FOREWORD

The Protected Areas (PAs) management in Zambia has suffered a number of setbacks for various reasons. These largely include limited financial and human resources, limited institutional capacity and inadequate sectoral laws. However, even the limited ranges of PA categories have had their own telling effects. In an effort to address some of the highlighted shortcomings, the Government of the Republic of Zambia (GRZ) commenced the Reclassification and Effective Management of the National Protected Areas System (REMNPAS) Project in 2006.

The Project is examining and will put in place appropriate policy, regulatory and governance frameworks in order to provide new tools for Public-Private-Community and Civil Society management partnerships. The Project also aims at enhancing and strengthening the existing institutional capacities for improved Protected Areas representation, monitoring and evaluation including business and investment planning.

The Government of the Republic of Zambia is piloting the initiative of devolving management responsibility to effective partnerships involving local communities. This is achieved by attracting private finance to help in the protection of PAs in a long term commitment. To a greater extent this assures PAs of sustainable finance and that way the Public Private Community Partnership approach secures promise for their future. Ironically, private finance could not be secured to support PAs in their current form. It therefore means that for private sector to participate with confidence, and make investment, a number of issues ought to be addressed starting with the review of the national legislation and in the process expand on the categories of PAs. It is clear that there are limited PA categories in Zambia, and these are not attractive enough to inspire private sector investment.

To make the foregoing achievable, the REMNPAS Project has embarked on identifying areas to be conferred an effective protective status but on customary land. Unlike was done during creation of existing PAs, this process involves no land alienation but the new PA falls under the management of the community to whom the land belongs.

Hon. Catherine Namugala, MP
MINISTER OF TOURISM, ENVIRONMENT AND NATURAL RESOURCES

ACKNOWLEDGEMENTS

The Ministry of Tourism, Environment and Natural Resources (MTENR) through the REMNPAS Project has shown that effective management of Protected Areas could provide good assurance of biodiversity conservation in Zambia. This lesson has been realised with the participation and contributions by a number of stakeholders.

I am especially grateful to the Global Environmental Facility (GEF) and the United Nations Development Program (UNDP) for the financial assistance provided.

I also take this opportunity to thank the Project Secretariat and all the stakeholders that added value to the Reclassification and Conservation Plan, which shall remain a working guide for Zambia.

Permanent Secretary
MINISTRY OF TOURISM, ENVIRONMENT AND NATURAL RESOURCES

DEFINITIONS

Biodiversity:	The total variety of all living organisms, including their genetic constituents, inter-relationships and habitats together with ecosystems and landscapes of which they are part.
Climate Change:	Human-induced changes taking place in the world's climate, especially trends towards global warming, which will deeply impact upon most ecosystems.
Conservation:	The wise use of natural and cultural resources for their inherent value and for the benefit of society, bearing in mind that the future generations have as much right to these resources as our own.
Culture:	A system of behaviors (including economic, religious, and social), values, ideologies and social arrangements.
Cultural Heritage Resources:	The tangible and intangible aspects of cultural systems, both past and present, that are valued by or representative of a given culture, or that contain information about a culture.
Ecology:	The study of the relationship between an organism and its environment.
Ecosystem:	A complex of living communities of organisms and their non-living environment interacting as a self sustaining entity of its own.
Environment:	The ecosystem of which mankind is part including cultural and man-made features sometimes defined as the complex set of physical, geographic, biological, social, cultural, and political conditions that surround an individual or organism and that ultimately determines its form and nature of its survival.
Geology:	The study of the rocks, Earth, its origin, structure, composition, history and the nature of the processes which give rise to its present state.
Geological Heritage:	Any rare rock formations and their formation processes e.g. fossil sites, mineralogical sites, faults, hot springs, disused mines.
Geomorphology:	The study of landscapes and their formation.
Geopark:	An area with a geological heritage of particular importance in terms of its scientific quality, rarity, aesthetic appeal and educational value.
Heritage:	Anything passed on from one generation to another including traditions, customs, sites, and artifacts that relate to identity, social order, leisure, education, research and, or conservation purposes.
Important Bird Area (IBA):	An area recognized from the global point of view in terms of conservation of rare and vulnerable birds and regularly occurring migratory species

National Monument:	A site of national natural and /or cultural significance.
Natural Heritage:	Any rare floral, faunal, landscape or geologically naturally occurring feature/element or an assemblage of the same and/or their associated processes.
Protection:	This is a team in contrast with conservation for the prevantaion of harm to organisms or the environment, usually with tangible intervention and active management
Wetland:	A transitional area between terrestrial and aquatic systems in which the water table is usually at or near the surface of the land is covered by shallow water. Under the Ramsar convention, wetlands can include tidal mudflats, natural ponds, marshes, potholes, wet meadows, bogs, peat lands, freashwater swamps, mangroves, shallow lakes and some rivers.
World Heritage Site:	Also known as a World Heritage Properties is site with natural and/or cultural heritage values of global importance otherwise known as Outstanding Universal Values (OUV)

ACRONYMS AND ABBREVIATIONS

CRB	Community Resources Board
CBO	Community - Based Organization
DoF	Department of Fisheries
FD	Forestry Department
GEF	Global Environmental Facility
GMA	Game Management Area
GRZ	Government of the Republic of Zambia
IEC	Information, Education and Communication
IUCN	World Conservation Union
METT	Management Effectiveness Tracking Tool
METTPAZ	Management Effectiveness Tracking Tool for Protected Areas in Zambia
MTENR	Ministry of Tourism Environment and Natural Resources
MoU	Memorandum of Understanding
NGO	Non -Governmental Organization
NP	National Park
NPE	National Policy on Environment
NHCC	National Heritage Conservation Commission
OUV	Outstanding Universal Values
PA	Protected Area
PPP	Public Private Partnership
REMNPAS	Reclassification and Effective Management of the National Protected Areas System Project
SADC	Southern African Development Community
TDCF	Tourism Development Credit Facility
TFCA	Trans-frontier Conservation Areas
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Scientific and Cultural Organisation.
WWF	World Wide Fund for Nature
ZAWA	Zambia Wildlife Authority
ZTB	Zambia Tourist Board

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

The Protected Area (PA) systems in Zambia covers about 40% of the total surface area of the country and comprises National Parks, National Forests, Bird and Wildlife Sanctuaries, Game Management Areas, Local Forests and Heritage Sites. These PA categories, which largely conform to the IUCN classification, have a critical role in the protection of biodiversity and physical environment in Zambia. The roles that the PA system plays include nutrient and water cycling, land protection from erosion and climate stabilization through carbon sequestration.

There are four designated Government institutions mandated with the management of Zambia's Protected Area Systems, namely: Forestry Department (FD), National Heritage Conservation Commission (NHCC) and Zambia Wildlife Authority (ZAWA) all falling under the Ministry of Tourism, Environment and Natural Resources and the Department of Fisheries (DoF), which falls under the Ministry of Livestock and Fisheries. These institutions have been key in the process of preparing the Reclassification and Conservation Plan for Zambia. The plan addresses the ecological, managerial and financial gaps in the PA management system by providing mitigatory measures regarding governance type and categories of PAs.

The Government through this plan has identified a new range of PA categories to be introduced in the national PA system, namely; Partnership Park, Nature Park, Geopark, Game Reserve and National Reserve.

The Zambian Government is desirous that management responsibilities shall be devolved to effective partnership established for respective PAs. New partnerships, with local people, private initiatives, industry, tourism operators, resource users such as fishermen and hunters, development agencies, human rights groups, religious organisations, local government and the general public will play a major role. The approach is aimed at tapping private finance to support conservation which otherwise would have not being possible under current legal regime. This is in view of the fact that foreign assistance for protected area systems and biodiversity conservation does not appear to be sufficient and represents an unsustainable dependence on foreign institutions to accomplish national goals. However, Zambia is well positioned to get funding applicable to the management of the trans-boundary resources. Initiatives such as Trans-frontier Conservation Areas (TFCAs) are other approaches which seem appealing and thus attract funding from international Cooperating Partners. More exotic sources of revenue may eventually include the sale of bio-prospecting rights and payments for carbon offsets.

It is nevertheless advised that on all public and co-managed protected areas, Government through the various departments and statutory bodies, continue to play an active role through representation on the established boards or management committees.

1.0 INTRODUCTION

1.1 OVERVIEW

Zambia is a landlocked country with a comparatively low human population density (16 people per km^2) in the SADC Region. Almost half of the population lives in towns and cities, making Zambia one of the most urbanised countries in Africa. The Protected Area (PA) Systems in Zambia covers about 40% of the total surface area of the country comprising of National Parks, Game Management Areas, Bird and Wildlife Sanctuaries, National Forests, Local Forests and Heritage Sites.

The PA systems have a critical role in the protection of biodiversity and physical environment in Zambia. The roles played by biodiversity include nutrient and water cycling, land protection from erosion and climate stabilization through carbon sequestration. Plants provide habitats for animals while animals contribute to seed dispersal and germination resulting into enhanced PA systems. The physical environment such as landforms and processes play an important role in the conservation of biodiversity.

Tourism has been identified as a key economic sector for the development of the Zambian Economy and is one of the sectors that can contribute to employment creation; rural and infrastructure development; increased foreign exchange earnings; and community and entrepreneurial development. Tourism includes both non-consumptive and consumptive uses of natural resources found in Protected Areas.

The Protected Area systems support livelihoods of the majority of the urban and rural population in Zambia as outlined below:-

1.1.1 Forestry

The forestry sector has great potential for employment creation, raw material for downstream production of various products from sawmills, pulp and paper, sustainable supply of wood fuel and carbon sequestration and trade. Currently the forest sector contribution to GDP is 5.2 percent with a potential to contribute well over 10% if managed effectively.

Zambia is endowed with a variety of some high productive forest ecosystems such as the teak forests of the south-west region and the extensively occurring Miombo woodlands which are highly renewable. These extensive forests consist of forest reserves, forest areas under traditional leadership (forests on customary land). Coupled with these forests are plantations of exotic species.

The major consumers of forest resources are households mostly in rural areas and the industrial sector. About 88 percent of households depend on forests to meet their basic energy requirements and the need for other livelihood components.

Forests have a role in both adaptation and mitigation measures to climate change and contribute to emission reduction by providing carbon sequestration services.

1.1.2 Wildlife

Tourism has remained one of the major sectors in Zambia that plays a vital role in the stimulation of national economic growth. Zambia's tourism product will remain wildlife and natural resources based for many years to come. Zambia is endowed with 19 National Parks and 35 Game Management Areas covering about 30% of the country's total surface area with Kafue National Park being one of the largest National Park in Africa covering an area of 22,400km^2. The abundance and diverse wildlife species, the pristine nature of the wildlife estate which is still undisturbed and abundance of land in the Protected Areas of the country, including the world famous Victoria Falls, varied scenery, wilderness, diverse culture and national heritage, good weather, adventure activities and hunting safaris presents enormous opportunities for investment.

Wildlife contributes to the improvement of the socio-economic status of the local communities within and adjacent to National Parks and Game Management Areas by involving them in the management of the wildlife estates and in return derive benefits from the revenue generated including operating businesses such as cottage industries and community camps and lodges.

1.1.3 National Heritage

Zambia has over 3600 heritage sites (both cultural and natural) recorded in the national heritage register. The natural heritage sites include 145 geological sites and 70 geomorphological heritage sites. The Kundalila Falls and the Source of the Zambezi River have been listed amongst the ecological sites, while the Victoria Falls, shared between Zambia and Zimbabwe, is the only World Heritage Site in Zambia listed by UNESCO under the 1972 Convention.

Natural heritage sites have great potential for investment. Of late a number of local and international Investors have shown interest in developing these heritage sites. There is great potential for Heritage development to be private sector driven for it to contribute significantly to the national and local economy. This also calls for the exploitation of the great potential in Public/Private Partnership in development at heritage sites.

Collaborations with local communities within and around heritage sites as heritage should be considered as an integral part of the resources belonging to local communities and therefore its management should be community based for it to be utilised in a sustainable manner.

Heritage conservation has the potential of enshrining a culture of excellence of service and a service ethic for heritage development and management through planning, research, presentation, conservation and programme monitoring. This can result in heritage being appreciated and interpreted better in context and when value is added to it.

Once heritage is managed properly is can meet current society's needs without compromising the needs of future generations. This can be done through by advocating for Heritage conservation, preservation and management being government driven.

1.2 NATURE BASED TOURISM

The Government's long-term vision for the Tourism Sectors is "to ensure that Zambia becomes a major tourist destination of choice with unique features, which contributes to sustainable economic growth and poverty reduction". Tourism has remained one of the major sectors in Zambia that plays a vital role in the stimulation of national economic growth. The Government policy aims at promoting the sector performance in economic growth. Growth in the Tourism Sector can be achieved through employment creation; rural and infrastructure development; increased foreign exchange earnings and community and entrepreneurial development (Ministry of Finance and National Planning, 2006)

More than any other sector, tourism is a labour-intensive industry and provides employment for local people in both rural and urban areas. Furthermore, it creates linkages with service sectors such as health, education, entertainment, banking and insurance and also helps to conserve the environment. Tourism is one of the sectors that can thrive in rural areas for the direct benefit of rural communities thereby contributing positively towards poverty reduction (Peace Parks Foundation, 2008).

Tourism potential in Zambia lies in its diversity, the features of which include Water Falls such as the Victoria Falls, vast wildlife resources, varied scenery, wilderness, diverse culture and national heritage, good weather, adventure activities, and hunting. Although much of the tourism in Zambia is concentrated in a limited number of National Parks, such as the South Luangwa, Kafue, Lower Zambezi, Mosi-oa-Tunya, and Kasanka National Parks, the rest of the parks provide considerable potential for future tourism development.

The Tourism Sector has continued to face a number of challenges over the years. The Ministry of Finance and National Planning (2006) summarises these challenges as:-

a) Tourism infrastructure in Zambia is largely underdeveloped, particularly roads, railway networks, airports, airstrips, telecommunications, transport, and accommodation facilities. For example, lack of all-weather roads in PAs limits access to tourist areas during wet periods of the year. This has resulted in operators confining their tours to the dry season. At present, only Mosi-oa-Tunya National Park can be open all year round;

b) There is a limited product base. Much of Zambia's tourism products continue to be wildlife-based and underdeveloped, yet if Zambia is to derive maximum benefits from tourism, it is important that the country develops a wide product range and brings the product to a level where it can be easily accessible, attractive, saleable, and abundant;

c) There is inadequate marketing of Zambia as a tourist destination. Part of the cause of this is the fact that, at moment, tourism promotion is largely a government responsibility carried out by the Zambia Tourist Board (ZTB), through other stakeholders may promote their products;

d) There are inadequate resources for the industry's long-term development. Government funding of the Tourism Sector has been inadequate at a time when indigenous investors do not have adequate access to medium and long-term financing. Though the Tourism Development Credit Facility (TDCF) was established by the Government in 2003 to provide affordable credit to Zambians, the quantum of the fund (at K5 billion per year) and the large number of applicants made this funding source inadequate;

e) Tourism has been identified as a form of rural development, yet, the interests of the local communities have not been fully incorporated;

f) There is inadequate environmental management. Most of the PAs in the country are depleted and require restocking. To realise increased growth in the tourism industry, investment in the protection of the environment and management of natural resources is essential;

g) There is an inadequate cadre of well trained human resource in the Tourism Sector due to insufficient resources and training facilities; and

h) Zambia is generally perceived as a high cost destination. The high costs are attributed to various factors, such as limited international carriers and domestic flight connections; long haul destination; limited hotel accommodation; and inadequate dependable health facilities.

2.0 PROTECTED AREA CATEGORIES IN ZAMBIA

The Protected Area System in Zambia largely conforms to the IUCN Classification comprising National Parks, Game Management Areas, Bird and Wildlife Sanctuaries, National Forests, Local Forests and Heritage Sites.

There are four designated Government institutions mandated with the management of Zambia's Protected Area Systems. These are the Forestry Department, National Heritage Conservation Commission (NHCC) and Zambia Wildlife Authority (ZAWA) all falling under the Ministry of Tourism, Environment and Natural Resources and the Department of Fisheries, which falls under the Ministry of Livestock and Fisheries. ZAWA and NHCC are semi-autonomous organisations bodies while the Forestry Department and the Department of Fisheries are Government Departments.

The following Protected Area Categories are currently supported by policy and legislation in Zambia:-

2.1 NATIONAL PARKS (IUCN CATEGORY II)

National Parks were established by government primarily for the conservation of biodiversity and protection of aesthetic resources. There are 19 National Parks, covering a total area of 6.4 million hectares, or 8.5% of Zambia's landmass (Refer to Figure 1). These areas are managed by ZAWA.

Non-consumptive use of wildlife and its habitat is promoted (through eco-tourism) while settlements, cultivation and hunting are prohibited in National Parks.

2.2 GAME MANAGEMENT AREAS (IUCN CATEGORY VI)

Game Management Areas are co-managed between ZAWA and Community Resources Boards (CRBs) and were established for sustainable utilisation of wildlife. There are 36 GMAs in Zambia which cover a total of about 16.6 million hectares or 22% of the country (Figure 1).

2.3 WILDLIFE/BIRD SANCTUARIES (IUCN CATEGORY IV)

Wildlife/Bird sanctuaries are managed by ZAWA for habitat and species conservation. There are two Wildlife Sanctuaries (Chete and Sekula) on islands on Lake Kariba and one Bird Sanctuary (Chembe) in Kululushi District.

2.4 PRIVATE WILDLIFE ESTATES (IUCN CATEGORY IV)

Though absent on the list of legally known PA categories, Private Wildlife Estates, such as game ranches are very important and they support both consumptive and non-consumptive uses of wildlife on private land. Their activities are regulated by ZAWA.

2.5 FOREST RESERVES (IUCN CATEGORY VI)

Forest Reserves, managed by the Forestry Department, were established to conserve forest resources for sustainable use by local people in the case of Local Forests, and to protect major catchment areas and biodiversity, in the case of National Forests. There are 490 Forest Reserves in Zambia which cover a total of 7.4 million hectares. Settlements and cultivation is not permitted in Forest Reserves while removal of any plant is permissible only under licence.

2.6 NATIONAL HERITAGE SITES (IUCN CATEGORY III)

National Heritage Sites, managed by NHCC, can be of cultural significance such as spiritual, historical and archaeological; and natural significance such as geological, geomorphological and ecological resources.

2.7 FISHERY PROTECTED AREAS (IUCN CATEGORY VI)

Fishery Protected Areas, managed by the Department of Fisheries, were created with the objective of promoting fish production and sustainable utilisation of fish resources. This is achieved by imposing regulations with respect to fishing methods, licensing and restrictions. It has to be mentioned and noted that these categories are not always separate and do overlap in some cases (e.g. Forest Reserves are found in GMAs amongst others).

The limited opportunities offered by the existing categories of PA in Zambia serve as a major barrier. At present, only National Parks, if and when properly managed, provide good assurance of biodiversity conservation. On the other hand, the Game Management Area category presents a relatively strong case for conservation because of the substantial incentives given to resident communities/managers from the revenues generated by, largely, trophy hunting. However, the lack of any effective legal restrictions on conversion to be it smallholder or commercial agriculture farming or other land uses is a major barrier to effective biodiversity conservation over time. Nevertheless, this could potentially be addressed through land use planning though this has limitations to be an effective tool in Zambia and neither has it been shown to be effective in the African context.

The gazetted categories of Forest Reserves have so far proven to be almost totally ineffective at ensuring biodiversity conservation in Zambia (MTENR, 2005). Figure 2 refers.

