium Term /High	On-going	DNPW, MOCTA	24,000	DNPW, GRZ,
Cultural Resources	Inadequate information on cultural sites in the park	To conduct research on cultural resources and sites	a) Conducting library and archival research	a) Establish databases on cultural Resources	Short Term/ High	Within 2 years	DNPW/ NHCC	20,000	GRZ / UNESCO/ CPs

			b) Conducting oral interviews c) Conducting archeological excavations	b) Produce brochures, leaflets, etc c) Community meetings d) Archeological Surveys					
	Lack of cultural personnel	To recruit cultural personnel	Advertising and conducting Interviews	Advertise for recruitment of cultural Personnel	Medium Term / Medium	Within 3 years	GRZ/ NHCC	6,000	GRZ
	Limited accessibility to the cultural sites	To construct and rehabilitate access roads to cultural sites	Constructing all-weather road infrastructure to cultural sites	Engage GRZ and relevant stakeholders to upgrade the existing roads leading to cultural sites	Medium Term/ High	3 years	GRZ/ CPs	200,000	GRZ/ CPs
	Lack of publicity of the cultural resources in the park	To publicize the cultural sites	Advertising on local and international media	a) Brochures and leaflets on heritage sites in English and Local Languages b) Awareness campaigns	Short Term / High	Ongoing	DNPW, ZTA, NHCC, MOCTA, Local authorities, Local community	100,000	GRZ, CPs
	Lack of signage	To erect signage	Erecting signage along access roads to the cultural sites	Procure materials for signage	Short Term / Medium	Within 2 years	DNPW, NHCC	30,000	GRZ, CPs
	Undeveloped heritage sites	To develop the heritage sites	Construction of tourist amenities around the heritage sites	Engage NHCC on Architectural designs for heritage infrastructure Procure contractor	Long Term / Medium	3 years	DNPW, NHCC	90,000	GRZ, UNESCO, Cooperating Partners

CHAPTER TEN

10.0 IMPLEMENTATION PLAN

10.1 OVERVIEW

The overarching principle objective of the implementation plan is to guide the mobilization of required resources in order to secure the environment and create a platform for socio-economic development in the Luambe National Park. The implementation plan is based on the SIMAP developed in relation to the respective identified management problems, management objectives and the management zones. In addition, a monitoring and evaluation framework will guide the implementation plan.

10.2 MONITORING AND EVALUATION

Monitoring and Evaluation (M and E) of the implementation of the GMP will be done on a continuous basis. This will be used to assess delivery and identify difficulties to ascertain problem areas in which appropriate remedial actions shall be required.

10.3 FEEDBACK

Results of the evaluation will be fed back to the original plan. This process will provide measures to improve management situations and guide further decisions.

Table 9: A five year Implementation Plan for Luambe National Park

	Mgt. Problem	Mgt. Objective	Expected Output	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Measurable Indicator	Means of Verification	Important Assumption
NATURAL RESOURCE MANAGEMENT IMPLEMENTATION PLAN												
1.	Occurrence of uncontrolled late fires	To mitigate occurrences of late fires	Reduced incidences of unplanned and uncontrolled fires	Developing and implementing a fire management plan						a) Number of Technical reports b) Workshop minutes	Approved fire management plan	Resources available to prepare and implement the fire management plan
2.	Inadequate information on natural resources for the park	To undertake research on natural resources	a) Protocols for biophysical assessment developed b) Information on biophysical resources generated c) Lobbying for funding to undertake research on natural resources	Conducting research on natural resources of the park						a) Number of biophysical protocols developed b) Number of Technical reports and peer reviewed papers prepared	Biophysical protocols and technical reports	Resources available to undertake biophysical assessment
3.	Unclear Park boundary	To create a cut line to clearly define the boundary	a) Park boundary surveyed, marked, cleare	a) Holding meetings with the community b) Placing beacons along the						a) Number of meetings held b) Number of surveys	a) Minutes of the meetings b) Survey reports	Availability of funds to conduct boundary surveys

			d and beaconed	park boundary c) Clearing Park boundary						conducted c) Number of beacons placed on the boundary		
4.	Illegal offtake of natural resources	To reduce illegal offtake of natural resources	Illegal off-take of natural resources reduced in the park	a) Conducting patrols and investigations b) Holding conservation awareness meetings in the surrounding communities						a) Number of reports on illegal harvesting of natural resources b) Minutes on awareness meetings	Reports of on illegal harvesting of natural resources	a) Availability of funds
5.	Inadequate water points	a) To create water points in the park b) To water and deepen the existing Lagoons	Adequate number of water points set up	Identifying sites for water points						a) Number of water point sites identified b) Number of suitability assessmen	Reports on the number of water points set up with water.	a) Funds available to set up water points

										ts conducted c) Number of water points set up		
6.	Siltation	a) To identify activities that cause siltation b) To educate people on the impacts of siltation	Negative activities leading to siltation identified and mitigated	a) Conducting research on the causes of siltation b) Sensitizing the communities						Factors leading to siltation identified	a) Technical reports on factors leading to siltation identified b) Reports on mitigation measures applied.	a) Funds available to undertake study b) Factors leading to siltation identified
OPERATIONS AND MANAGEMENT IMPLEMENTATION PLAN												
1	Inadequate number of WPOs	To recruit and train WPOs	Adequate number of WPOs	Advertising and Recruiting WPOs						Number of WPOs recruited per year	Reports on the recruitment of WPOs	Availability of funds to advertise and recruit.
2	Inadequate field equipment	To procure field equipment	Adequate field equipment procured	Procuring required field equipment						Number of equipment procured	Procurement reports	Availability of funds
3	Inadequate and dilapidated accommodation and office block	To rehabilitate and build standard staff accommodation and office block	Houses and offices constructed and renovated for the staff	Constructing staff houses and office blocks and renovating the existing houses						Number of houses and offices constructed and renovated	Certificate of completion of works	Availability of funds to construct houses and offices.

4	Lack of road maintenance equipment	To procure road maintenance equipment	Road maintenance equipment procured	Procuring motorized Grader, tractor & tow grader						Number of equipment procured	Procurement reports	Fund available procurement
5	Inadequate utility vehicles	To procure more utility vehicles	Adequate utility vehicles procured	Procure road utility vehicles						Number of utility vehicles procured	Procurement reports	Availability of funds
6	Inadequate communication systems	To procure and install communication systems	Adequate communication systems	Procuring digital communication system						Number of communication systems procured and installed.	Procurement reports and installation report	Availability of funds
VISITOR USE AND EXPERIENCE												
1	Inadequate tourism facilities	To increase the number of tourism facilities	Adequate tourism facilities	a) Identifying tourism sites b) Advertising tourism sites						Number of tourism facilities constructed	Reports on tourism facilities constructed	Availability of funds
2	Lack of information Centre	To establish an information Centre in the park	Visitors' information centre established	Establishing a visitor information Centre						Visitors' information centres established	Certificate of completion of works	Availability of funds
3	Lack of signage in the park	To erect signage in the park	Signage erected in the park	Erecting signage						Number of signage erected per year	Certificate of completion of works	Availability of funds
4	Inadequate game viewing roads in the park	To construct and maintain game viewing roads in the park	Adequate game viewing roads in the park	a) Opening roads b) Conducting road surveys						Number of Kilometres of game viewing roads opened	Report of completion of works	Availability of funds