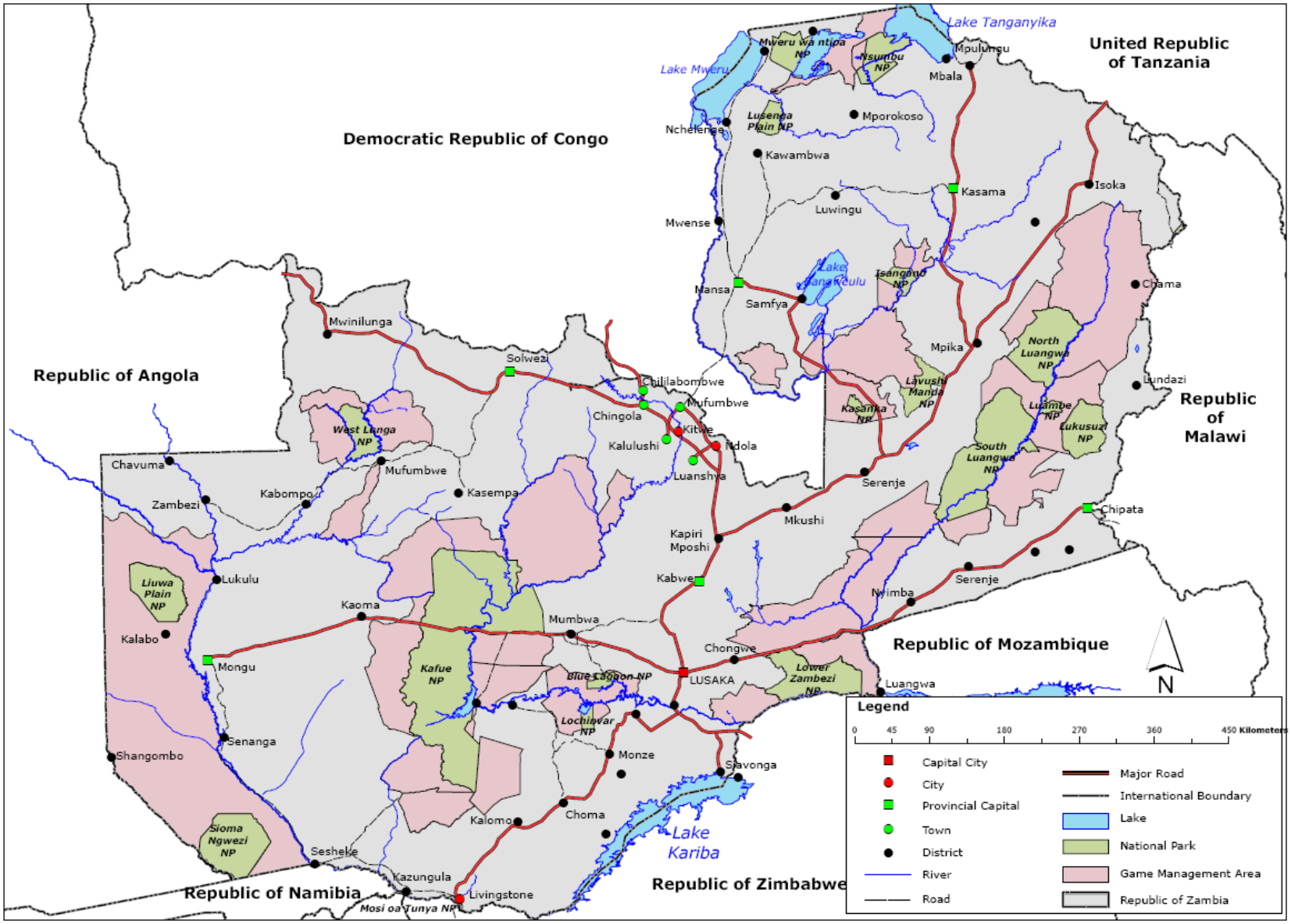

Figure 1. National Parks and Game Management Areas in Zambia

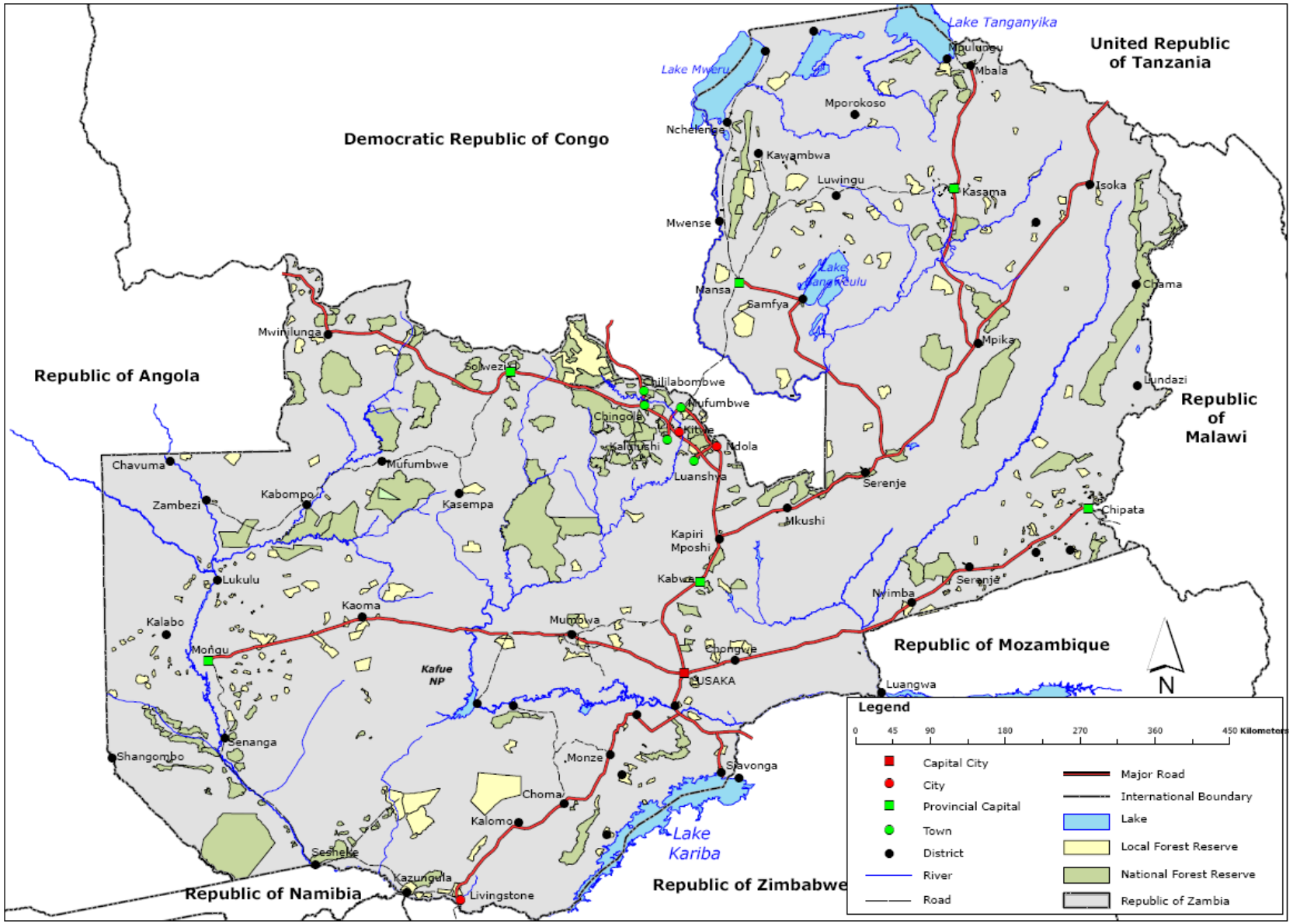

Figure 2. National and Local Forests in Zambia

3.0 GOVERNANCE AND STAKEHOLDERS PARTICIPATION IN PROTECTED AREAS MANAGEMENT IN ZAMBIA

3.1 GOVERNANCE

There are four main types of governance in PAs that have been recognised and are discussed below:-

3.1.1 Government-Managed Protected Areas

Most people are familiar with this type of governance (Government agencies at various levels make and enforce decisions), in which a Government body (such as a Ministry or Park agency reporting directly to the Government) holds the authority, responsibility and accountability for managing the Protected Area, and determines its management objectives and management rules. Most often, the government also owns the Protected Area's land, water and related resources. Although management may be exercised or be delegated, and consultation or communication with concerned parties may be required, government retains full ownership and control. This is the mode of governance implicit under present legislation for National Parks but has proved largely ineffective through chronic deficiencies in financial, human and material resources.

3.1.2 Co-managed Protected Areas

This type of governance is also described as Joint Governance in which various actors together make and enforces decisions. It is one that is becoming increasingly common, responding to the variety of interlocked entitlements recognized by demographic societies. Complex processes and institutional mechanisms are employed to share management authority and responsibility among the plurality of actors – from national to sub-national and local government authorities, from representatives of indigenous peoples and local communities (sedentary or mobile) to user associations, from private entrepreneurs to landowners. The actors recognise the legitimacy of their respective entitlements to manage the Protected Area and agree on subjecting it to a specific conservation objective (Lockwood et. al., 2006). This approach has been encouraged over the past decade, has proved effective, and is the preferred option in the development and management of the national Protected Area system.

The Public-Private Partnerships is one type of joint governance in Protected Area management in Zambia that needs special attention. It is widely believed that by developing and multiplying these partnerships, it is the currently known option that Zambia has for expanding the numbers and area of PA under effective management. Zambia's major economic objective is to develop the economy to sustainable levels through democratic and sound political, legal and socio-economic

policies. The main strategy in achieving the above objective is to improve productivity through the main factors of production namely labour, capital, land and information technology, and competitiveness by providing efficient and effective services and infrastructure. Zambia has developed a National Public Private Partnership (PPP) Policy to address issues related to investment in infrastructure and other services that allow private sector participation (Ministry of Works and Supply, 2008). Public Private Partnerships aim at financing, designing, implementing and operating public sector facilities and services. Their key characteristics include:-

a) Long-term (sometimes up to 30 years) service provisions,

b) The transfer of risk to the private sector, and

c) Different forms of long-term contracts drawn up between legal entities and public authorities.

The Government of the Republic of Zambia has recognised that the national treasury has limited resources to be able to embark on all economic programmes that include infrastructure development and delivery of social services. Thus, facilitating the provision of infrastructure development and social services through PPPs has been necessitated. PPPs have been identified as a viable means of infrastructure development and social services provision that can effectively address the constraints of finance and management faced by the public sector. Further, PPPs enable the public sector to streamline the Government's functions to that of facilitation, monitoring and evaluation, ensuring efficiency and accountability. Reliance upon a delegated management framework by whatever form of PPPs as a means of improving the quality of public services has come to the fore as one of the basic tools of economic modernisation.

Various lessons have been learned in the implementation of PPPs in PA management in Zambia. These include:-

a) Partnerships for PA management are not limited to public and private interests and also include civil society and community partners.

b) There are also different types of partnership arrangements that are contributing to PA management. These can be distinguished between:-

    i. General support partnerships, and
    ii. Devolved operational management partnership partnerships.

c) General support partnerships and devolved operational management partnerships sit at either end of the co-management spectrum and can be

employed to tackle specific range of partnership functions in managing PAs. This include but not limited to:-

i. Data gathering;
ii. Logistical decisions;
iii. Allocation decisions;
iv. Protection of resource from environmental damage;
v. Enforcement of regulations;
vi. Enhancement of regulations; and
vii. More inclusive decision-making.

d) Two types of agreement are commonly used to establish a partnership, a Memorandum of Understanding (MoU) and a partnership agreement. They represent a continuum between the general support partnerships and fully devolved operational management responsibility.

e) It is important to have a well developed and robust partnership arrangement that includes a partnership entity (i.e. governance body, trust or company) that meets regularly and decisions are made collectively.

f) Partnerships that establish a legal entity (i.e. trust or company) are more accountable as such entities stipulate in their articles of association determined under the Zambian Society Act or Companies Act who are the partners, their obligations and partnership procedures. They also allow the partnership to have employees, bank accounts and manage funds.

g) Partnership agreements that extend support to other PA categories other than NPs must include representation of the community, appropriate Government agencies and where possible local NGOs.

h) Making provision for Government to sit on a partnership structure is important in order to balance out differences in power relations between the Private Sector and local community (REMNPAS, 2008).

3.1.3 Private Sector - Managed Protected Areas

Authority and responsibility rest with the landowners (Private Governance - Private landowners make and enforce decisions), which may exercise it for profit (e.g. tourism businesses, resource extraction) or not for profit (e.g., foundations, universities, conservation NGOs). Usually, the landowners are fully responsible for decision-making and their accountability to the society at large is quite limited. Private governance does have its role where landowners elect to use holdings under a conservation management regime, and an individual decision made in their own

interests. It is not, however, deemed suitable for the national Protected Area system.

3.1.4 Community-Conserved/Managed Protected Areas.

Authority and responsibility for managing the natural resources rest with the local communities with customary and/or legal claims over the land and natural resources (Community Governance - indigenous peoples or local communities make and enforce decisions). It is therefore analogous to private governance and accountability to society at large usually remains limited, although it is at times achieved in exchange for recognised rights or economic incentives. This form of governance should for the moment not be accommodated in the national Protected Area system, as, even if there could be a societal benefit, individual, institutional and managerial capacity must first be strengthened within local communities and community-based organisations before the approach can be effectively used widely.

3.2 STAKEHOLDERS

The number and range of stakeholders in Protected Areas and their management in Zambia is large and varied. They can, however, be arranged in broad categories as follows:-

3.2.1 Local Communities

The local communities have the largest, most direct and deepest-seated stake in Protected Areas. They may use PAs for basic materials and essential resources (thatch, poles, firewood, medicines, bush-meat and fish etc) and/or for employment and income (tourism, timber, fisheries, direct involvement in management activities).

3.2.2 Commercial Interests

Protected Areas give substantial, even crucial, support to the national economy in the tourism, forestry and fishery sectors. The stakeholders here include tour operators,, safari operators, tour guides, hotel and lodge owners, restaurant and gift-shop operators, commercial timber operators and wood product manufacturers, and commercial fishermen. All of these are more or less well-organised and influential groups, socially, politically and economically.

3.2.3 Recreational Users of Protected Area

This group includes all the people, Zambian and Non-Zambian, who visit the Protected Areas for recreation and to learn and appreciate the wildlife, cultural and

scenic values that constitute natural and cultural heritage. It also includes recreational hunters and sport fishermen.

3.2.4 The International Conservation and Scientific Community

Zambian institutions, NGOs, CBOs and individuals are integral to this community, which is interested in research and educational opportunities and the contribution made by the country to safeguarding the environment at a regional and global scale.

All of these groups influence the Protected Areas in one way or another:-

a) Physically, by affecting air quality, hydrology, surface water, soil and land use;

b) On the fauna and flora, by affecting habitats and species; and

c) Through socio-cultural/economic factors, affecting land use and resource availability, cultural heritage, and human beings.

The impacts may be significant or insignificant, positive or negative, long term or short term, reversible or irreversible, and localised or regional in effect, and in terms of the local context, either important or unimportant. Interests may coincide or conflict but all these groups nonetheless have a legitimate stake in the national Protected Area system and its management. Furthermore it should be borne in mind that categorising stakeholders may be convenient when speaking of a national system but at site level they are represented by specific individuals with well-defined places in society.

The relationship of local communities to Protected Areas needs special consideration for these are the groups most affected by their creation yet least well catered for in the decision-making process and in operational management.

4.0 GAPS IN PROTECTED AREA MANAGEMENT AND BIODIVERSITY CONSERVATION

4.1 ECOLOGICAL GAPS

The ecological gaps in the current Protected Area system of Zambia are evaluated against the representation of:-

a) Vegetation types;

b) Large mammals;

c) Birds; and

d) Natural Heritage.

The representation of each of the four named ecological aspects in Protected Areas is evaluated and gaps identified. For this kind of analysis the representation of the vegetation types becomes more important.

4.1.1 Vegetation Types Representation in Zambia

Nine broad vegetation types have been identified in Zambia. These will be used in the gap analysis of habitat complementality in Protected Areas in Zambia. The nine vegetation types recognised are:-

Type 1: Moist Evergreen Forest;
2: Dry Evergreen Forest;
3: Dry Deciduous Forest;
4: Miombo Woodland;
5: Kalahari Woodland;
6: Mopane Woodland;
7: Munga Woodland;
8: Termitaria Vegetation and Bush Groups; and
9: Grasslands.

In 1976 the Institut für Angewandte Geodäsie, Frankfurt am Main, Germany under the auspices of the Federal Republic of Germany in its programme of technical co-operation with the Republic of Zambia produced a graphical illustration giving the extent of the various vegetation classes in Zambia (Figure 3). Each vegetation class is discussed based on descriptions summarised from Fanshawe, 1971. The identified gaps of the different vegetation types are also discussed.

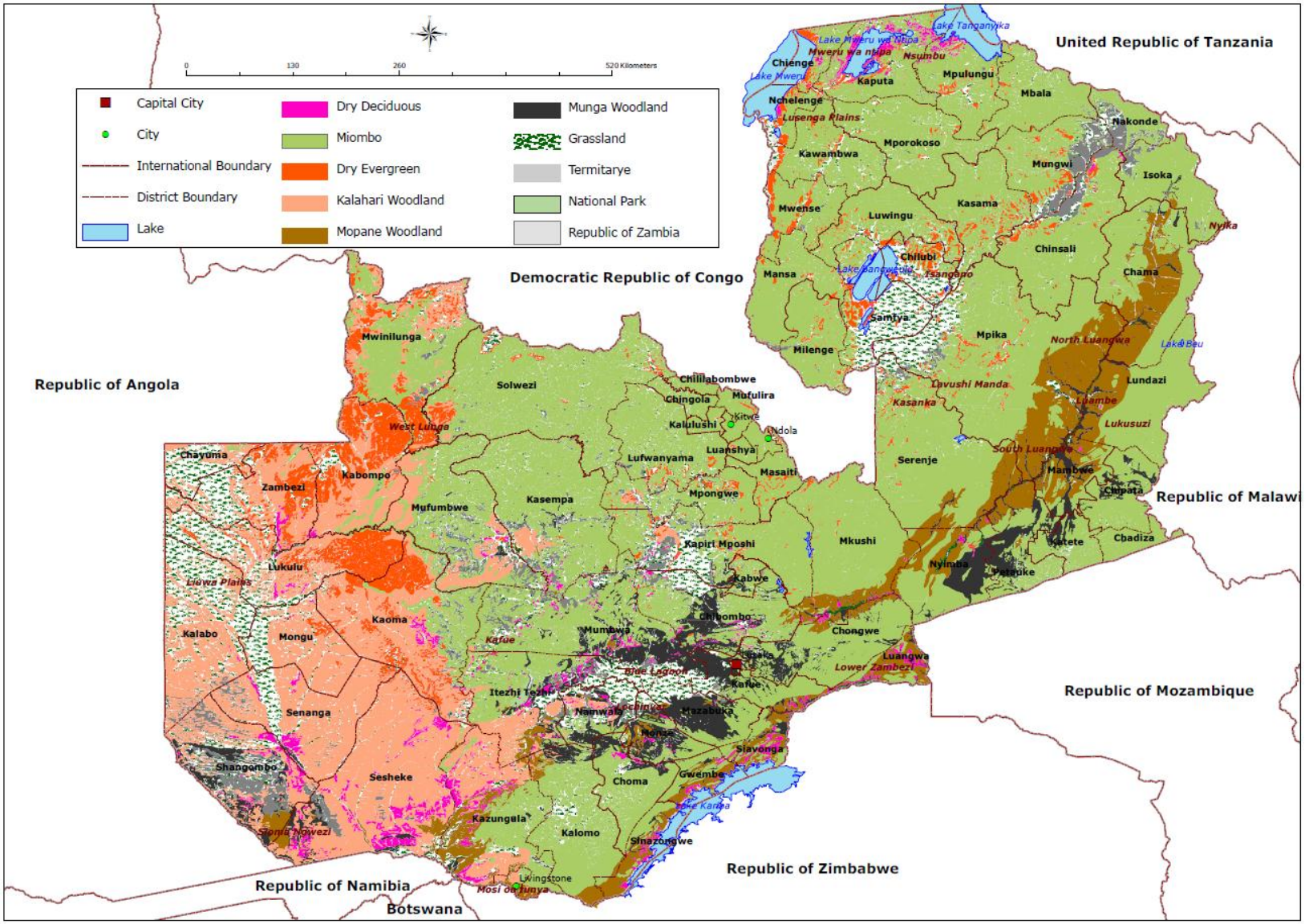

Figure 3. Distribution of Vegetation Classes in Zambia

4.1.1.1 Moist Evergreen Forest

This is a variable three-storeyed forest sub-divided into montane, swamp and riparian types.