5	Lack of revenue officers	To employ Revenue officers for the park	Revenue Officers employed	Advertising and recruiting Revenue Officers						Number of Revenue Officers employed	Report on recruitment	Availability of funds
6	Underdeveloped tourism products	To develop tourism products for the park	Tourism products fully developed	Identifying tourism product						Number of tourism products developed	Reports on developed tourism products	Availability of funds
LOCAL COMMUNITY ASSOCIATED MANAGEMENT												
1.	Low staffing levels of trained community scouts in the GMAs	To train and employ community scouts	Increased staffing levels of community scouts in the GMAs	Training of Community Scouts						Number of Community Scouts trained per year.	Report on recruitment	Funds available
2.	Inconsistent payments of salaries to Community Scouts	To improve remittance of community revenue share to CRBs by Government	Consistent payment of salaries to Community Scouts	Holding meetings with stakeholders						Number of meetings held to review conditions of service	Reports on meetings held	Availability of funds
3.	Poor conditions of service resulting into low motivation	To improve conditions of service	Community Scouts' conditions of service improved	Reviewing the conditions of service						Number of meetings held to review conditions of service	Minutes of the meetings	Availability of funds
4.	Inadequate information and understanding by the community regarding	To sensitize the community on their role in wildlife management	Information of their role in wildlife management availed to the community	Organizing and holding community sensitization meetings and workshops						Number of sensitization meetings and workshops held per year	Minutes of meetings	Cooperation among the stakeholders and availability of funds to hold these meetings

	their role in wildlife management of the park											
CULTURAL RESOURCES												
1.	Inadequate information on cultural sites in the park	To conduct research on cultural resources and sites	Information on all the cultural sites of the park documented.	a) Conducting library and archival research b) Conducting oral interviews c) Conducting transect field surveys						a) Number of cultural sites identified and documented per year. b) Number of cultural values and resource strategy papers developed for the park	a) Cultural values and Resource strategy papers / manuals developed, b) Reports of baseline data collection	Financial resources mobilised to finance the undertaking of the inventories
2	Lack of cultural personnel	To recruit cultural personnel	Cultural officer recruited	a) Advertising and conducting Interviews						a) Number of adverts placed b) Interviews conducted	Report on the interviews conducted	Availability of funds
3	Limited accessibility to the cultural sites	To construct and rehabilitate access roads to cultural sites	Cultural site accessible throughout the year	Constructing all-weather roads to cultural sites						Number of kilometres constructed & Rehabilitated	Certificates of completion of works	Availability of funds

4	Lack of publicity of the cultural resources in the park	To publicise cultural sites	Cultural resources of the park publicised and disseminated	Advertising on local and international media						a) Number of Programmes on cultural sites aired on radio per year b) Number of different types and kinds of publicity materials produced per year	a) Documentaries of aired programmes b) Availability of different types and kinds of publicity materials produced	Availability of funds to undertake the prescribed activities
5	Lack of signage	To erect signage sites	Signage erected	Erecting signage along access roads to the cultural sites						Number of signage erected per year	Certificate of completion of works	Availability of funds
6	Undeveloped cultural sites	To develop the cultural sites	Cultural sites developed	Construction of tourist amenities around the cultural sites						Number of cultural sites developed	Certificate of completion of works	Availability of funds