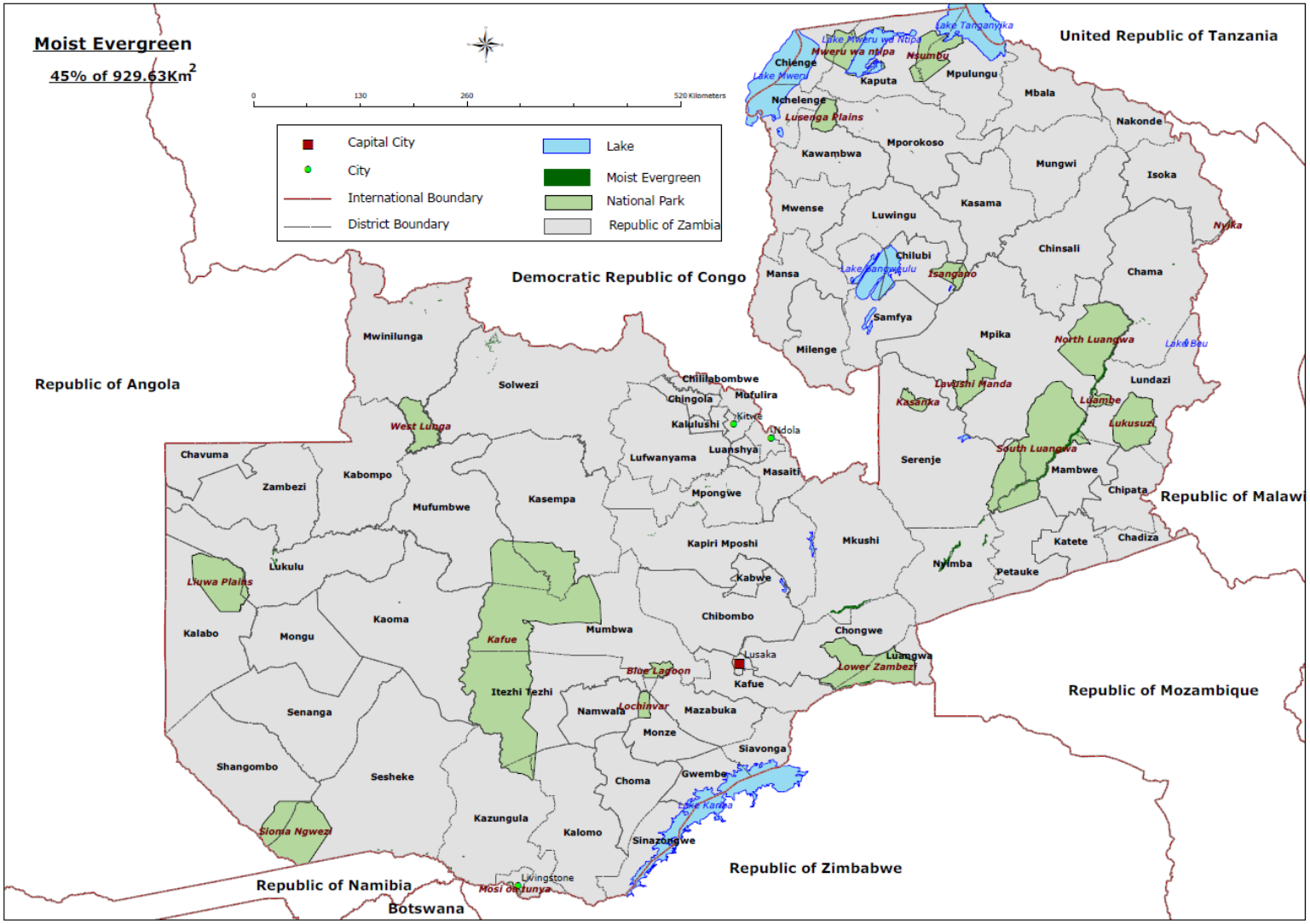

Figure 4. Distribution of Moist Evergreen Forests in Zambia

Table 1. Localities of Moist Evergreen Forests in Zambia

Vegetation Type	Distribution	National Coverage (%)	Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)
Moist Evergreen Forest	**Lusaka Province:** Chongwe**;** **Central Province:** Mkushi**;** **Eastern Province:** Petauke, Nyimba, Mambwe Lundazi and Chama **North-Western Province:** Mwinilunga, Solwezi; **Northern Province:** Mpika	0.1%	45% South Luangwa, North Luangwa and Luambe NPs

a) Montane Forest:- This is a three-storeyed forest with a closed, evergreen canopy about 27m high without any clear-cut dominants but with *Aningeria* spp., *Cola greenwayi, Myrica salicifolia, Nuxia* spp., *Olinia usambarensis, Parinari excelsa, Podocarpus milanjianus, Rapanea melanophloea* and *Trichilia prieuriana* as the most abundant species. Montane forest exists only in small relic patches. Secondary montane forest is a mainly deciduous forest 2 to 18m high characterized by *Hygenia abyssinica, Macaranga kilimandscharica, Maesa lanceolata* and *Myrica salicafolia* forming belts of variable width around the primary forest patches. Ground between the forest patches is covered by fire-derived upland grassland dotted with gnarled *Protea madiensis* shrubs. This forest type is only found in the Nyika Mafinga plateau.

b) **Swamp Forest:-** This is a three-storeyed forest with a closed evergreen canopy about 27m high characterized by *Ilex mitis*, *Mitragyna stipulosa*, *Syzygium cordatum*, *S. owariense*, *Xylopia aethipica* and *X. rubescens*. It occurs in three forms:-

i. delta swamp deeply flooded all year round;
ii. seepage swamp with the water table just at ground level; and
iii. seasonal swamp flooded during the raining season.

c) **Riparian Forest:-** This is a three-storeyed forest with a closed, evergreen canopy 21m high characterized by *Diospyros mespiliformis*, *Khaya nyasica*, *Parinari excelsa* and *Syzygium cordatum*, associated with *Adina microcephala*, *Bridelia micrantha*, *Cleistanthus milleri*, *Faurea saligna*, *Homalium africanum*, *Ilex mitis*, *Manilkara obavata* and *Raphia* palms. The composition varies from a northern evergreen element and a southern deciduous element. Most riparian forest in the territory is wholly or partly secondary. Characteristic secondary species include *Acacis polycantha*, *Salix subserrata*, *Terminalia sericea* and *Ziziphus* spp. Climbers are frequent.

4.1.1.2 Dry Evergreen Forest

Well-developed dry evergreen forest is a three-storeyed forest with a closed evergreen or semi-deciduous canopy 25 – 27 m high with occasional taller emergents, a discontinuous evergreen understorey 9 – 15 m high and a dense evergreen shrub-scrambler thicket 1 $^{1}/_{2}$ – 6 m high which sometimes has a well-marked lower storey 0.3 – 1.3 m high.

The ground is sometimes bare, more often with a sparse cover of broad-leaved grasses and/or moss, occasionally with a dense cover of Acanthaceous herbs and subshrubs in gaps. Climbers are common but do not always reach the canopy; epiphytes are scarce. A few of the dominant species, e.g. *Marquesia* and *Parinari* are buttressed. Regeneration of some of the canopy species is locally abundant, e.g. *Marquesia accuminata*. Species other than the dominants tend to have a local distribution.

Table 2. Localities of Dry Evergreen Forests in Zambia

Vegetation Type	**Distribution**	**National Coverage (%)**	**Occurring in National Parks, a category that offers effective Biodiversity Conservation (%)**
Dry Evergreen Forest	**North Western Province** (Dense): Zambezi, Solwezi Kabompo, Mwinilunga, (light): Mufumbwe, Mufumbwe. **Western Province** (Dense): Kaoma, Lukulu (Light): Mongu, **Copperbelt Province** (Light): Kalulushi, Mufulira, Luanshya, Lufwanyama, Mpongwe and Masaiti **Central Provice** (Light): Mumbwa, Serenje, Mkushi, Kapiri Mposhi and Chibombo **Northern Province** (Light): Mpika, Chinsali, Kasama, Luwingu, Mungwi, Luwingu, Kaputa, Mporokoso, Mbala and Chilubi **Luapula Province** (Trace): Samfya, Mwense, Mansa, Milenge, Kawambwa, Nchelenge and Chienge	5.0%	4.6% West Lunga National Park (NP); Kasanka NP; Isangano NP, Lavushi Manda NP, Mweru-wa-Ntipa NP and Nsumbu NP and Lusenga NP

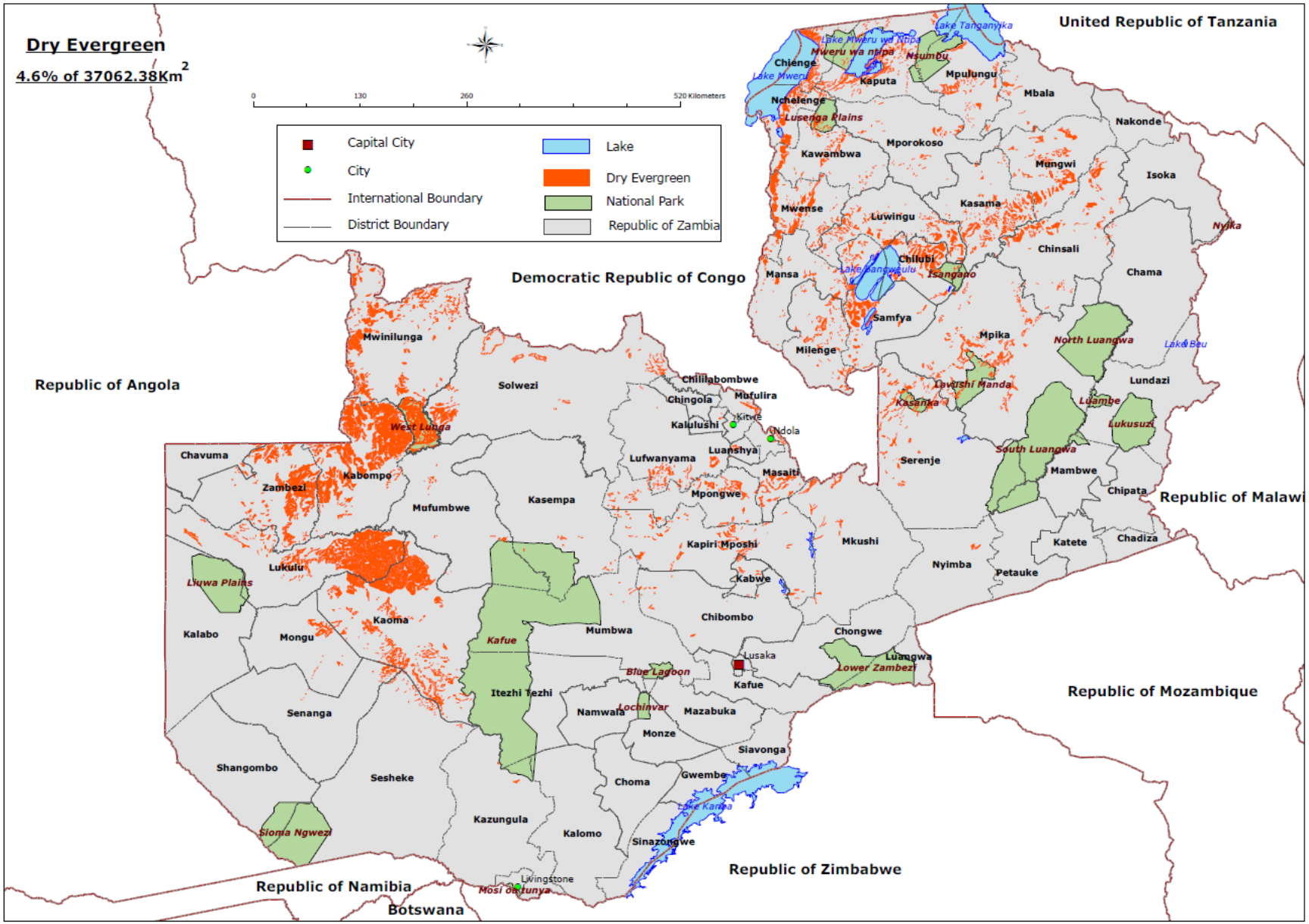

Figure 5. Distribution of Dry Evergreen Forests in Zambia

Dry evergreen forest occurs on three distinct sites namely:-
a) Plateau,
b) Lake Basin, and
c) Northern Kalahari basin, but always on level or gently undulating ground.

The one common factor is the ability of these sites to retain a greater amount of water throughout the dry season than do woodland sites on plateau or lake basin soils. In other words the moisture fluctuations are not so extreme on dry evergreen sites as they are on woodland sites. The soils although variable in texture are nearly all deep, permeable and well drained and the tree species peculiar to these sites are characteristically deep rooted, allowing them to utilize the moisture in the lower soil levels during the dry season.

The soils of the plateau sites, and especially those derived from dolomite or limestone, are usually deep and permeable or, if shallow, they are on slopes where they receive extraneous water and are able to pass on any excess to lower levels.

The soils of the lake basin sites besides being deep and permeable have a deep humic layer and a high base exchange capacity. The deep humic layer helps retain water during the dry season.

The soils of the northern Kalahari basin are predominantly coarse sands. They are able to support dry evergreen forest because the high rainfall of the area compensates for the rapid drainage of the sands.

Dry evergreen forest occurs in three main subtypes, one distinct to each site:-

a) ***Parinari*** **Forest on the Plateau:-** Canopy dominants are restricted to *Parinari excelsa* and *Syzygium guineense* ssp. *afromontanum* with the odd emergent *Entandrophragma delevoyi*. *Marquesia macroura* and *Erythrophleum suaveolens* are canopy associates in the Southern Mutunda block (Copperbelt Province) which lies quite close to Katanga (Congo) where *Erythrophleum* is one of the dominants of this vegetation type.

b) ***Marquesia*** **Forest in the Lake Basin:-** Canopy dominants are restricted to *Ansiophyllea pomifera*, *Marquesia macroura*, *Podocarpus milanjianus* locally and *Syzygium guineese* spp. *afromontanum.* This forest type is more pronounced in the Bangweulu Basin.

c) ***Cryptosepalum*** **Forest in the Kalahari Basin:-**Canopy dominants are restricted to *Cryptosepalum exfoliatum* spp. *pseudotaxus* and *Guibourtia coleosperma* in the lower rainfall areas of Zambezi, Kabompo and Kaoma districts but associated with *Marquesia acuminate*, *M. macroura*, *Parinari excelsa* and *Syzygium guineese* spp. *afromontanum* in the higher rainfall of Mwinilunga district.

4.1.1.3 Dry Deciduous Forest

This is a two-storey forest having an open or closed overwood, usually deciduous, and an underwood shrub layer of deciduous or partly evergreen thicket.

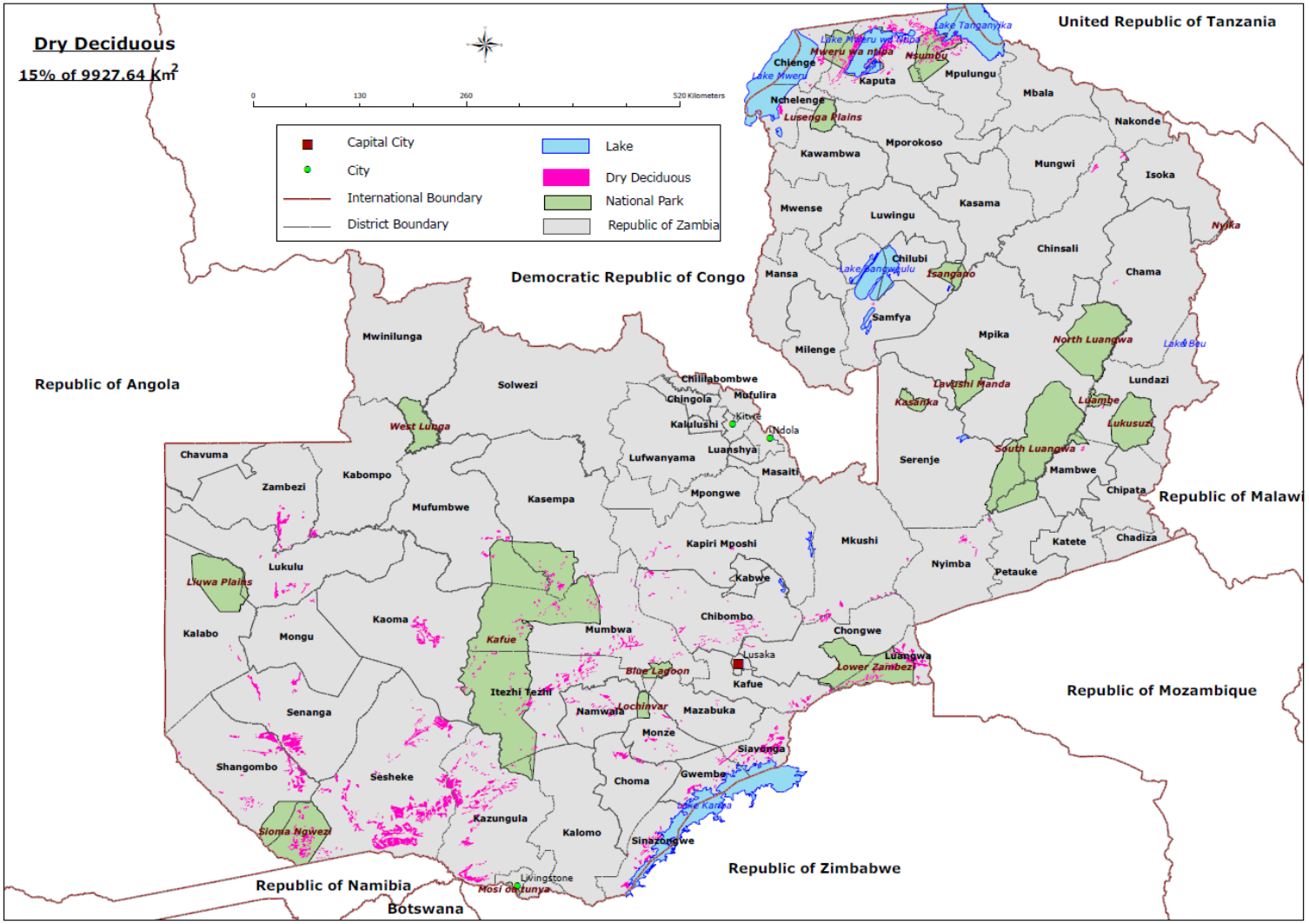

Figure 6. Distribution of Dry Deciduous Forests in Zambia

Table 3. Localities of Dry Deciduous Forests in Zambia

Vegetation Type	Distribution	National Coverage (%)	Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)
Dry Deciduous Forest	**Western Province** (Dense): Shangombo, Sesheke, Senanga, and Kaoma (Trace) Kalabo **Southern province** (Light): Kazungula, Namwala, Kalomo, Choma, Sinazongwe, Monze, Itezhi Tezhi and Siavonga **Lusaka Province** (Light): Kafue, Chongwe and Luangwa **Central Provine** (Light): Mumbwa, Chibombo, Kapiri Mposhi and Mkushi **Northern Province** (Dense): Kaputa, Mpulungu and Chinsali **Luapula Province** (Light): Nchelenge, Chienge **Eastern Province** (Light): Nyimba, Mambwe, Lundazi, Chama **Northern Province** (Light): Zambezi, Kabompo, Mufumbwe and Kasempa	1.4%	15% Sioma Ngwezi NP; Kafue and Lochinvar NPs; Mweru-wa-Ntipa and Nsumbu NPs;

Dry deciduous forest occurs in two main subtypes, one for each distinctive site:-

a) ***Baikiaea* Forest:-** This is a two-storeyed forest with an open or closed, usually deciduous canopy 9 to 18m high composed of *Baikiaea plurijuga* and *Pterocarpus antunesii* in varying proportions. Invasive *Acacia giraffae* and *Combretum collinum* are widespread, *Entandrophragma caudatum* is a local emergent. Below the canopy is a well defined deciduous thicket (mutemwa) composed of shrubs and scramblers 3 to 6m high. Two main variants are:-
   i. *Commiphora-Combretum-Pterocarpus* thicket on transitional Kalahari sands. This is a *Baikiaea* type forest without the *Baikiaea*.
   ii. *Commiphora-Kirkia* thicket on Karroo sands in the valleys of the lower Luano, Luangwa and Zambezi rivers.

In limited patches in the extreme Southwest of Zambia *Baikiaea* forest also exists in a dwarf form with a canopy 1.3m high and odd emergents to 3m high, with the canopy and "mutemwa" elements at the same level.

b) ***Itigi* Thicket:-** This is a two-storey forest with various deciduous and semi-deciduous woodlands emergents 6 to 12m high characterized by *Baphia massaiensis* spp. *floribunda*, *Boscia angustifolia, Burrtia prunoides, Bussea massaiensis, Diospyros mweroensis* and the succulent, cactus-like *Euphorbia candelabrum.* The lower storey consists of a series of evergreen woody plant species surrounded by a deciduous thicket 3 to 4m high. This forest occurs only in the area between Lake Tanganyika and Lake Mweru-wa-Ntipa on the fragile shallow, heavy and stony soils. The thicket provides a unique habitat for wildlife in the area and biological binding agents to fragile soils.

4.1.1.4 Miombo Woodland

This is a two-storeyed woodland with an open or partially closed canopy of semi-evergreen trees 15 to 21m high characterized by species of *Brachystegia*, *Isoberlinia*, *Julbernardia* and *Marquesia macroura* with *Erythrophleum africanum*, *Parinari curatellifolia* and *Pericopsis angolensis* as frequent associates. The forest floor is covered by a more or less dense grass cover. Relic patches of evergreen thicket may or may not be present.

Miombo woodland has also spread from the plateau onto the adjacent hills and down the escarpments, and also occurs as a relic in the major river valleys. In the west (through Mwinilunga in North Western Province) it has invaded the Kalahari sands to become Miombo/Kalahari woodland which extends beyond the border of Zambia.

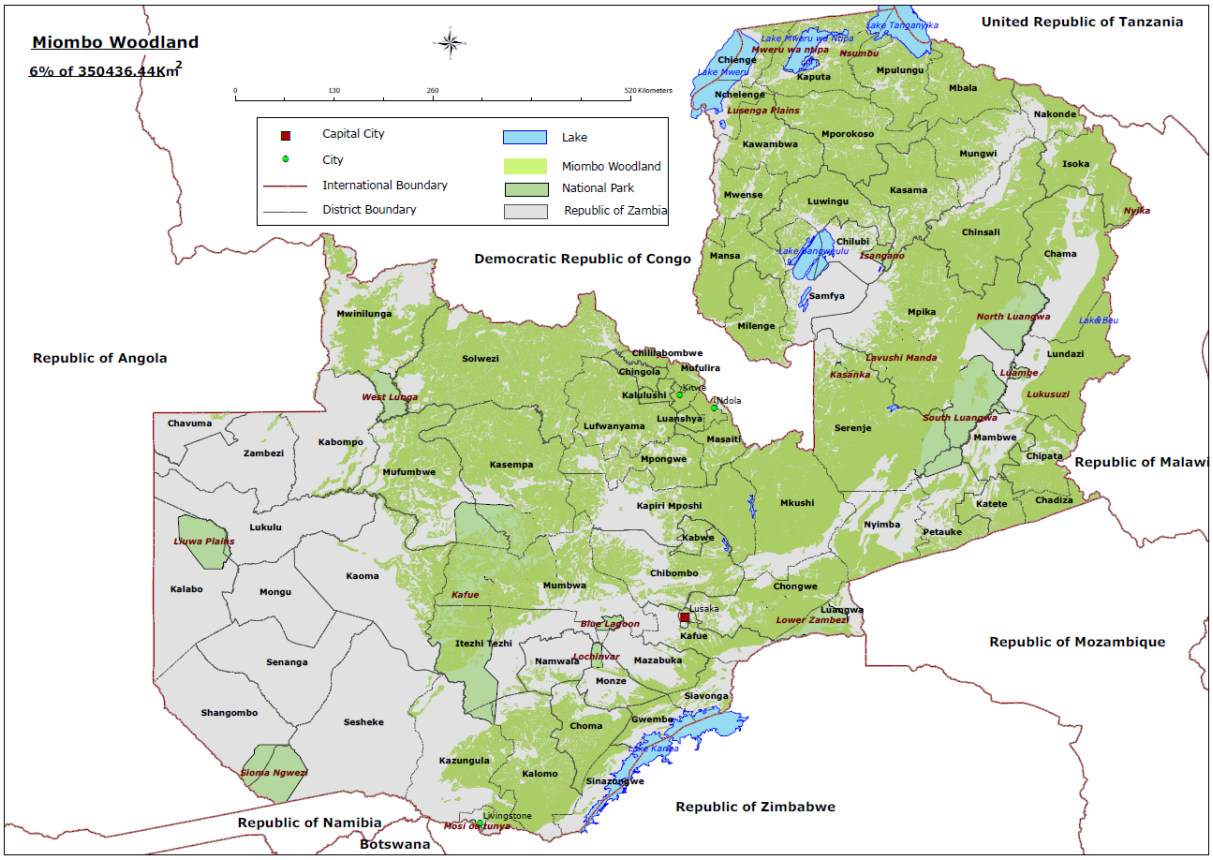

Figure 7. Distribution of Miombo Woodland in Zambia

Where there is more rock than soil on the hills, the *Brachystegias* and their allies almost die out except *B. microphylla* in the north and *B. glaucescens* in the south and their place is taken by characteristic hill shrubs such as *Aeschynomene rubrofarinacea* and *A. semilunaris, Euphorbia ussanguensis* and *E. griseola, Myrothamnus flabellifolius, Pentas nobilis, Vellozia equisetoides* and *V. tomentosa* and *Vernonis bellinghamii*.

Table 4. Localities of Miombo Woodland in Zambia

Vegetation Type	**Distribution**	**National Coverage (%)**	**Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)**
Miombo Woodland	Whole country except flood plain areas (Barotse, Bangweulu, Luapula, Nanshinga, Kafue Flats Busanga and Lukanga); Lower Zambezi and the Luangwa Valleys; most of the Western Province and the western half of North Western Province	47.2%	6% Kafue NP (central part), Mosi-oa-Tunya NP, Lower Zambezi NP (parts of the escarpment), Lukusuzi NP, Nyika NP Kasanka NP, Lavushi Manda NP, Isangano NP, North Lungwa NP (edge of/western fringes), South Luangwa NP (geographical island in the north), Lusenga NP, Mweru-wa-Ntipa NP and Nsumbu NP

4.1.1.5 Kalahari Woodland

This is derived from the destruction of *Baikiaea* forest and embraces most woodlands on Kalahari sands. It is a two-storeyed woodland with an open or partially closed, deciduous or semi-deciduous overwood 18 to 24m high characterized by *Amblygonocarpus andongensis*, *Burkea africana*, *Combretum collinum*, *Cryptosepalum exfoliatum* spp. *pseudotaxus*, *Dialium engleranum*, *Erythrophleum africanum*, *Guibourtia coleosperma*, *Parinari curatellifolia* and *Terminalia sericea*. This is degraded by recognized stages to watershed grassland or suffrutex savanna dominated by *Parinari capensis*.

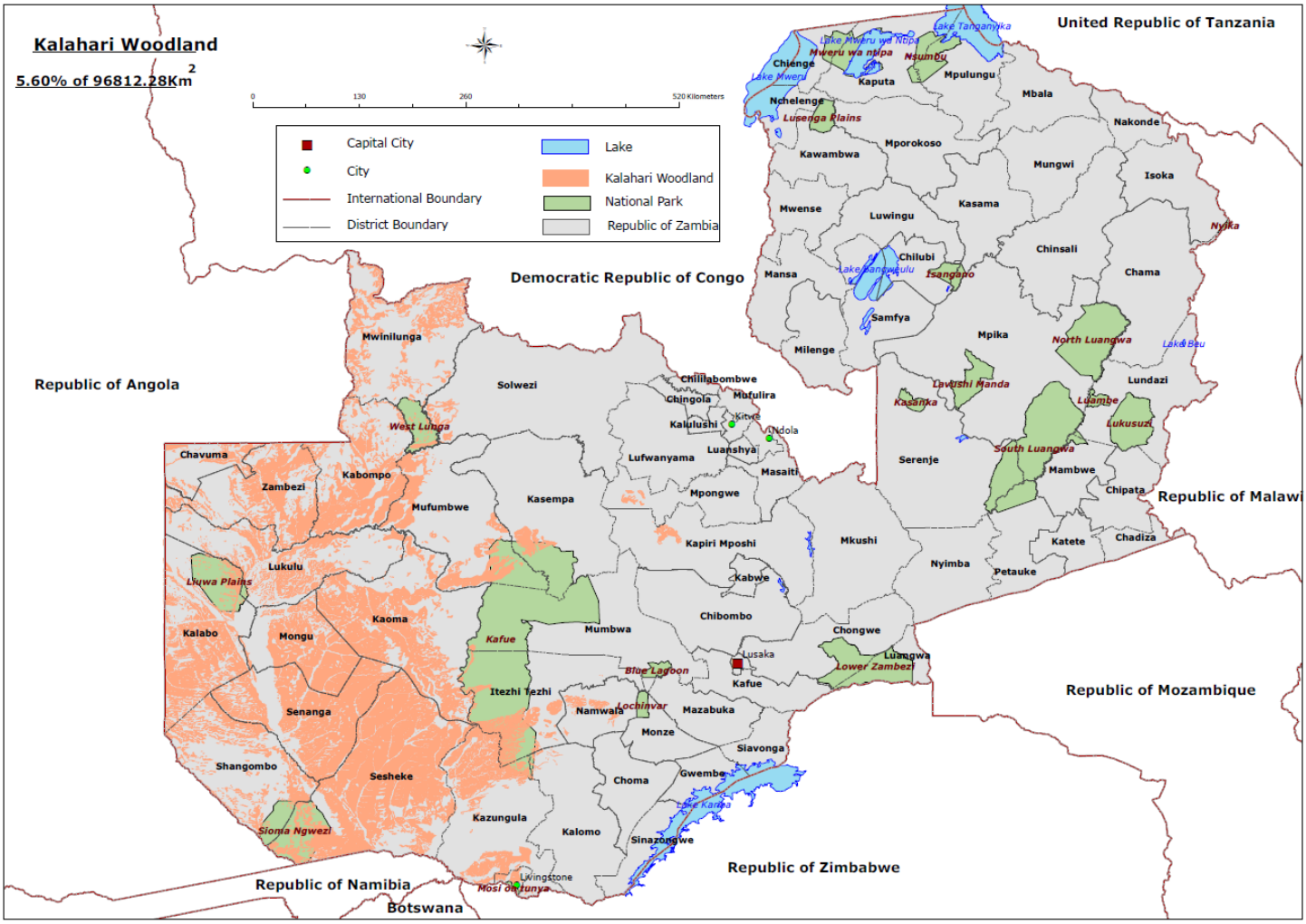

Figure 8. Distribution of Kalahari Woodland in Zambia

Table 5. Localities of Kalahari Woodland in Zambia

Vegetation Type	**Distribution**	**National Coverage (%)**	**Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)**
Kalahari Woodland	**Western Province** (Dense): Whole area except river courses **North-Western Province** (Dense): Western half of the Povince Kasempa, Mwinilunga, Kabompo, Mufumbwe, Chavuma and Zambezi Districts **Southern Province** (Light): Namwala, Itezhi Tezhi, Livingstone and Kazungula	13.2%	5.6% Liuwa and Sioma Ngwezi NPs West Lunga National Park Kafue NP (northern and southern ends) Mosi-oa-Tunya NP

4.1.1.6 Mopane Woodland

This is a one-storeyed woodland with an open deciduous canopy 6 to 18m high. The dominant *Colophospermum mopane* is pure or almost pure. Scattered elements of munga woodland occur here and there represented chiefly by *Acacia nigrescens*, *Adansonia digitata*, *Combretum imberbe*, *Kirkia acuminate* and *Lannea stuhlmannii*. The python vine, *Fockea multiflora*, is usually present.

Mopane-Munga ecotones are more common than pure mopane woodlands. Two extreme variants can be recognized: a rich variant on sandstone or mudstone as above and an impoverished variant on skeletal mudstone or pebble beds. The latter is a low open scrub of *Colophospermum mopane*, *Terminalia randii* and/or *T. stuhlmannii*.

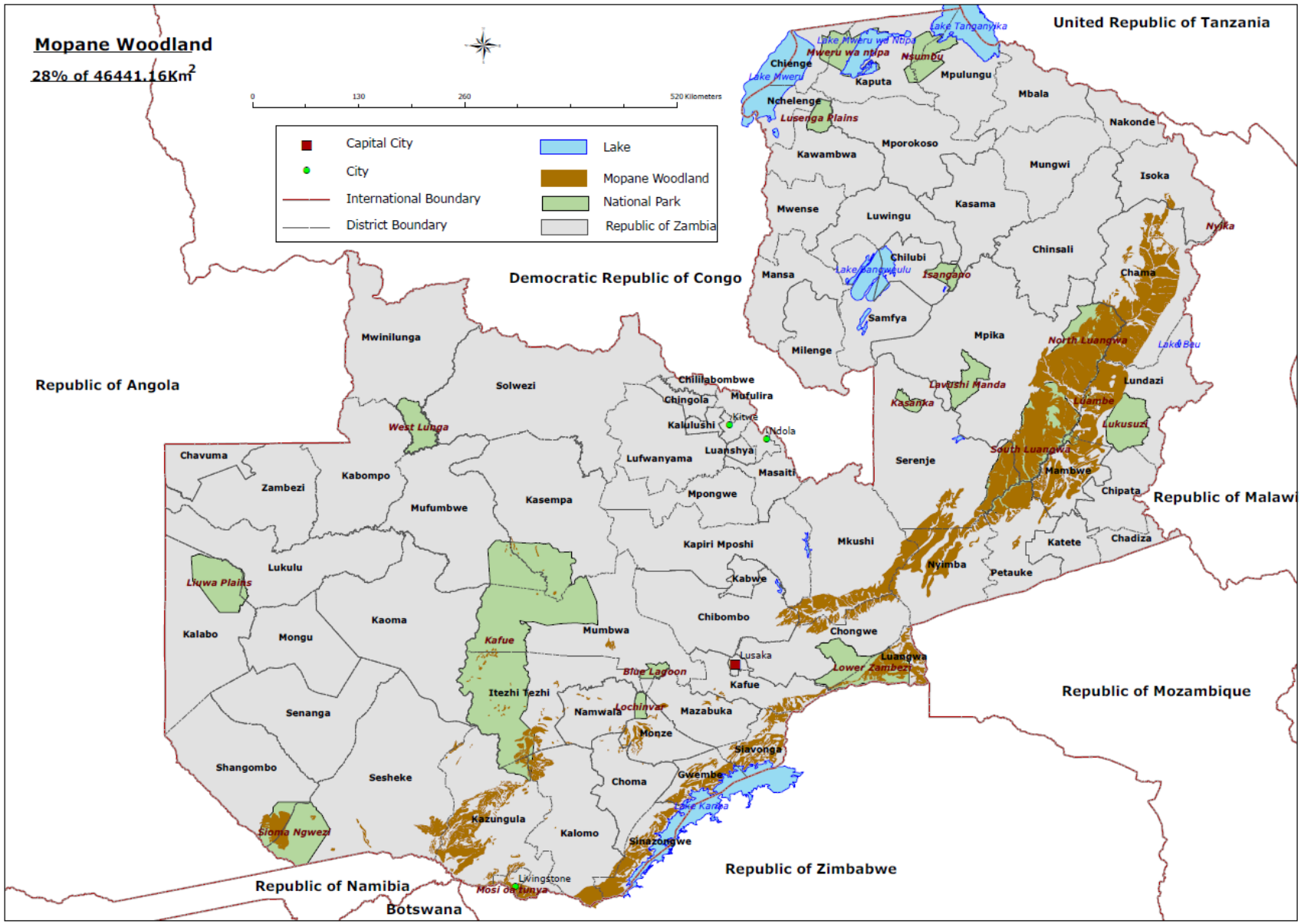

Figure 9. Distribution of Mopane Woodland in Zambia

Table 6. Localities of Mopane Woodland in Zambia

Vegetation Type	Distribution	National Coverage (%)	Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)
Mopane Woodland	**Western Province:** Shang'ombo, Sesheke **Southern Province:** Kazungula, Livingstone, Kalomo, Monze, Siavonga, Sinazongwe, Namwala, Gwembe and Itezhi Tezhi **Lusaka Province:** Kafue, Luangwa, Chongwe **Central Province:** Serenje, Chibombo, Mumbwa and Mkushi **Eastern Province** (Dense): Petauke, Katete, Malambo, Nyimba, Lundazi and Chama **Northern Province** (Dense): Mpika (Light): Isoka	3.4%	28% Sioma Ngwezi NP; Mosi-oa-Tunya NP; Lochinvar NP, Kafue NP (south-eastern edge); Lower Zambezi NP; North and South Luangwa NPs, Luambe NP

4.1.1.7 Munga Woodland

This is a coined term for savanna woodland. It is an open, park-like, 1 to 2 storeyed deciduous woodland with scattered or grouped emergents to 18m high characterized particularly by *Acacia, Combretum* and *Terminalia* species. Occasionally it has a deciduous or semi-deciduous thicket understorey. Munga woodland is divided into:-

a) Upper Valley sites mainly in central province;
b) Lower Valley sites in the Luangwa and mid-Zambezi valleys, and
c) Kalahari sites on the Kalahari sands.

On the first two sites there tends to be a *Combretum-Terminalia* variant on the more elevated, better-drained sites and an *Acacia* variant on the lower, poorer drained sites.

The penultimate stage in the degradation of munga woodland is what is usually referred to as dambo-margin vegetation which is widespread throughout the country.