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LIST OF APPENDICES

Appendix 1: Checklist for mammals in Luambe National Park

No	Common name	Scientific name	Status	IUCN Status	Local name
1	Bushbuck	*Tragelaphus scriptus*	Stable	Least concern	Chikwiba
2	African Elephant	*Loxodonta africana*	Increasing	Vulnerable	Njovu
3	Hippo	*Hippopotamus amphibius*	Stable	Vulnerable	Ndomondo
4	Impala	*Aepyceros melampus*	Stable	Least concern	Mphala
5	Lichtenstein's Hartebeest	*Signmoceros lichtensteinii*	Stable	Least concern	Nkhonzi
6	African Buffalo	*Syncerus caffer*	Decreasing	Least concern	Njati
7	Cookson wildebeest	*Connochaetes taurinus cooksoni*	Stable	Least concern	Nyumbu
8	African Lion	*Panthera leo*	Decreasing	Vulnerable	Nkhalamu
9	Common Warthog	*Phacochoerus aethiopicus*	Stable	Least concern	Munjiri
10	Leopard	*Panthera pardus*	Decreasing	Near threatened	Nyalugwe
11	Thornicroft's Giraffe	*Girraffa camelopardalis thornicrofti*	Decreasing	Vulnerable	Nyamalikiti
12	Spotted Hyaena	*Crocuta crocuta*	Decreasing	Least concern	Chimbwi
13	Puku	*Kobus vardonii*	Decreasing	Near threatened	Seula
14	Plains Zebra	*Equus burchelli*	Decreasing	Near threatened	Boli
15	Common Eland	*Taurotragus Oryx*	Stable	Least concern	Nsefu
16	Sharpe's Grysbok	*Raphicerus sharpei*	Stable	Least concern	Tungwa
17	Roan antelope	*Hippotragus equinus*	Decreasing	Least concern	Mpelembe
18	Common waterbuck	*Kobus ellipsirymnus*	Decreasing	Least concern	Chuzu
19	Greater Kudu	*Tragelophus strepsiceros*	Stable	Least concern	Kamungoma
20	African Wild Dog	*Lycaon pictus*	Decreasing	Endangered	
21	Yellow baboons	*Papio cynocephalus*	Stable	Least concern	Kolwe
22	Vervet monkey	*Chlorocebus pygerythrus*	Stable	Least concern	Kolwe
23	Common duiker	*Sylvicapra grimmia*	Stable	Least concern	
24	African Civet	*Civettictis civetta*	Unknown	Least concern	Nyisha
25	Large-spotted genet	*Genetta tigrina*	Unknown	Least concern	Fungwe
26	Oribi	*Ourebia ourebi*	Decreasing	Least concern	
27	Porcupine	*Hystrix africaeaustralis*	Stable	Least concern	Chauzimbi
28	White tailed Mongoose	*Ichneumia albicauda*	Stable	Least concern	Chinungu
29	Mopane Squirrel	*Paraxerus cepapi*	Stable	Least concern	
30	Serval	*Leptailurus servel*	Stable	Least concern	
31	Pangolin	*Manis Temminckii*	Decreasing	Vulnerable	
32	Elephant Shrew	*Elephantulus rozeti*	Unknown	Least concern	

Appendix 2: Checklist of Reptiles in Luambe National Park

No	Common name	Scientific name	Population status	IUCN Red list status	Local name

1	Common African Python	*Python sebae natalensis*	*unknown*	Not evaluated	Nsato
2	Black mamba	*Dendroaspis polylepis*	Stable	Least concern	Nkhomi
3	Boomslang	*Dispholidus typus typus*	*unknown*	Not evaluated	Mbobo
4	Vine snake	*Thelotornis capensis oatessii*	*stable*	Least concern	Kalikwikwiti
5	Green Mamba	*Dendroaspis angusticeps*	*Unknown*	Not Evaluated	
6	Puff adder	*Bitis arietans arietans*	*Unknown*	*Not Evaluated*	Chipili
7	Black-necked Spitting Cobra	*Naja nigricollis*	*unknown*	*Not evaluated*	Kafi
8	Striped-bellied Sand Snake	*Psamophis subtaeniatus*	*stable*	*Least concern*	Muswema
9	Olive Marsh Snake	*Natriciteres olivacea*	*Unknown*	*Least concern*	Mamba luzi
10	Nile crocodile	*Crocodlyus niloticus*	*unknown*	*Least concern*	Ng'wena
11	Savanna monitor	*Valunus exanthematicus albigularis*	*unknown*	*Least concern*	Fumba/imbula
12	Nile Monitor	*Valunus niloticus niloticus*	*unknown*	Not evaluated	Nsamba
13	Leopard Tortoise	*Geochelone Pardalis babcocki*	Unknown	*Least Concern*	Fulwe
14	Common flap-necked chameleon	*Chamaeleo dilepis dilepis*	*Stable*	*Least Concern*	Lumvwi
15	Striped Skink	*Mabuya striata wahlbergii*	*unknown*	Not evaluated	Malinso