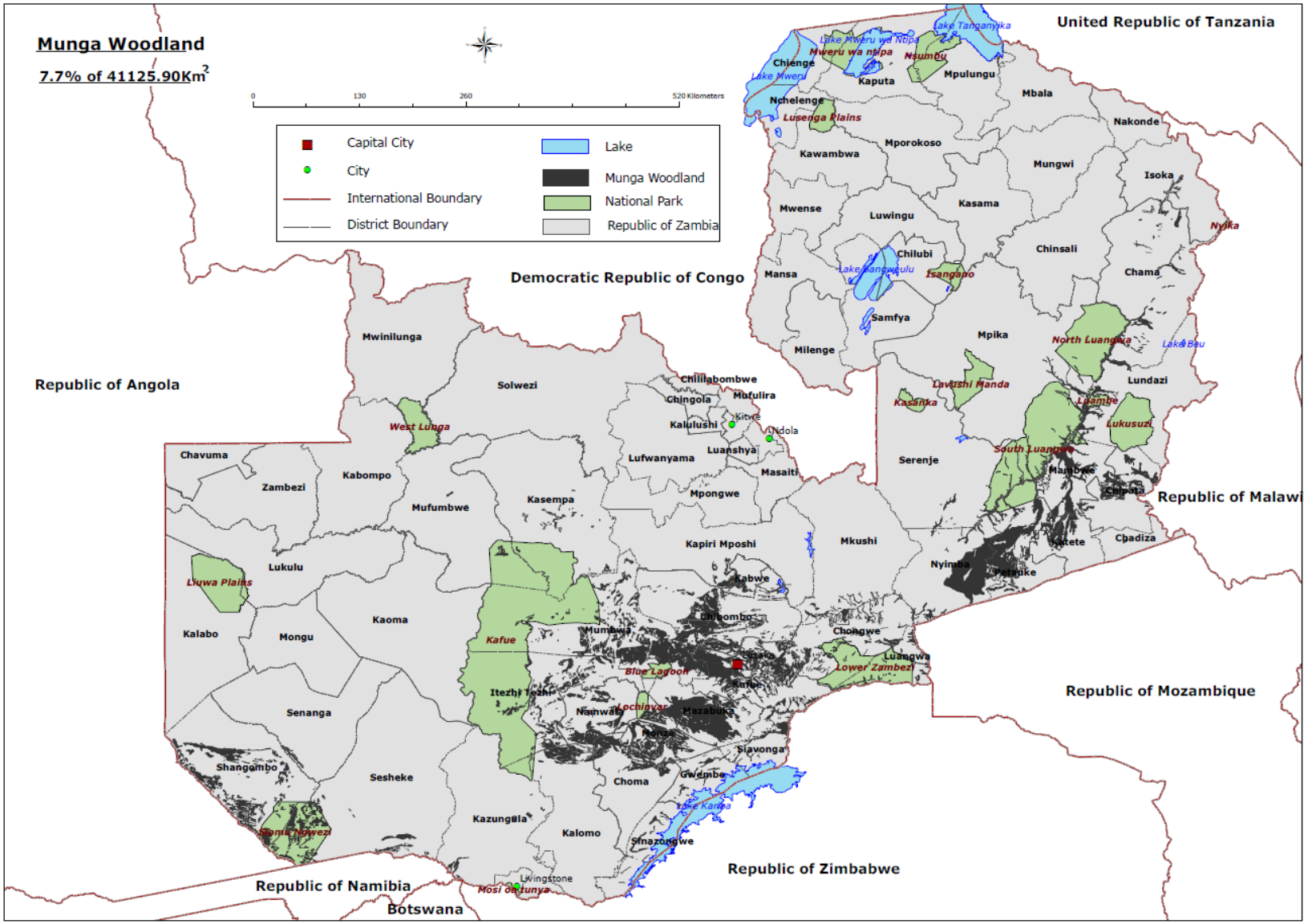

Figure 10. Distribution of Munga Woodland in Zambia

Table 7. Localities of Munga Woodland in Zambia

Vegetation Type	Distribution	National Coverage (%)	Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)
Munga Woodland	**Western Province:** Shang'ombo and Sesheke around Sioma Ngwezi NP **Southern Provice** (Dense): Itezhitezhi, Namwala, Monze, Mazabuka, Choma, Kalaomo (Light): Siavonga, Gwembe and sinazongwe **Central Province** (Dense): Mumbwa, Chibombo (Light): Kabwe, Serenje, Kapiri Mposhi, Mkushi, **Lusaka Province** (Dense): Kafue District, Lusaka (Light): Luangwa **Eastern Provice** (Dense): Nyimba, Petauke, Katete, Chipata, Mambwe (light): Lundazi and Chama **Northern Provice** (light) : Isoka and Mpika	5.6%	7.7% Sioma Ngwezi NP; Kafue, Lochinvar, Blue Lagoon and Lower Zambezi NPs (only slightly) North and South Luangwa NPs

4.1.1.8 Termitaria Vegetation and Bush Groups

All types of vegetation, i.e. forest, woodland, thicket, scrub and grassland can be found on or around the bases of termitaria. They have been classified by habitat rather than by vegetation type, because to some extent one limits the other.

i) *Miombo* termitaria are characterized by *Albizia amara*, *Boscia angustifolia*, *Cassine aethiopica*, *Combretum molle*, *Commiphora mollis*, *Erythrina absyssinica*, *Euphorbia candelabrum* and *Ziziphus mucronata* in their upper storey.
ii) Kalahari termitaria are characterized by *Boscia albitrunca*, *Combretum imberbe*, *Diospyros mespiliformis* and *Strychnos potatorum*.
iii) Mopane termitaria are characterized by *Acacia nigrescens*, *Albizia harveyi*, *Colophospermum mopane*, *Garcinia livingstonei*, *Kirkia acuminate*, *Lannea stuhlmannii* and *Markhamia acuminate*.
iv) Munga termitaria are characterized by *Albizia harveyi*, *Combretum imberbe*, *Lannea stuhlmannii*, *Manilkara mochsisia* and *Strychnos potatorum*.

v) Riparian termitaria are characterized by *Apodytes dimidiata*, *Erythrophleum suaveolens*, *Garcinia livingstonei*, *Parinari curatellifolia* and *Syzygium cordatum*.

vi) Bush groups.

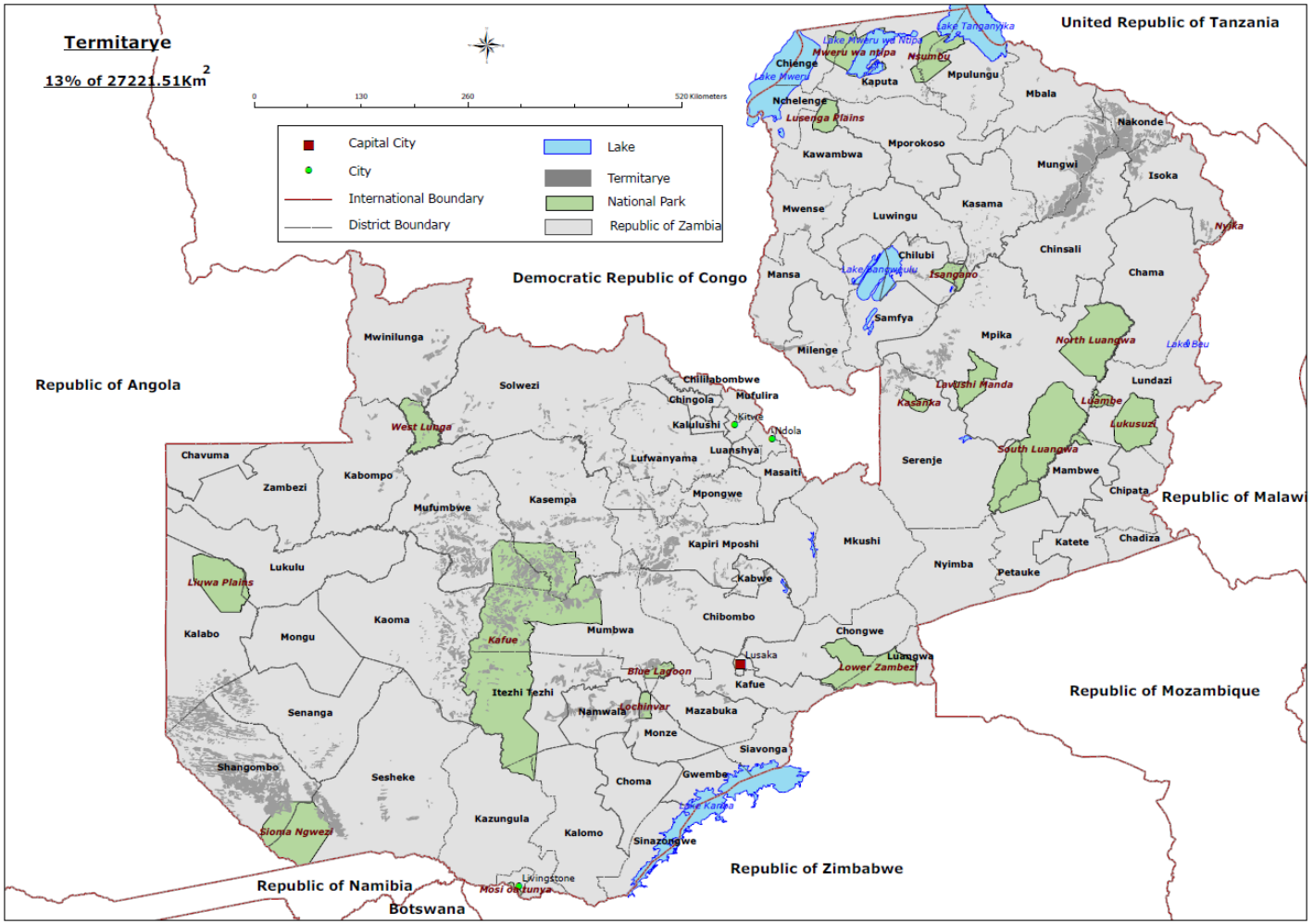

Figure 11. Distribution of Termitaria Vegetation in Zambia

Table 8. Localities of Termitaria Vegetation in Zambia

Vegetation Type	Distribution	National Coverage (%)	Proportion occurring in National Parks, a category that offers effective Biodiversity Conservation (%)
Terminataria Vegetation	**Southern Province:** (Light): Itezhitezhi, Monze, Kalomo and Mazabuka **Western Province:** Kaoma, Shang'ombo, Senanga, Sesheke and Kalabo **North Western Province:** Solwezi, Kasempa, Mufumbwe, Mwinilunga and Kabompo **Copperbelt Province:** Lufwanyama and Mpongwe **Central Province:** Serenje, Mumbwa, Kabwe, Kapiri Mposhi and Chibombo **Northern Province** (Dense):Nakonde, Isoka, Kasama, Mpika and Chilubi **Luapula Province** (Light)**:** Samfya, Kawambwa, Mansa and Milenge	2.0%	13% Kafue NP Lochinvar and Blue Lagoon NPs; Sioma Ngwezi NP; West Lunga NP; KasankaNP; Nyika NP; Isnagano and Nsumbu NP

4.1.1.9 Grasslands

True grasslands are edaphic grasslands associated with the drainage lines. They can be divided into dambo (headwater valley) grassland, riverine grassland and floodplain grassland. These are associated with the streams and rivers; floodplains of the larger rivers like the Zambezi, Luapula, Kafue and Chambeshi; seasonally flooded freshwater swamps like Bangweulu, Lukanga, Busanga and Mweru Wantipa; and some alkaline swamps which evaporate to salt. Mountain grassland and watershed plains are also included.

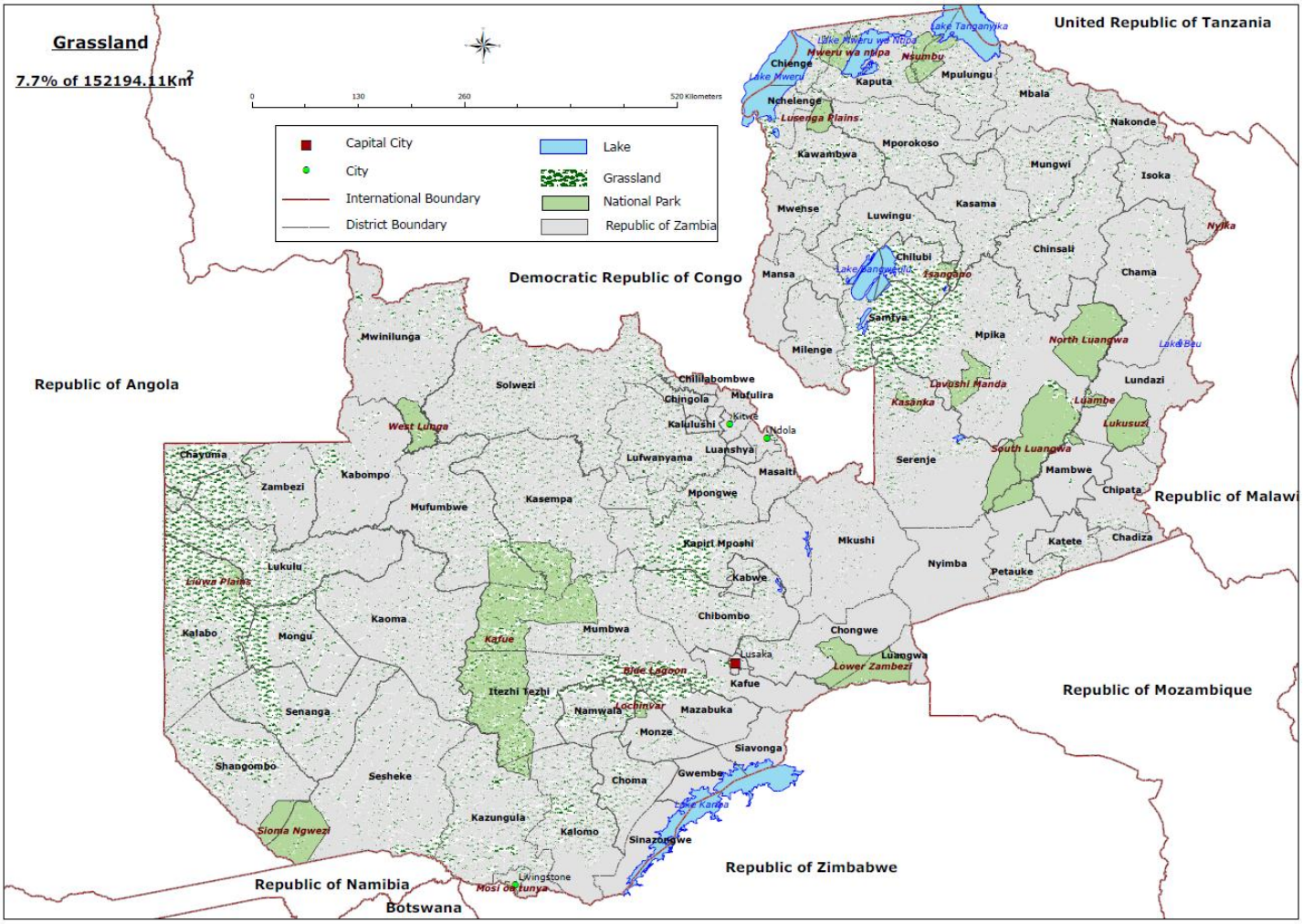

Figure 12. Distribution of Grasslands in Zambia

Table 9. Localities of Grassland in Zambia

Vegetation Type	**Distribution**	**National Coverage (%)**	**Occuring in National Parks, a category that offers effective Biodiversity Conservation (%)**
Grasslands	Whole country including half of the margin along the border with Mozambique except southern, south-eastern and eastern half of the country;	20.6%	7.7% Generally all NPs except Lower Zambezi NP, South Luangwa, North Luangwa, Luambe and Lukusuzi NPs

4.1.2 Identified Gaps in Vegetation Types Representation

One of the targets, set by Government, is to effectively conserve 10% of each vegetation class in Zambia. Currently, National Parks are a more effective Protected Area category capable of conserving biodiversity. The following table presents the national coverage of vegetation types and the percentage of each vegetation type, protected within National Parks. The figures in red or highlighted (from Dry Evergreen Forest to Munga Woodlands) indicate the respective type which is currently underrepresented (below the target minimum of 10%).

Priority vegetation types for which suggestively Protected Areas need to be reclassified or their current boundaries realigned are Dry Evergreen Forest, Kalahari Woodland, Miombo Woodland, Grasslands and Munga Woodland. This will require identification of land with follow-up negotiation with appropriate authorities such as the State (through principal Government Departments), Traditional Leaders, Local Authorities or and Private Landowners. This undoubtedly will depend on how economical and politically cheap it will be to get such land. In the past, most National Parks were created in areas highly infested with tsetse flies, which land was/is therefore poor for agriculture. Consequently, this land was comparatively easier to obtain for the creation of National Parks under the state tenure.

Table 10. Summary of Vegetation Types and their Distribution in Zambia

Vegetation Type	National Coverage (%)	Occurring in National Parks, a category that offers effective Biodiversity Conservation (%)
Dry Evergreen Forest	5.0%	4.6%
Kalahari Woodland	13.2%	5.6%
Miombo Woodland	47.2%	6%
Grassland	20.6%	7.7%
Munga Woodland	5.6%	7.7%
Terminataria Vegetation	2.0%	13%
Dry Deciduous Forest	1.4%	15%
Mopane Woodland	3.4%	28%
Moist Evergreen Forest	0.1%	45%

4.1.3 Large Mammals Representation in Zambia

Zambia has an interesting and rich variety of mammalian wildlife, representing 13 orders, including 14 species of shrew (Insectivora), 4 species of elephant shrew (Macroscelidae), 66 bat species (Chiroptera), 2 pangolin species (Pholidata) and 58 squirrel, rat and mouse species (Rodentia). Although all of these smaller species are just as important as the larger more conspicuous ones, in practice, it is impossible to estimate the abundance of most smaller animals. Some groups, such as rodents, constitute an important rural food supply. However, there does not appear to be any indication that harvesting is unsustainable, or that any species are liable to extinction.

Approximately 43 species of large mammals are important; firstly on account of the potential income that can be generated from their use in photographic and consumptive tourism, secondly, their contribution to local household economies, as a source of protein and as a source of income through illegal market structures, and thirdly, their aesthetical appreciation by the global community including their existence value. The large mammals represents further four (4) orders, including nine (9) species of large carnivores (Carnivora), two (2) species of odd-toed ungulates (Perissodactyla) and thirty one (31) species of even-toed ungulates (Artiodactyla) and one (1) species of elephant.

In the identification of large mammal gaps, thirty-eight species were considered and examined for representation (see appendix 1). The animals include:-

i. Vervet Monkey (also called Green, Tantalus or Grivet Monkey) *Cercopithecus pygerythus or C. aethiops)*
ii. Blue Monkey (also called Samango Monkey) *Cercopithecus mitis*
iii. Moloney's Monkey *Cercopithecus albogularis*
iv. Baboon *Papio* spp.
v. Side-striped Jackal *Canis adustus*
vi. Wild Dog *Lycaon pictus*
vii. Spotted Hyena *Crocuta crocuta*
viii. Leopard *Panthera pardus*
ix. Lion *Panthera leo*
x. Cheetah *Acinonyx jubatus*
xi. Elephant *Loxodonta Africana*
xii. Black Rhinoceros *Diceros bicornis*
xiii. Zebra *Equus burchelli*
xiv. Hippopotamus *Hippopotamus amphibious*
xv. Yellow-backed Duiker *Cephalopus silvicultor*
xvi. Blue Duiker *Cephalopus monticola*
xvii. Common Duiker *Sylvicapra grimmia*
xviii. Red Forest Duiker *Cephalopus natalensis*
xix. Steenbok *Raphicerus campestris*
xx. Sharpe's Grysbok *Raphicerus sharpie*
xxi. Oribi *Ourebia ourebi*
xxii. Klipspringer *Oreotragus oreotragus*
xxiii. Reedbuck *Redunca arindinum*
xxiv. Puku *Kobus vardoni*
xxv. Impala *Aepyceros melampus*
xxvi. Roan Antelope *Hippotragus equines*
xxvii. Sable Antelope *Hippotragus niger*
xxviii. Tsessebe *Damaliscus lunatus*
xxix. Lichtenstein's Hartebeest *Alcelaphus lichtensteini*
xxx. Bushbuck *Tragelaphus scriptus*
xxxi. Sitatunga *Tragelaphus spekei*

xxxii. Greater Kudu *Tragelaphus strepsiceros*
xxxiii. Eland *Taurotragus oryx*
xxxiv. Buffalo *Syncerus caffer*

4.1.4 Identified Gaps in the Large Mammal Representation

All of these large mammal species are well represented in the National Parks (see Appendix 1) except Giraffe *Girriffa camelopardelis angolensis,* Black lechwe *Kobus leche smithemani,* Kafue lechwe *Kobus leche kafuensis* and Black Rhinoceros *Diceros bicornis.* Although Giraffe *Girriffa camelopardelis angolensis* is currently represented in Sioma Ngwezi National Park and Mosi-oa-Tunya National Parks, the population in Mosi-oa-Tunya NP was only introduced, and the species did not naturally occur in this area. The current population represented in Sioma Ngwezi NP actually concentrates in the area directly east of the park and the range only overlaps the park boundary. Black lechwe are represented in Isangano NP but this is only seasonal with a very small percentage of the lechwe population entering the park. There is a need to ensure adequate representation of this sub-species. Similarly the Kafue Flats lechwe population, seasonally move in and out of the Lochinvar and Blue Lagoon National Parks, as the bulk of the population range remains outside the two Protected Areas.