Appendix 3: Checklist for Birds

No	Common name	Scientific	Population status	IUCN Status
1	Helmeted guinea fowl	*Numida meleagris*		Not evaluated
2	Fish eagle	*Haliaeetus vocifer*	Stable	Least concern
3	Grey crowned crane	*Balearica regulorum*	Decreasing	Endangered
4	Yellow billed stork	*Mycteria ibis*	Decreasing	Least concern
5	Swainson's spurfowl	*Pternistis swainsonii*	Stable	Least concern
6	Grey heron	*Ardea cinerea*	Unknown	Least concern
7	Egyptian geese	*Aloppochen aegyptiacus*		Not evaluated
8	Goliath heron	*Ardea goliath*	Stable	Least concern
9	Cape turtle dove	*Streptopelia capicola*	Increasing	Least concern
10	Meve's starling	*Lamprotornis mevesii*		Not evaluated
11	Great cattle egret	*Egretta alba*		Not evaluated
12	Dark-capped bulbul	*Pycnonotus tricolor*		Not evaluated
13	Southern ground hornbill	*Bucorvus leadbeateri*	Decreasing	Vulnerable
14	Sandgrouse Double-banded	*Pterocle bicinctus*		Not evaluated
15	Southern red-billed hornbill	*Tockus rufirostris*		Not evaluated

Appendix 4: Staff Requirement for Luambe National Park

Position/Ranks	Number of existing	Number of Staff Required	Number of Additional Required
Park Ranger	0	1	1
Senior Wildlife Police Officer	0	4	4
Wildlife Police Officer	11	30	19
Driver	0	2	2
Coxswain	0	2	2
Revenue Officer	0	2	2

Appendix 5: Transport and Equipment requirements for Luambe National Park

Item	Existing No.	Total No. Required	Additional No. Required
Vehicles			
Operational 4 X 4 MV	1	2	1
Tractor & Trailer	0	2	1
Grader	0	2	2
Toll Grader	0	1	1
Motor Bikes	0	3	3
Boats			
Speedboat+ Engine	0	2	2
Banana boat + Engine	0	2	2
Rubber boat	0	2	2
Equipment			
Electric Generator	0	2	2
Electric Water Pump	0	2	2
Bore Holes	0	7	7
Water Tanks(2500lits)	0	2	2
Battery Charger	0	2	2
Air Compressor	0	2	2
Solar Panels	2	4	2
Shovels	0	20	20
Hoe	0	20	20
Spade	0	10	20
Slashes	0	30	20
Pick	0	20	20
Weather Screen	0	1	1
Rain Gauge	0	1	1
Axe	0	20	20
Pangas	0	20	20
Drums	0	5	5
Water Bouzer	0	3	3
Communications			
HF Radio Sets	0	2	2
VHF Base Stations	0	2	2
VHF Mobile	0	2	2
VHF Hand Held	0	8	8
Hand Held Charges	0	8	8
Fire Arms			
Automatic Rifle	10	20	10
Semi-Automatic Rifles	1	10	9
Sport Rifles	4	8	4
Shotguns	1	2	1

Pistol	0	2	2
Computers			
Desktop Computer	0	2	2
Laptops	0	2	2
Printer	0	2	1
Photocopier	0	3	3
GPS Unit	2	8	6
Research Equipment/Tool			
Fire beaters	0	50	50
Field guide books	0	20	20
Rain gauge	0	1	1
Camping Equipment			
Tents	0	30	30
Camping Beds	0	30	30
Sleeping bags	0	30	30
Rag sacks	0	30	30
Water bottles	0	30	30
Office Equipment			
Chairs	2	32	30
Tables	2	8	6
Stapler	1	8	7
Hole Punch	1	8	7
Calculator	0	8	8
Box Files	2	15	13
Wastepaper basket	0	8	8
Filling Cabinet	1	8	7
Office File Tray	1	8	7
Scanner	0	4	4
Fridge	0	4	4
Staff Houses			
Chipuka	2	10	8
Chakolwa	4	10	6
Roan	0	10	10
Waka waka	0	10	10

Appendix 6: Wildlife Outpost for Effective Management of the Park

Name of Outpost	Status	Location	Remarks
Chipuka	Existing	North of the Park	Inadequate permanent staff houses
Chakolwa	Existing	South of the Park	Inadequate permanent staff houses
Roan	Existing	East of the Park	Inadequate permanent staff houses
Waka waka	Proposed	Northern of the Park	Strategic infiltration route
Kangwa Camp	Proposed	East of the Park	

Appendix 7: List of Participants who attended the First Stakeholder's Workshop for the Preparation of the General Management Plan

No.	Name	Institution	Position
1	Mr. Kenneth Nyambe	DNPW	Principal Community Based Natural Resources
2	Christopher Kaoma	DNPW	Principal Planner
3	Mr. Joseph Bwalya	DNPW	Park Ranger
4	Grace Banda	Tradition Authority	Chieftainess Mwanya
5	Lameck Nkhata	Tradition Authority	Chief Chitungulu
6	Mr. Victor Syatyoka	NHCC	Heritage Conservation Officer
7	Ms. Natasha Nakalangwe	MOCTA	Chief's and Traditional Affairs Officer
8	Mr. Ryson Lungu	IFAW	Law Enforcement Coordinator
9	Mr. Mundandamo Kaweza	Ministry of Tourism and Arts	Planner
10	Mr. Chrispine Mofya	Ministry Fisheries and Livestock	Fisheries Officer
11	Mr. Brian Mwamba	Ministry of Tourism and Arts	Tourism Development and Research Officer
12	Dr. Lengwe Mwansa	DNPW	Veterinary Officer
13	Mr. Miyanda Gwaba	DNPW	Ag Principal Business & Developer Officer
14	Mr. Collins Chibeka	DNPW	Sector In-charge (SWPO)
15	Mr. Steven Kunda	Forestry Department	Forestry Officer
16	Mr. Malama Njobvu	DNPW	Community Liaison Assistant
17	Mr. Erastus Kancheya	DNPW	Area Warden-ELAMU
18	Mr. Chabala Chiyaze	DNPW	GIS Specialist
19	Mr. David Ngwenyama	ZIFLP	Provincial Project Coordinator
20	Mr. Howard Maimbo	DNPW	Senior Ecologist
21	Mr.Tennyson Msimuko	DNPW	Senior Legal Assistant
22	Mr. Phillip Namagonya	IFAW	
23	Mr. Gibson Chanda	DNPW	Park Ranger
24	Mr. Bovax Kachali	DNPW	Area Warden-SLAMU
25	Mr. Charles Zimba	DNPW	Sector In-Charge Chanjuzi (SWPO)
26	Mr. Chaka Kaumba	DNPW	Senior GIS Officer
27	Mr. Emmanuel Phiri	Traditional Authority	Chief Rep Chitungulu
28	Mr. John Phiri	Traditional Authority	Chief Rep Chitungulu
29	Mr. Hendrix Phiri	Traditional Authority	CRB Chairperson
30	Mr. Moses Zulu	Traditional Authority	Community Rep
31	Mr. Nkhumbwisha Isaac L	Survey Department	Senior Surveyor
32	Mr. Dominic Kapokola	DNPW	Senior Conservation Officer
33	Mr. Benson Silweya	DNPW	Area Ecologist
34	Mr.Twakundine Simpamba	DNPW	Senior Ecologist
35	Mr. Benson Kabungo	DNPW	GIS Officer