To raise the representation of the mentioned species/sub-species, it is important and critical that a look is given at either reclassifying surrounding areas/GMAs or parts thereof into new PA categories or consider realigning boundaries of existing National Parks to incorporate significant size of the affected animals' effective range(s).

Black rhinoceroses are represented in North Luangwa NP but its original range included most of the National Parks in Zambia. The numbers in North Luangwa NP are still low.

4.1.5 Birds Representation in Zambia

Globally threatened species of birds found in Zambia and their current status are listed in Table 11. These species are most threatened with global extinction and are classified as 'Critical', 'Endangered or 'Near-threatened' and 'Vulnerable' according to the recent recognised criteria for global threat status (IUCN 1994).

Table 11. Globally Threatened Species that Occur in Zambia and their Status (Leonard, 2005)

Species	**Status in Zambia**
Vulnerable	
Madagascar Squacco Heron	A rare dry season migrant from Madagascar with most records from May - October
Slaty Egret	A widespread species occuring in floodplain grasslands, rarely common and with no breeding proof to date; a significant proportion of the world population occur in Zambia
Cape Vulture	A rare vagrant known from about 6 records
Lappet-faced Vulture	A relatively common and widespread breeding resident
Greater Spotted Eagle	A very rare, but possibly regular, Palearctic migrant to the Luangwa Valley, known only from records of birds tracked by satellite telemetry
Lesser Kestrel	A fairly common Palearctic migrant, recorded mainly on passage
Corn Crake	A Palearctic migrant, widespread, almost certainly under-recorded and probably not uncommon
Wattled Crane	A widespread breeding resident, but common in only a few localities (Kafue Flats, Bangweulu, Liuwa Plain); a significant proportion of the world population occurs in Zambia
Black-cheeked Lovebird	A localised breeding resident, effectively endemic and with a distribution centred on the small areas of mopane woodland north-west of Livingstone
Blue Swallow	A very localised Afrotropical migrant, breeding in small numbers on the Nyika Plateau (more numerous in the adjacent Malawi portion) and also recorded on passage
Papyrus Yellow Warbler	A fairly common, but highly localised breeding resident of papyrus swamp in the mouth of the Luapula River
Near-Threatened	
Shoe-billed Stork	An uncommon breeding resident in swamp in the north of the country with largest numbers in the Bangweulu Swamps. Zambia is said to host about 60% of the world's population of this species
Lesser Flamingo	A rare vagrant that has attempted to breed in the far north on a very few occasions
Pallid Harrier	A widespread Palearctic migrant, not uncommon in suitable habitat
Taita Falcon	A rare and very localised breeding resident
Denham's Bustard	A widespread breeding resident and local migrant that is generally uncommon
Great Snipe	A widespread Palearctic migrant that can be locally common and is probably under-recorded
African Skimmer	A fairly widespread, breeding Afrotropical migrant that can be locally common
Chaplin's Barbet	A localised breeding resident and endemic, known from a relatively small area centred on the Kafue Flats, from about 14° south through much of Southern Province; generally associated with Sycamore Fig trees (*Ficus sycomorus*) in open country
Olive-headed Weaver	A very localised breeding resident, confined to mature Miombo with Usnea lichen near the Malawi border

The representation in National Parks of the globally threatened species that occur in Zambia are shown in Appendix 2.

4.1.6 Identified Gaps in the Birds Representation

The Shoebill *Balaeniceps rex,* although occasionally seen in Kasanka NP, Mweru-wa-Ntipa NP and Nsumbu NP, it is considered only as very rare vagrants in these areas. The only site in Zambia where it has been recorded as a breeding resident is Bangweulu swamps incorporating the Bangweulu GMA.

Another species that are not at all represented in any National Park in Zambia is the Papyrus Yellow Warbler *Chloropeta gracilirostris.* This bird only occurs in Zambia in a large area of dense papyrus swamp in the lowest reaches of the Luapula River as it fans out to meet Lake Mweru.

4.1.7 Natural Heritage Representation

Zambia has a number of areas which have rare or distinctive flora, fauna and landscapes and their formation processes. These sites include geodiveristy (i.e. landscape features) such as waterfalls, hot springs, gorges, sunken lakes, wetlands, fossil sites and biological systems and their associated processes. Currently, Zambia has more than 150 waterfalls and rapids; over 100 hot and mineralized springs which apart from providing aesthetics, they aid in environmental sustenance (including support for biodiversity).

The protection of these sites of rare/distinct nature is paramount. It is also important to note that most of these sites are found in other Protected Areas and in open areas. Those which are outside the Protected Areas are provided for under the NHCC Act of 1989. These sites include:-

1. Lake Tanganyika which has a number of endemic fish species;

2. The gorges of the Zambezi River provide habitat for *Taita falcon;* and

3. The Bangweulu Basin is also renowned for having the largest bat migration in the world.

Examples of sites that enjoy effective protection are:-

1. The Victoria Falls, one of the 7 Natural Wonders of the World was nominated a World Heritage Site for its aesthetics, geological and geomorphologic features and processes;
2. The Nyika Plateau which has montane vegetation typical of the temperate regions;
3. The Zambezi Source is one of the Botanical Reserves renowned for its high biodiversity of plant species;

4. The *Itigi* thickets are only found on the Northern part of Zambia; and
5. The Important Bird Areas also fit in well in this heritage which needs protection.

4.1.8 Identified Gaps in the Natural Heritage Representation

There are just a few areas which have been listed as heritage sites. Most of the sites are not declared as National Monuments for their biodiversity conservation and maintenance of biophysical processes but for their aesthetic significance. Some of the existing PAs are suitable candidate sites for World Heritage Site listing.

4.2 MANAGERIAL GAPS

4.2.1 Wildlife Protected Areas

In order to know whether the management objectives of a Protected Area are achieved, it is necessary to monitor and evaluate management progress. One method of measuring Protected Area management effectiveness was developed by the World Bank / World Wide Fund for Nature (WWF) Alliance for Forest Conservation and Sustainable Use. To facilitate reporting, the Alliance developed a tracking tool, known as the Management Effectiveness Tracking Tool (METT). The tool was adapted by ZAWA and consequently known as Management Effectiveness Tracking Tool for Protected Areas in Zambia (METTPAZ). This, though was derived and was more or less specific for areas managed by ZAWA. The Management Effectiveness Categories with corresponding percentage are displayed in Table 12.

Table 12. Management Effectiveness Categories

Management Effectiveness Category	**Score**
Very High	81 – 100%
High	71 – 80%
High-Intermediate	61 – 70%
Intermediate	51 – 60%
Low-Intermediate	41 – 50%
Low	31 – 40%
Very Low	0 – 30%

The METTPAZ was conducted for all National Parks and most Game Management Areas in 2007. The results can be seen in Figure 13 and Table 13.

Of the 19 National Parks, none fell in the Very High management effectiveness category. However, one National Park (South Luangwa) fell in the High management effectiveness category and one NP (Liuwa Plain) fell within the High Intermediate management effectiveness category. Six NPs (Mosi-oa-Tunya, North Luangwa, Lower Zambezi, Lochinvar, Kafue and Kasanka) fell in the Intermediate management effectiveness category whereas five NPs (Blue Lagoon, Luambe, Nyika, Nsumbu and Lusenga Plain) fell within the Low-Intermediate category. Two NPs (Lukusuzi and Sioma Ngwezi) fell in the Low management effectiveness category while the remaining four NPs (Lavushi Manda, Isangano, West Lunga and Mweru-wa-Ntipa) fell in the Very Low management effectiveness category.

The foregoing suggests that management effort should be evenly spread to be able to address this serious shortcoming. At best donor including local funds be mobilised to assist in this approach.

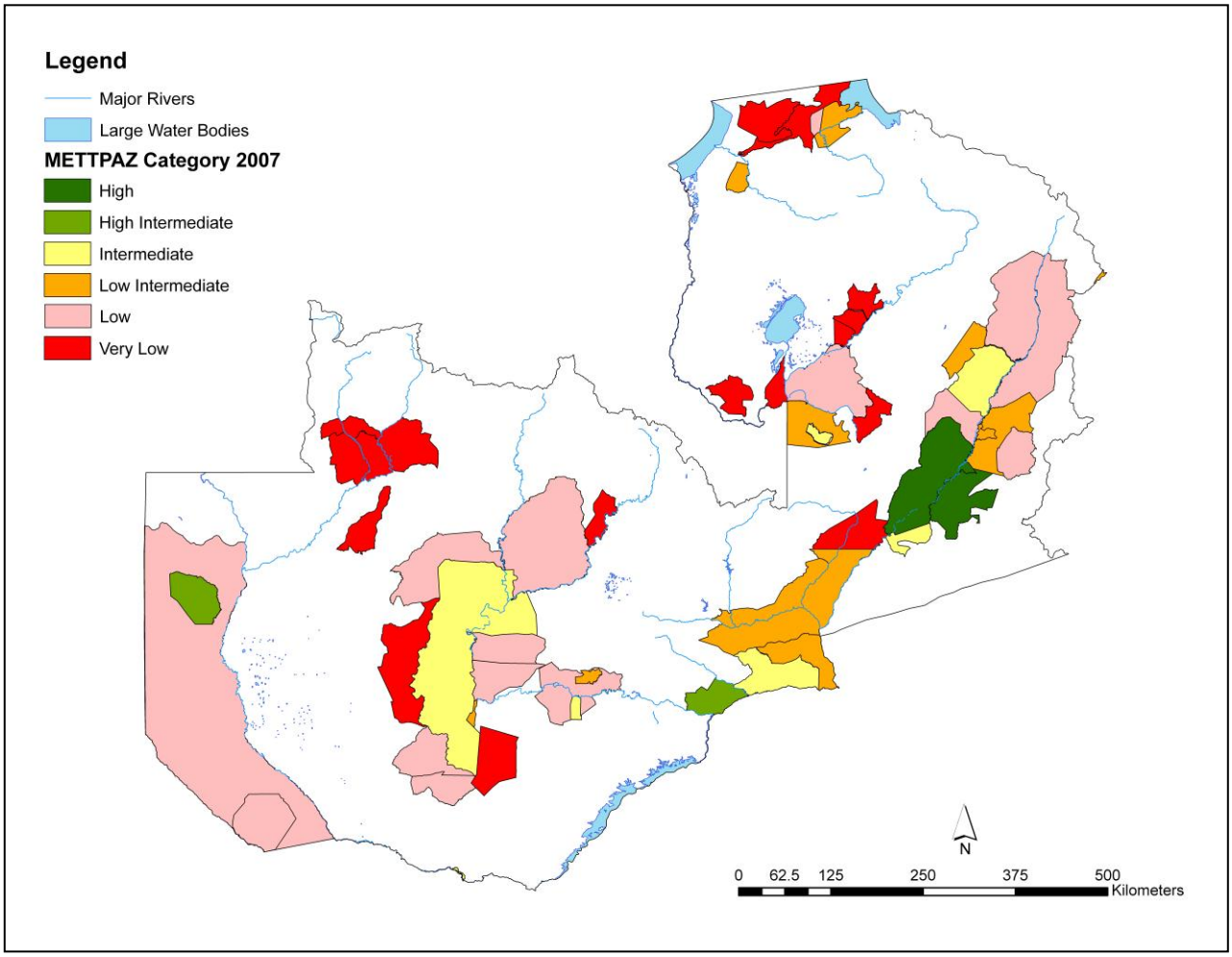

Figure 13. National Parks and Game Management Areas Classified According to Management Effectiveness Categories as Assessed in 2007

Table 13. National Parks Classified According to Management Effectiveness Categories as Assessed in 2007

Overall Management Effectiveness	Effectiveness Management Category	National Parks
HIGH	Very High	None
	High	• South Luangwa
	High Intermediate	• Liuwa Plain
	Intermediate	• Mosi oa Tunya • North Luangwa • Lower Zambezi • Lochinvar • Kafue • Kasanka
LOW	Low Intermediate	• Blue Lagoon • Luambe • Nyika • Nsumbu • Lusenga Plain
	Low	• Lukusuzi • Sioma Ngwezi
	Very Low	• Lavushi Manda • Isangano • West Lunga • Mweru wa Ntipa

4.2.2 Natural Heritage

The recognition of such areas would assist Zambia nominate a number of sites on a World Heritage List. The placement of such sites on the UNESCO World Heritage List aids State Parties access technical and financial assistance for managing such Protected Areas. This listing recognizes the already existing legal and management frameworks. From the tourism point of view, this the world heritage status helps is tourism promotion since tourist target prime tourism destination.

4.3 FINANCIAL GAPS

A financial model, analysing the financial viability of 19 National Parks and 36 Game Management Areas, was developed on the basis of the estimated cost of effective resource protection for each Protected Area, managed by ZAWA, and current income levels (for the year 2007). The analysis places Protected Areas into five classes, namely:-

1. Currently financially viable
2. Financially viable within 5 years
3. Financially viable within 10 years
4. Financially viable within 15 years or more
5. Currently under Public-Private Partnership (No cost to ZAWA, GRZ).

Results of Financial Viability Assessment are presented in Figure 4.X1 below. The assessment shows clearly that Mosi-oa-Tunya National Park, South Luangwa National Park and Lower Zambezi National Park (including its surrounding Game Management Areas) are currently more viable than most other areas. Areas of particular concern include the West Zambezi Areas (excluding Liuwa Plains National Park), West Lunga, Mweru-wa-Ntipa, Nsumbu, Lavushi Manda, Isangano and Kafue National Parks as well as the Kafue Flats GMA. Liuwa Plains NP and Kasanka NP are under public-private partnership management arrangements where the cost of management is covered by partners and revenue is retained for the management of the particular park.

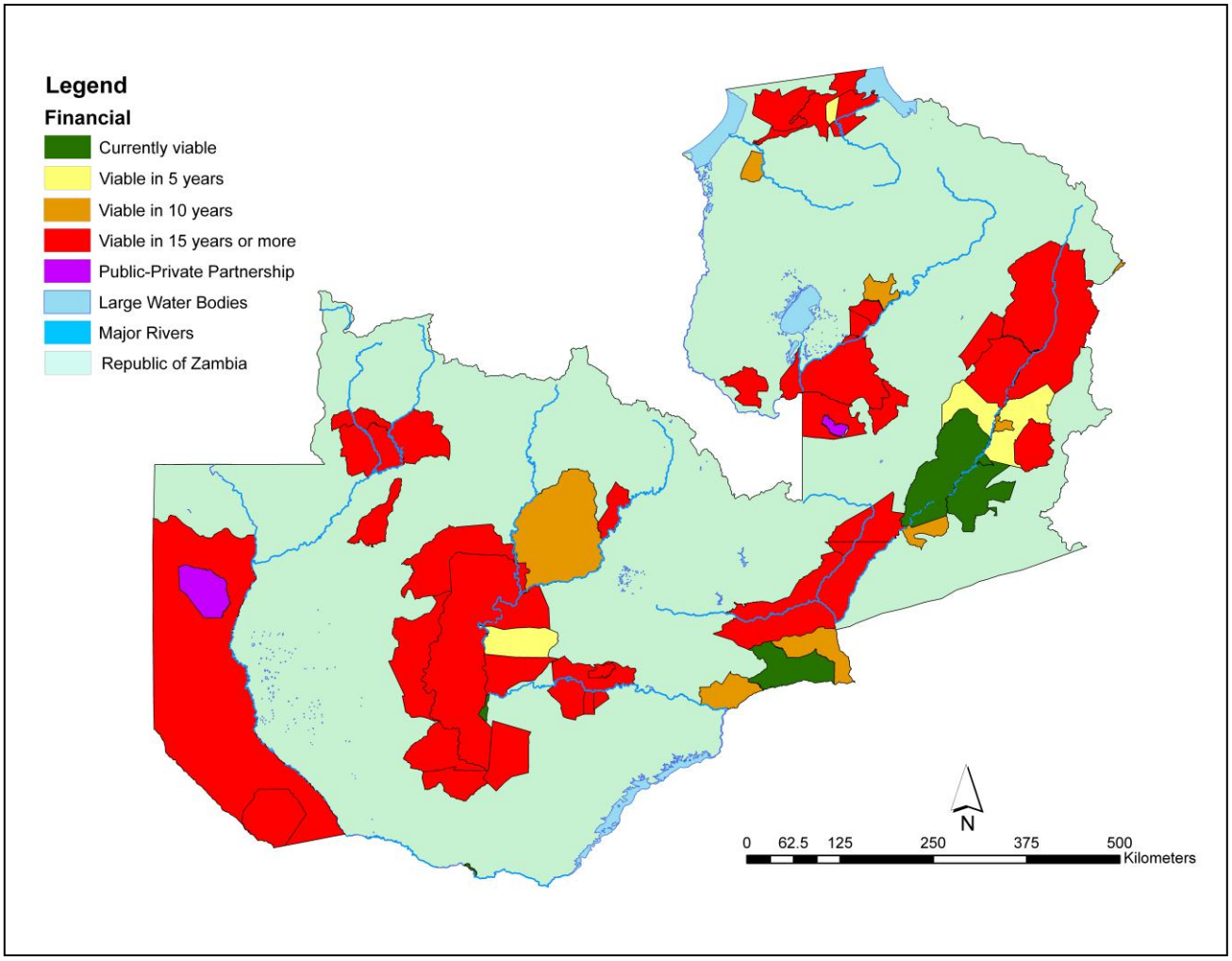

Figure 14. Wildlife Protected Areas According to Financial Viability in 2007

Table 14. Categorisation of National Parks according their 2007 Financial Sustainability Status

Overall Financial Viability	**Financial Viability Category**	**National Parks**
Financial Viable	Currently Financially Viable	Lower Zambezi South Luangwa Mosi-oa-Tunya
	Financially Viable within 5 years	
	Under Public-Private Partnership	Liuwa Plains Kasanka
Financial Unviable	Financially Viable within 10 years	Lusenga Plain Isangano Luambe Nyika
	Financially Viable within 15 or more years	Blue Lagoon Kafue Lavushi Manda Lochinvar Lukusuzi Mweru-wa-Ntipa North Luangwa Nsumbu Sioma Ngwezi West Lunga

5.0 THE RECLASSIFICATION AND CONSERVATION PLAN

There are a number of identified gaps in the current Protected Area system in Zambia that negate the conservation of biodiversity and other natural resources namely:-

a) Inadequate representation of some vegetation types (Table 10);
b) Inadequate representation of some large mammals (Appendix I);
c) Inadequate representation of birds (Appendix II); and
d) Inadequate representation of heritage resources.

These representation gaps are worsened by managerial gaps with more than 70% of the National Parks' managerial effectiveness being low. This situation may continue worsening as it is estimated that most of the National Parks will only be financially viable in 15 or more years. Although, in general, there has been a growth in tourist numbers in the last five years, the growth is slow and the development of other tourism products in non-viable National Parks and other Protected Areas would require huge investments.

The central concern that this plan addresses is how to develop a Protected Area system that adequately represents the ecosystems of Zambia and are managed effectively thereby minimising the managerial and financial gaps that are currently constraining its effectiveness.

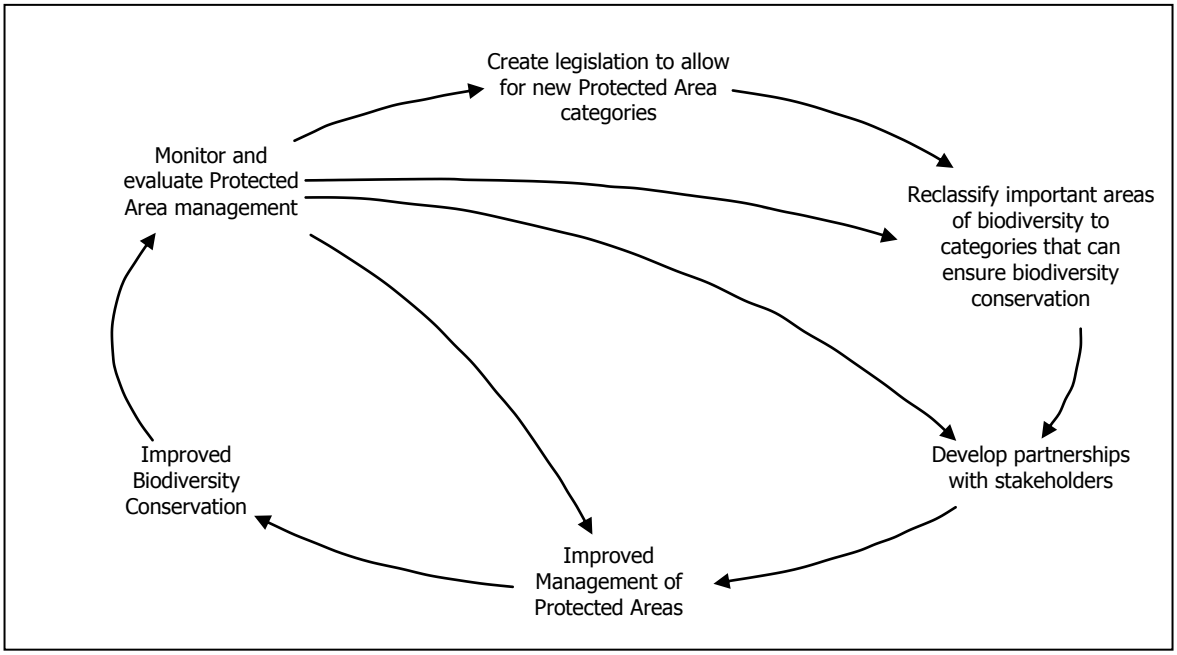

Figure 15. Schematic Illustration of the Proposed Strategy to achieve the Vision

Figure 15. illustrates schematically the proposed strategy to address the above-mentioned concern. Under the current legislation, only National Parks as a Protected Area category has the potential to effectively conserve biodiversity. As a first step there is need to create legislation that allow for new Protected Area categories which can also assure effective biodiversity conservation. This will lead to the reclassification of areas of important biodiversity to new and/or existing PA categories that can ensure biodiversity conservation. In order to assist in both the technical and financial management of these existing and/or new Protected Areas, there is a need for the central government conservation agencies to develop innovative partnerships with global, regional, national and local stakeholders. This will lead to improved management of the Protected Area system which again will lead to improved biodiversity conservation. There is, however, a strong rationale to constantly monitor and evaluate what is working or not. The Reclassification and Conservation Plan will provide the basis for the creation of new PA categories; expand the coverage under different PA categories that have proved most effective under specific circumstances and further the development of innovative management actions/strategies within Protected Areas. As illustrated in Figure 15 below, this is an iterative process with constant improvements in order to increase biodiversity conservation as the end result.

5.1 VISION, GOALS AND OBJECTIVES

The Vision, Goals and Objectives of the Plan are described below:-

5.1.1 Vision of Zambia's Reclassification and Conservation Plan

The vision of the plan is to have a representative sample of Zambia's ecosystems which is effectively safeguarded from human-induced pressures through effective management partnerships and serves to make Zambia into a tourism destination of choice.

5.1.2 Goals of the Zambia Reclassification and Conservation Plan

The goals are:-

a) At least 10% of each vegetation type in Zambia is represented in the PA categories that can ensure effective protection;
b) All large mammals and birds are adequately represented in PAs categories that can ensure effective protection; and
c) Continual increase in management effectiveness of PA categories that can ensure biodiversity and natural heritage conservation.

5.1.3 Objectives of the Zambia Reclassification and Conservation Plan

The objectives are to:-

a) Expand the existing PA categories to include new PA categories that can ensure effective biodiversity conservation;
b) Reclassify and create new Protected Areas;
c) Develop effective partnerships with stakeholders;
d) Strengthen the management of Protected Areas; and
e) Monitor and evaluate progress in Management Effectiveness.

5.1.3.1 Expand the PA Categories to include New Categories that can ensure Effective Biodiversity Conservation

In addition to the existing Protected Area Categories in Zambia there is need to incorporate new categories to allow for new management and governance regimes. The following categories are proposed to be added to the current Protected Areas system:-

a) Nature Park,
b) National Reserve,
c) Partnership Park,
d) Game Reserve, and
e) Geoparks.

1) **Nature Park:-** The proposed category of a Nature Park is a Protected Area managed mainly for ecosystem protection and recreation by the Forestry Department. It is a gazetted area on state land managed for conserving and restoring the native elements of biodiversity (genes, species, and communities), their underlying ecological structure, and environmental processes that support these native species. Non-consumptive forms of environmental education and recreation are allowed. Nature Parks can be established in any existing National Forest or Local Forest where the conservation of biodiversity is identified as more important than the extraction of timber, and where the representativeness of habitat and the associated animal species is recognised as of national importance.

2) **National Reserve:-** The proposed category of a National Reserve is a Protected Area where in existing National Parks human settlements were present at the time of the gazettement of the National Park and are still present. This should not be confused with National Parks where the settlements encroached after proclamation. This Protected Area will be managed by the Zambia Wildlife Authority and the local community, but when needed with technical assistance by Forestry Department, NHCC or Fisheries Department, depending on the resources present in the area.

3) **Partnership Park:-** The proposed category of a Partnership Park is a gazetted area, primarily managed for conserving and restoring the native elements of biodiversity (genes, species, and communities), their underlying ecological structure, and environmental processes that support these species, regulated by ZAWA. Non-consumptive forms of recreation and environmental education are allowed. A Partnership Park can be established in any area under customary land in Zambia with no human settlement except for management purposes of the Protected Area or recreational activities. The respective area and its boundary is identified in a consultative process with the local community, taking into consideration local land use practices.

4) **Game Reserve:-** The proposed category of a Game reserve is a gazetted area primarily for the sustainable consumptive utilisation of natural resources in order to maintain the harmonious interaction of nature and culture through the protection of landscape, and use the area for benefits to the state and local communities through the provision of natural products and services. The area should contain predominantly unmodified nature areas managed to ensure long-term protection and maintenance of natural diversity, while at the same time contributing to local development. A Game Reserve can be established in any part of Zambia which is designated to be utilised primarily for the sustainable consumptive utilisation of wildlife. The area should possess a landscape of high scenic quality, with diverse associated habitats, flora and fauna along with manifestations of unique or traditional land-use patterns and social organisations. The respective area and its boundary should be identified through a consultative process, taking into consideration local land use practices. The area should have no human settlements or areas of cultivation in it. This Protected Area will be managed by the Zambia Wildlife Authority and the local community, but when needed with technical assistance by Forestry Department, NHCC or Fisheries Department, depending on the resources present in the area.

5) **Geopark:-** A Geopark is a territory with a great geological heritage. Geoparks are as territories with defined boundaries comprising a number of geological heritage sites or a mosaic of geological entities of special scientific importance, rarity or beauty and has archaeological, ecological, historical or cultural value attributes. This includes a particular geological heritage and a sustainable territorial development strategy supported by a specific program to promote development. It must have clearly defined boundaries and sufficient surface area for true territorial economic development.

A Geopark is required for a certain number of geological sites of particular importance in terms of their scientific quality, rarity, aesthetic appeal or educational value. The majority of sites present on the territory of a Geopark must be part of the geological heritage, but their interest may also be archaeological, ecological, historical or cultural.

5.1.3.2 Reclassify and Create New Protected Areas

It is recommended that the following new Protected Areas (Sites Identified to Introduce New Categories of Protected Areas) are created in Zambia in order to ensure increased representation of the different vegetation types and ecosystems in Zambia. The names and boundaries should not be taken as given as these are merely used to ease interpretation and the boundaries only indicate what is planned since the areas need to be discussed and agreed with all stakeholders. Local communities and traditional leadership are key in this process. The proposed sites for new categories of Protected Areas are:-

1) National Reserves

i) Liuwa Plain National Reserve; and
ii) Sioma Ngwezi National Reserve.

2) Nature Parks

i) Mvuvye Nature Park;
ii) Luji Nature Park;
iii) Lunuka Nature Park;
iv) Lwitikila Nature Park;
v) Mulembo Nature Park;
vi) Zambezi Source Nature Park; and
vii) Chama – Lundazi Nature Park.

3) Partnership Parks

i) Sioma Ngwezi Partnership Park;
ii) Kasonso-Busanga Partnership Park;
iii) Chiawa Partnership Park; and
iv) Chikuni Community Partnership Park.

4) Game Reserves

i) Nkala Game Reserve;
ii) Lunga-Luswishi Game Reserve;
iii) Kafue Flats Game Reserve;
iv) Lower Luangwa Game Reserve;
v) Tondwa Game Reserve;
vi) West Lunga Game Reserve;
vii) Kabompo Game Reserve; and
viii) Mansa Game Reserve.

5) Geopark

i) Kalambo Falls/Lake Tanganyika – Northern Province;
ii) Chirundu/Chiawa Fossil Forests – Southern Province;
iii) Lumangwe-Kabwelume-Kundabwika Falls Complex – Luapula/Northern Provinces;

iv) Nyambwezu Falls/Kabompo Gorge – North Western Province; and
v) Mwela Rock Art Sites – Northern Province.

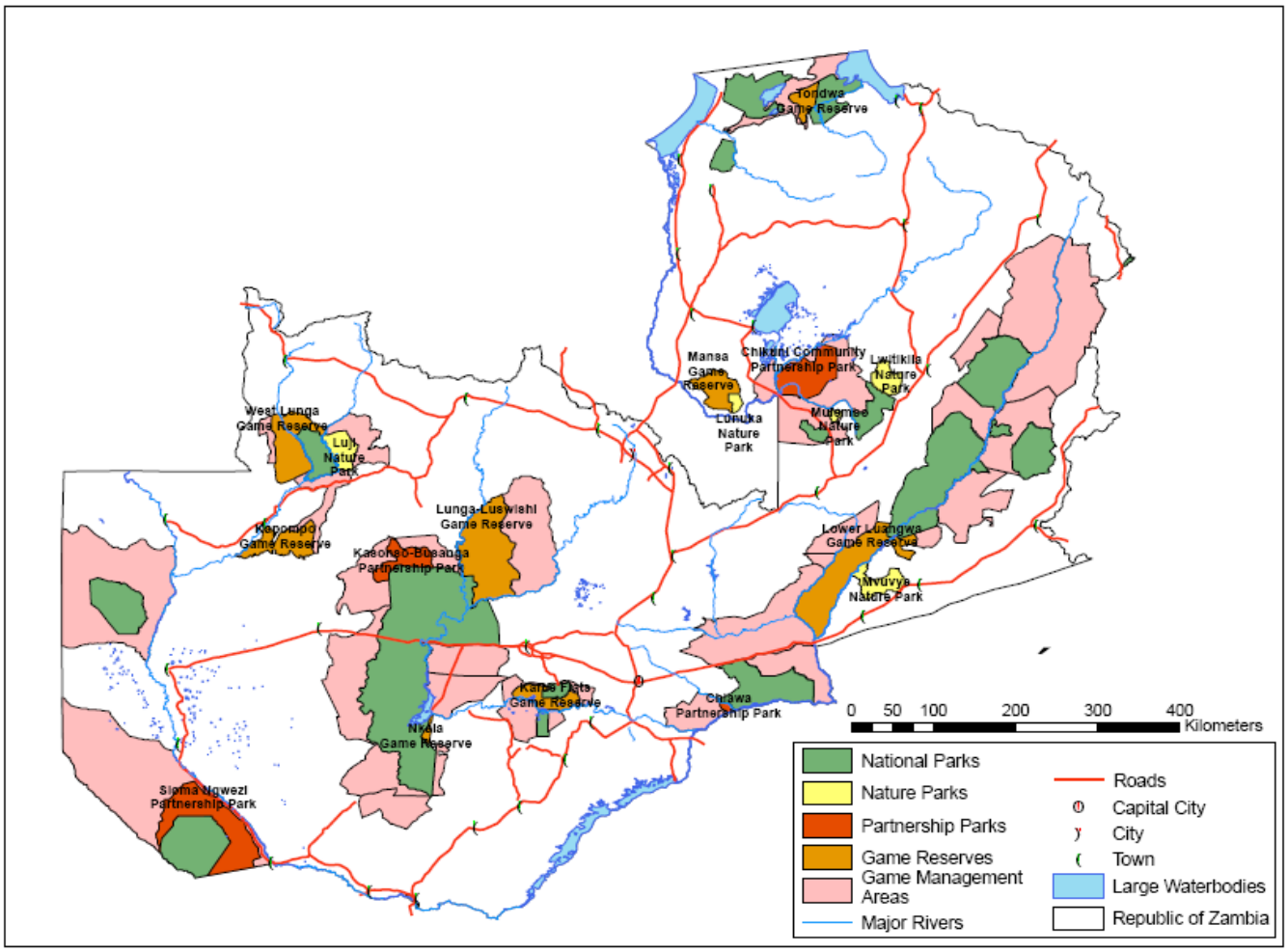

Figure 16. Sites Identified for the Creation of New Categories of Protected Areas

Each of these suggested sites are discussed in detail below:-

National Reserves

1) Liuwa National Reserve

The proposed Liuwa National Reserve is located in Kalabo District and is currently a National Park with humans residing inside. It is for this reason that the area is being recommended for reclassification into a more befitting category that eliminates the ambiguity in respect of a National Park category. By definition a National Park is supposed to be devoid of human habitation and cultivation neither are extractive activities allowed.

The vegetation in the proposed Liuwa National Reserve comprises the Dry deciduous forests, Kalahari woodland and Grasslands.

2) Sioma Ngwezi National Reserve

The proposed Sioma Ngwezi National Reserve is located in Shang'ombo District, and is currently a National Park with humans residing inside. It is for this reason that this Protected Area is being recommended for reclassification into a more befitting category that eliminates the ambiguity in respect of a National Park category. By definition a National Park is supposed to be devoid of human habitation and cultivation neither are extractive activities allowed.

The vegetation in the proposed Sioma Ngwezi National Reserve comprises the Dry Deciduous forests, Kalahari woodland, Mopane woodland, Munga woodland, Termitaria and Grasslands.

Nature Parks

1) **Mvuvye Nature Park:-** Two National Forests, Mvuvye and West Mvuvye, are the only two remaining Protected Areas in Zambia, other than in National Parks, that contains large areas and good examples of Munga Woodland. It is therefore critical to reclassify these two Protected Areas to a higher conservation status to increase the representativeness of this vegetation type. The proposed Protected Area also has Moist Evergreen Forest along the Luangwa River, with a large tract of Dry Deciduous Forest in the north eastern corner of the proposed park. The area also contains tracts of Miombo Woodland, another vegetation type not adequately represented in Zambia. The suggested Mvuvye Game Reserve will encompass the mentioned two Protected Areas. The Mvuvye Game Reserve has Luangwa river frontage and has the potential to receive some income from photographic tourism activities. The proposed area is therefore categorised under financial viability criteria as financial viable within 15 years or more. The management effectiveness of the area currently is very low.

2) **Luji Nature Park:-** The proposed Luji Nature Park is situated in the north-western part of the country and will encompass the area currently known as the Luji National Forest. It contains large tracts of Dry Evergreen Forests, Kalahari Woodland and Miombo Woodland. All three of these vegetation types are underrepresented in the national system, thereby making the current Luji National Forest a priority site for reclassification to a higher conservation category. The management effectiveness of the proposed Luji Nature Park is very low, based on the scores obtained for Musele-Matebo GMA of which Luji National Forest currently forms part of. The same applies for the financial viability for which the Park is estimated will be viable in 15 years or more.

3) **Lunuka Nature Park:-** A Local Forest, Lunuka Forest is located on the southern edge of Luapula Province in Milenge District. It is recommended that its status be elevated to that of a Nature Park. This would not only esure the protection of the forest but will also raise the proportion of Miombo representation effective PA categories.

4) **Lwitikila Nature Park:- L**ocated in Mpika District on the eastern fringes of the Bangweulu swamps sharing borders with the Bangweulu GMA. It is currently enjoying a status as a National Forest, Lwitikila Forest is endangered especially with the advent of catapillar collection against inadequate resources to effectively ensure its protection. Its raised portfolio will at the same time contribute to increase in the size of Miombo Woodland representation in the PA system.

5) **Mulembo Nature Park:-** Lying to the south of the Lavushi Manda National Park and South East of the Bangweulu Game Management Area (and the proposed Chikuni Community Partnership Park), the Mulembo National Forest provides a good connection with the Kasanka National Park in Serenje District. Once considered so, it could complete the assemblage of PAs with higher status on the conservation ladder. This would result in increased hectarage of Miombo Woodland representation in the PA system.

Partnership Parks

1) **Sioma Ngwezi Partnership Park:-** Sioma Ngwezi Partnership Park is suggested to be the area surrounding the existing Sioma Ngwezi National Park and consists mainly of Kalahari Woodland, although large tracts of Terminataria Vegetation and Munga Woodland occur. The area will be seen as a wildlife recovery zone, as proposed by a number of stakeholders who recognised the importance of wildlife as part of the product base on which tourism concession will be based (Peace Parks Foundation, 2008). The area currently has a Low Management Effectiveness score and it will only be financially viable in 15 years or more, based on information obtained for the West Zambezi GMA.

2) **Kasonso-Busanga Partnership Park:-** The Busanga Plains is one of the major tourism attractions in Kafue National Park and in Zambia. These plains do extent outside of the Park into the current Kasonso-Busanga GMA. As the economic return of photographic tourism far exceeds the value derived from hunting, it is suggested that the area of the Busanga Plains is to be reclassified as a Partnership Park. This also acknowledges the fact that both photographic and hunting is not conducive in the same geographical area and distinct zoning is required in order to reduce conflicts. The area consists of mainly grassland and Kalahari Woodland, with patches of Dry Evergreen and Dry Deciduous Forests. Grassland, Kalahari Woodland and Dry Evergreen Forest are under represented nationally. The proposed Park is currently in the Low Management Effectiveness category and it is estimated will only

be financially viable in 15 or more years, based on data obtained for Kasonso-Busanga GMA.

3) **Chiawa Partnership Park:-** The proposed Chiawa Partnership contains mainly Miombo and Mopane Woodland. Although the area is small and its contribution nationally will be minimal, it was one of the Demonstration Sites of the Reclassification and Effective Management of the National Protected Areas System Plan and valuable lessons concerning the establishment of new Protected Areas as well as the setting up of public-private-community partnerships. It is therefore included, not as a priority site but rather as acknowledgement that it is in the process of establishment. The proposed Chiawa Partnership Park is believed to be of High Intermediate Management Effectiveness and will be financially viable in 10 years based on the information gathered for the Chiawa GMA.

4) **Chikuni Community Partnership Park:-** The proposed Chikuni Community Partnership Park contains large areas of grassland. It also forms part of the range of the endemic black lechwe. Based on the fact that black lechwe is not found at any other location in Zambia than in the larger Bangweulu system and that Grassland is under represented nationally as a vegetation type, this site is of national priority to upgrade to a higher category. The area is also famous for its population of shoebills, estimated to be about 200 – 300 (Howard & Aspinwall, 1984, Kamweshe & Beilfuss, 2002). Wattled Cranes are often present in large numbers. It also has globally important congregations of the following birds: Reed cormorant, White pelican, Rufous-bellied Heron, Openbill Stork, Spur-winged Goose and Caspian Plover. It is suggested that the category be Partnership Park as the remaining area of the Bangweulu GMA (the Chikuni Partnership Park is currently part of the Bangweulu GMA) is still large enough to provide for a viable hunting operation while the Partnership Park will be used for photographic tourism. The Chikuni Community Partnership Park is currently in the low management effectiveness category and will only be financially viable in 15 or more years based on data obtained for Bangweulu GMA.

Game Reserves

1) **Nkala Game Reserve:-** The current Nkala GMA is one of only two GMAs where there are no permanent people living within the GMA. It is also a financially viable Protected Area although the management effectiveness category is believed to be Low Intermediate. The area contains tracts of Kalahari Woodland, Grassland and Dry Deciduous Forest. Although a small area, it will provide a good example to test the new Protected Areas and will be able to generate efficient funds to compensate the community for loss of other land uses in the area.