36	Ms. Thindo Malambo	DNPW	Business Development Officer
37	Mrs Helga Sakala	DNPW	Senior Business Development Officer
38	Mrs Angela Yengwe	ZARI	Senior Agriculture Research Officer
39	Mr. Venon Kaboyi	ZARI	Senior Agriculture Research Officer
40	Mrs Edna Shachipuka	DNPW	Area Ecologist
41	Mrs Janet Palukani	District Administration	District commissioner
42	Mr. Emmanuel Mulenga	District Administration	District Commissioner
43	Ms Mwitwa Mugode	DNPW	Trainee Planner
44	Mr. Musonda Mwela	DNPW	GIS Officer
45	Mrs Sinyala Chipasha	DNPW	Planning Officer
46	Ms Marvis Kasonga	DNPW	Accounts Assistant
47	Mrs Agness Nkhoma	DNPW	Secretary
48	Mr. Likulunga Mushokabanji	ZIFLP	Monitoring and Evaluation Officer
49	Mr. Mulenga Mwenya	Forestry Department	Forestry Officer
50	Mr. Harry S Twenda	Lumezi Council	Council Secretary
51	Mr. Mario Voss	Luambe Camp	Director
52	Mr. Nelson Muyaba	DNPW	Planning Officer
53	Mr. Chisoni Phiri	Traditional Authority	Chief Retainer
54	Mr. Michael Ngulube	Lumezi Council	Town Planner
55	Mr. Gibson Banda	IFAW	Community Liaison Officer
56	Ms. Chisha Moseni	DNPW	Planning Officer
57	Mr. Isaac Chulu	DNPW	Driver
58	Mr. Ndabaningi Tembo	DNPW	Driver
59	Mr. Benard Phiri	DNPW	Driver
60	Mr. Mischeck Kanyembo	DNPW	Driver
61	Mr. Frazer Mwale	ZARI	Driver
62	Mr. Janza Listor	MTA	Driver
63	Mr. Peter Khosa	DNPW	Driver
64	Mr. Goodluck Phiri	DNPW	Driver

Appendix 8: Baseline Data Collecting Team

No.	Name	Institution	Position
1	Mr. Namakando Musiwa	Forestry Department	Ag District Forestry Officer
2	Mrs Sinyala .N. Chipasha	DNPW	Planning Officer
3	Mr. Malama Njobvu	DNPW	Community Liaison Assistant
4	Mr. David Ngwenyama	ZIFLP	Provincial Project Coordinator
5	Mrs Edna Shachipuka	DNPW	Area Ecologist
6	Mr. Victor Syatyoka	NHCC	Heritage Conservation Officer
7	Mrs. Helga Sakala	DNPW	Senior Business Development Officer
8	Mr. John Phiri	Traditional Authority	Chief's Rep Chitungulu
9	Mr. Emmanuel Phiri	Traditional Authority	Chief's Rep Chitungulu
10	Mr. Venon Kamboyi	ZARI	Senior Agriculture Research Officer
11	Mr. Benson Silweya	DNPW	Area Ecologist
12	Mr. Musonda Mwela	DNPW	GIS Officer
13	Mr. Likulunga Mushokabanji	ZIFLP	Monitoring and Evaluation Officer

Appendix 9: Statutory Instrument for the Gazettment of Luambe National Park

Government of Zambia

Statutory Instrument No. 67 Of 1993

The Zambia Wildlife Act (Act No. 14 of 2015)

NATIONAL PARK NO. 4: LUAMBE

Starting at Beacon A on the left bank of the Luangwa River at its confluence with the Lupita River, the boundary follows up the thalweg of the Luangwa River to Beacon D on the left bank of this river; thence following the road from Beacon D in an easterly direction around the northern edge of Baka Baka Lagoon to the Chipuka Entrance Gate; thence along the main Luangwa Valley (1971) road D104 in a south-westerly direction to where it meets a marked line; thence following this marked line along the northern edge of the Ntumbe Dambo in a general south-easterly direction to the confluence of the Lupita River with the Lumimba River; thence up the right bank of the Lupita River in a general easterly direction to Beacon C due south of the Kamira Pool; thence in a straight line in a general southerly direction to the confluence of the Mukamadzi River with the Kavyavya Stream; thence following up the right bank of the Mukamadzi River to a point where the main Mwanya-Chipandwe Village track crosses this river; thence along this track in a general southerly direction to a point where it crosses the Kangwa River at Beacon B; thence down the left bank of the Kangwa River to its confluence with the Lupita River; thence down the left bank of the Lupita River to Beacon A at its confluence with the Luangwa River, the point of starting.

The above-described area, in extent approximately 254 square kilometres, is situate in the Lundazi District and is shown bordered in red on Plan No. N.P. 4, deposited in the office of the Surveyor-General and dated the 1st February, 1971.