2) **Lunga-Luswishi Game Reserve:-** The proposed Lunga-Luswishi Game Reserve is a large uninhabited area of mostly Miombo Woodland. Miombo Woodland is under

represented nationally and the area of the proposed Lunga-Luswishi Game Reserve provides a wonderful opportunity to extent the coverage of the vegetation type, but also providing adequate returns from land use in the form of hunting. The area is thought to be in the Low Management Effectiveness category and estimated to be financially viable within 10 years, based on current investment levels and data for the Lunga-Luswishi GMA.

3) **Kafue Flats Game Reserve:-** The proposed Kafue Flats Game Reserve contains mostly grassland in a wetland environment. Grassland is under represented in Zambia. It is also forms part of the range of the endemic Kafue Lechwe. The Flats are extremely important for birds, and are home to a number of globally threatened species (Madagascar Squacco Heron, Slaty Egret, Lesser Flamingo, Cape Vulture, Lappet-faced Vulture, Pallid Harrier, Lesser Kestrel, Corn Crake, Wattled-crane, Denham's Bustard, Black-winged Pratincole, Great Snipe, African Skinner and Chaplin's Barbet). It also has globally important congregations of the following bird species: Reed Cormorant, White pelican, Black egret, Openbilled stork, African spoonbill, Fulvous whistling duck, White-faced whistling duck, White-backed duck, Egyptian goose, spur-winged goose, Knob-billed duck, African pygmy goose, Red-billed teal, Hottentot teal, Southern porchard, Wattled crane, Common pratincole, Kittlitz's plover, Caspian plover, Long-toed plover, Black-tailed plover, Little stint, Curlew sandpiper, Ruff, Whiskered tern and African skimmer. For the above two reasons, there is need to upgrade the area from its current Game Management Area status to Game Reserve status. The area has a Low Management Effectiveness and it is estimated that it will only be financially viable in 15 or more years, based on information collected for Kafue Flats GMA.

4) **Lower Luangwa Game Reserve:-** The proposed Lower Luangwa Game Reserve is a large uninhabited area comprising mostly Miombo and Mopane Woodland vegetation. There are tracts of Munga Woodland in the area as well, with some Moist Evergreen Forest on the banks of the Luangwa River. The area, as a result of its proximity to the South Luangwa National Park and Lusaka, has huge tourism potential, both consumptive and non-consumptive. The area is of Low Intermediate Management Effectiveness status and will only be financially viable in 15 or more years based on current income ratings and data for the West Petauke GMA.

5) **Tondwa Game Reserve:-** Tondwa GMA is one of the two Game Management Areas in Zambia that have no human settlements or cultivation (the other is Nkala GMA in Itezhi-Tezhi District). Large parts of Kaputa GMA adjacent to Tondwa GMA are also devoid of people, and therefore creating the proposed Tondwa Game Reserve will not negatively impact on the livelihood of the local communities. In the contrary, it will improve the livelihood through income opportunities e.g. hunting and photographic tourism on land that are currently not used for any other purpose. The habitat consists mainly of Miombo Woodland interspersed with Grassland areas. The proposed Tondwa Game Reserve has a Low Management Effectiveness score and it is

believed that it will be financially viable in five (5) years based on current expenditure and income estimates. The data collected for Tondwa GMA was used as basis for this categorisation.

6) **West Lunga Game Reserve:-** The Dry Evergreen Forest vegetation type is the least represented currently in the national Protected Area system. The current Lukwakwa and Chibwika-Ntambu GMAs have large tracts of Dry Evergreen Forest, as well as Miombo Woodland. The West Lunga Game Reserve is in the Very Low Management Effectiveness category and will only be financially viable in fifteen (15) years or more based on current income estimates.

7) Kabompo Game Reserve:- The proposed Kabompo Game Reserve is currently part of the Chizera GMA and the Kabompo National Forest. It contains extensive tracks of Kalahari Woodland with Miombo Woodland in the valleys. Kalahari Woodland is the second lowest representative vegetation type in Zambia. The Kabompo Game Reserve is in the very Low Management Effectiveness category and will take at least 15 years to become financially viable.

8) Mansa Game Reserve:- Mansa GMA is a very suitable candidate site for reclassification as a Game Reserve. Largely covered in Miombo Woodland, the GMA has experienced little or no disturbance in terms of vegetation removal by humans. This would proportionately increase the Miombo representation in the PA system

ZAWA and the Forest Department would jointly manage the pool resources namely the Lunuka Nature Park and the Mansa Game Reserve that share common boundaries (Lunuka lies to the East and North East of the Mansa GMA)

9) Chizera Game Management Area:- Although Game Management Areas are not considered as a Protected Area that can effectively conserve biodiversity, they do however provide an important function through linking Protected Areas and providing income to communities. In this sense, it is extremely important that the proposed Kabompo Game Reserve is linked to the West Lunga National Park and Game Reserve. This will be accomplished through the careful realignment of the current Chizera GMA (northern/north-western) boundaries to reach the southern bank of the Kabompo River.

5.1.3.3 Develop Effective Partnerships with Stakeholders

In order to deal with the complexity of Protected Area management in Zambia, it is important that the Protected Areas' and the system's management become more inclusive and that the majority of Protected Areas are governed through co-management arrangements. The issues concerning Protected Area management are so profound that they cannot be tackled by Protected Area managers working in

isolation. A big challenge is to break down the barriers that lead to the isolation of such places. New partnerships, with local people, private initiatives, industry, tourism operators, resource users such as fishermen and hunters, development agencies, human rights groups, religious organisations, local government and the general public are increasingly important (c.f Appendix III). Even in the case of partners that have a clear link to Protected Areas, such as tourism operators, much work remains to be done to maximise benefits and minimise costs to protective functions (Bensted-Smith and Cobb, 1995).

Institutions and individuals having a direct, significant and specific stake in a Protected Area that may originate from geographical proximity, historical association, dependence for livelihood, institutional mandate, economic interest, or a variety of other concerns needs to be involved. Not all stakeholders necessarily have equal legitimacy in making their views heard. An important role of government is to determine the relative importance of the various stakeholders (c.f Appendix IV). In seeking to ensure that the interests of these various stakeholders are fairly represented, Zambia should devise a wide and flexible range of institutional approaches to Protected Area management. Institutional options should be based on land ownership, legal framework, management responsibility, decision-making or financial support (Barborak, 1995). The different institutional setups of public-private partnership provide good insurances for inclusiveness of stakeholders in Protected Areas management. Many biological processes operate at small scales that vary dramatically in climate, elevation, structure and importance from one setting to the next. An overemphasis on large-scale institutional arrangements, such as centralised Protected Area agencies, can undermine institutional mechanisms at smaller scales, such as traditional approaches to conservation. *"This calls for creating complex, nested systems of governance for Protected Areas, with different institutions having responsibilities at different scales. Simply stated, large-scale, centralised governance units do not, and cannot, have the variety of response capabilities – and the incentives to use them – that complex, polycentric, multilayered governance systems can have"* (Ostrom, 1998).

A. Create Trans-frontier Conservation Areas (TFCA)

The TFCA initiative innovatively appeals and thus attracts funding from international cooperating partners. Zambia is well positioned to get funding applicable to the management of the trans-boundary resources.

The following are sites for which the Government of Zambia should seriously engage their counterparts to establish joint management regimes. These areas will foster effective management of trans-national mobile resources. Currently, the following are the sites identified or where discussions between Governments have commenced:-

i. **Luapula Province**
Kalasa Mukoso GMA and the Democratic Republic of Congo (proposed)

This will help manage the Black lechwe in the area. From August when water recedes and the flats dry out, Black lechwe make long pronounced movements out of Zambia into the DRC. The species' safety in that country remains questionable as there is no PA of any kind across the international border. To secure the future of this species in this part of the country, it is timely that the two Governments join hands and pursue a common purpose, biodiversity conservation.

ii. **Northern Province**
Kalambo Falls National Forest Zambia/Tanzania (Proposed) – Manage natural heritage including forests and water resources.

iii. **Western Province**
a) Liuwa NP/Angola (discussions underway) - Manage the migratory Blue Wildebeests.
b) Sioma Ngwezi/Namibia, Botswana and Angola (discussions underway) - Manage buffalo including other species.

iv. **Lusaka Province**
Lower Zambezi NP/Mana Pools NP in Zimbabwe and Mozambique (discussion underway) - Manage elephant, buffalo and the Black rhino population.

v. **Eastern Province**
Lukusuzi and Nyika NP including Musalangu GMA/ Malawi (Treaty in prep) - Manage both human and wildlife needs

B. Observations and Lessons Learnt

a) In Zambia, science is not making sufficient contribution to Protected Area management. It is crucial that managers establish more effective partnerships with researchers and research institutions.

b) The role of NGOs in Protected Area management must continue to expand through a variety of mechanisms or roles, including leasing and/or managing land, acting as a watchdog and carrying out advocacy on threats to conservation; funding field projects; carrying out research; facilitating communication and cooperation among stakeholders; disseminating information; and assisting resolution of conflicts and facilitation of consensus-building efforts among diverse interests.

c) Some private sector actors are willing and able to contribute more to Protected Areas. Government agencies need to provide the policy and management

frameworks that will support and encourage private sector participation. Private investors should be provided with appropriate incentives, such as security of tenure, appropriate contractual relations, the removal of perverse economic incentives, correction of market-distorting policies and removal of barriers to entry.

d) Foreign assistance for Protected Area system does not appear to be sufficient and represents an unsustainable dependence on foreign institutions to accomplish national goals. Sources of funds for Protected Areas include conventional activities, emerging opportunities, and some future prospects. More exotic sources of revenue may eventually include the sale of bio-prospecting rights and payments for carbon offsets.

e) When the revenues are returned to the national treasury or used to fund other Protected Areas of headquarters, there is little incentive to implement revenue raising programs. Protected Areas are in need of management institutions that will create incentives to capitalise on the large inherent values of Protected Areas. Protected Areas represent enormous economic and environmental assets. The challenge ahead consists of identifying appropriate institutional structures for Protected Area management, and in overcoming the resistance inherent in implementation.

f) Varying institutional arrangements also allow the opportunity for different government departments to be represented. Most Protected Areas in Zambia have multiple resources e.g. wildlife and forestry. These institutional arrangements can allow the expertise of different government departments to be included in local representation committees or boards.

g) In the inclusion of stakeholders in the management of Protected Areas, it is important that Government carefully determines which entities to commercialise. It is, therefore, desirable that on all public and co-managed Protected Areas, Government through the various departments and statutory bodies, continue to play an active role through representation on the established boards or management committees.

h) It is essential that the central government establishes national objectives for the Protected Area system; ensures that the various approaches to Protected Area management are contributing to the national system; supports the interests of Protected Areas in the face of alternative land uses; establishes means for exchanging lessons learned from the various approaches; and provides an appropriate regulatory framework to ensure quality control (McNeely, 1999).

5.1.3.4 Strengthen the Management of Protected Areas

The basis of the plan is the current Protected Area system, of which a comprehensive Gap Analysis was conducted to identify representational, ecological and managerial gaps. The following table attempts to compile the information gathered for National Parks and the proposed new Protected Areas in order to group Protected Areas and to develop a specific strategy for each grouping. Each group merits a different strategy. The strategies are presented below, but it should be noted that the strategies are essential guidelines since precise measures taken will depend on the conditions at each Protected Area.

By definition, all of the existing and proposed Protected Areas deemed necessary to represent Zambian biodiversity and natural heritage have a high ranking. In order to distinguish differences in relative importance, the ranking has been refined to denote Protected Areas with high or exceptional levels of biodiversity. The latter category is useful to distinguish Protected Areas that cover unique ecosystems, habitats or species assemblages, and/or important centers of endemism or diversity. The rank is thus exceptional if the biodiversity representation provided by the site exists in no other PA.

While relative measures of biodiversity are of primary concern, they cannot alone indicate where finite resources are best allocated for protection purposes. For this reason, a second criterion – the level of threat – has been applied to each Protected Area to identify priorities. Threat is used to define existing negative pressure and potential risks that would materialize if existing conservation measures taken to control them were halted.

Table 15. Categories of PAs that could ensure Effective Protection of Biodiversity

		EXCEPTIONAL BIODIVERSITY		**HIGH BIODIVERSITY**	
		Low METTPAZ	**High METTPAZ**	**Low METTPAZ**	**High METTPAZ**
HIGHER THREAT	**Financially Unviable**	***STRATEGY D***		***STRATEGY C***	
		Sub-Strategy D3 Blue Lagoon NP Nsumbu NP Mvuvye Nature Park Kafue Flats Game Reserve Kabompo Game Reserve Chikuni Partnership Park Lwitikila Nature Park	***Sub-Strategy D2*** Lochinvar NP	***Sub-Strategy C2*** Lavushi Manda NP Mweru Wa Ntipa NP Lukusuzi NP Lower Luangwa Game Reserve Chiawa Partnership Park	
	Financially Viable		***Sub-Strategy D1*** Lower Zambezi NP Liuwa Plains National Reserve* Kasanka National Park*	***Sub-Strategy C1*** Lunga-Luswishi Game Reserve	
LOWER THREAT	**Financially Unviable**	***STRATEGY B***		***STRATEGY A***	
		Sub-Strategy B3 Nyika NP West Lunga Game Reserve Luji Nature Park West Lunga NP Mansa Game Reserve Lunuka Nature Park Mulembo Nature Park Kalambo Falls Chirundu/Chiawa Fossil Forests Lumangwe-Kabwelume-Kundabwika Falls Nyambwezu Falls/Kabompo Gorge Mwela Rock Art Sites	***Sub-Strategy B2*** Kafue NP North Luangwa NP	***Sub-Strategy A3*** Lusenga Plains NP Sioma Ngwezi National Reserve Sioma Ngwezi Partnership Park Kasonso-Busanga Partnership Park	
	Financially Viable		***Sub-Strategy B1*** South Luangwa NP	***Sub-Strategy A2*** Tondwa Game Reserve Nkala Game Reserve	***Sub-Strategy A1*** Mosi-oa-Tunya NP

* - These two Protected Areas are already in Public-Private (Community) Partnerships – financial viability therefore only refers to ZAWA's perspective

Strategy A:
High Biodiversity, Lower Threat
Objective: Maintain the Protected Areas' biodiversity and ecological processes through ensuring that a minimum number of management actions are adopted

Management Actions:

Basic inventory and studies

This action is based on the fact that you cannot manage what you do not know. In order to compile a basic inventory physical, ecological and biological surveys, as well as social, cultural and economic studies need to be initiated in all PAs.

Identification and evaluation of threats

The most obvious threats to the Protected Area will be identified through the basic inventories and studies. Appropriate management actions will be defined subsequently to address these identified threats.

Updated and approved management plan

Management plans are required for all Protected Areas, and their completion and updating is a priority. The management plan will be reviewed and updated at a periodicity that is to be determined (3 – 5 years), but modifications may be made more frequently if conditions change unexpectedly.

Boundary delineation

Physical delineation is high priority as it ensures that there is no uncertainty regarding Protected Area boundaries, thus avoiding potential subsequent difficulties with respect to measures taken to prevent illegal activities.

Minimum surveillance and control

Surveillance capacity must be sufficient to counter existing threats, however limited they may be. For example, where threat is very low, periodic flyovers and localised ground surveillance may be all that is required. More persistent threats may require a permanent patrol staff.

Minimum ecological monitoring

At least some inventory and research is required in order to track the Protected Area's biological and ecological health. This may be achieved by simple monitoring of key indicators, or periodic assessment of the same.

Minimum information, education and communication (IEC) activities

All Protected Areas will be managed with some level of local community participation. As relations between the Protected Area staff and local people develops, a minimum program of environment education will be developed in order to ensure that the importance of the Protected Area is understood and that the conservation goals are respected.

Implementing small-scale development projects as a means to reduce threats

These small-scale projects are developed anticipatively by local communities and are implemented on the basis of the identified conservation needs of the Protected Area.

Sub-Strategy A1- High Management Effectiveness, Financial Viable

The situation of these Protected Areas is ideal and this should be the target of all PAs with High Biodiversity. The governance – state owned and controlled – is the preferred option although the involvement of local communities, tour operators and lodge owners in the management of the Protected Areas should be increased through the creation of Protected Area specific advisory committees. ZAWA should maintain its current investment in these areas. Revenue should be maximized in this Protected Area. In the site, the increase of day visitors should also be stimulated as well as the provision of camp sites within the Protected Area.

Sub-Strategy A2 – Low Management Effectiveness, Financial Viable

These areas are financial viable or close to reaching such a point, but Management Effectiveness is low. In order to increase management effectiveness, it is advised that a stronger cooperation be formed between the local communities (through their respective CRBs) and ZAWA. The structure can be formal or informal but the structure should be seen as one and all revenue should be retained at site level.

Sub-strategy A3 – Low Management Effectiveness, Financial Unviable

These Protected Areas are financially unviable, with the minimum years that it would take for ZAWA to address the financial viability is 10 years, but the majority of these PAs will 15 or more years to reach this target. It is also believed that the low METTPAZ scores of these PAs are closely linked to the lack of resources. In order to address this lack of financial and other resources, private partners should be sought and appropriate Public-Private Partnership structures established. If these partnerships are established on customary land, the community should be included in such structures and considered as a major partner.

Strategy B:
Exceptional Biodiversity, Lower Threat
Objective: Maintenance of Exceptional Biodiversity and Ecological Processes through improved information on the biology of the site and ensuring an adequate level of threat containment.

Management actions in addition to those of Strategy A:

In-depth follow-on inventory and studies

Basic inventories and research will have indicated subjects of further interest useful to management of the Protected Area, including zones important for conservation management of priority habitats, species and ecological processes. Accumulated information will also be important for assessing the initial evaluation of the site's exceptional biodiversity status. Studies will also be aimed at increasing the understanding of threats to the Protected Area, however limited, and at ensuring that negative impacts are contained.

Conservation management plan

The management plan should have a detailed section on strategies aimed at increasing the understanding of the Protected Area's biodiversity and ecological processes. It should identify appropriate research and monitoring needs, including the continuously monitoring and assessment of threats.

Strengthening research and ecological monitoring

A focus on general monitoring of environmental health is necessary in this category of PAs. The indicators to be monitored will be tailored to each site in question, and may focus on broad-based habitat or ecological parameters, or may target species of special concern. Research on specific subjects of particular interest will be promoted through collaboration with research institutes.

Strengthening IEC strategies

Increased effort will be given to improving local peoples' awareness of the Protected Area role and importance. Particular attention will be given to improving understanding of the park or reserve in terms of Zambia's natural heritage, and maintenance of vital natural resources within the local region. Increased awareness of the Protected Area will be used to promote local participation in conservation management.

Implementing optional small-scale development projects as a means to reduce threats

These small-scale projects are developed participatively by local communities and are implemented on the basis of the identified conservation needs of the Protected Area.

Sub-Strategy B1 – High Management Effectiveness, Financial Viable

The situation of these Protected Areas is ideal and this should be the target of all PAs with Exceptional Biodiversity and Lower Threat. The governance – state owned and controlled – is the preferred option although the involvement of local communities, tour operators and lodge owners in the management of the Protected Areas should be increased through the creation of Protected Area specific advisory committees. ZAWA should maintain its current investment in this area. Revenue should be maximized within the Limits of Acceptable Change (especially regarding tourism use) as specified in the Management Plans. The increase of day visitors should also be stimulated as well as the provision of camp sites within the national park. The management of such camp sites may be outsourced to the private sector.

Sub-Strategy B2 – High Management Effectiveness, Financial Unviable

These two Protected Areas are financial unviable but the Management is considered effective. Both of the Protected Areas are well funded, with the Frankfurt Zoological Society being a support partner to the North Luangwa and the World Bank and the Royal Norwegian Government supporting the Kafue National Park. The situation can, however, change quickly if donors withdraw or reduce their input. There is a need to address the financial viability of these PAs. In addressing the financial viability of the two Protected Areas, photographic tourism should be promoted. Advisory committees can be established allowing the greater involvement of the tour operators, lodge owners and local communities in the management of the Protected Areas. Public-private partnerships should be considered, but non-for-profit conservation agencies should be the referred private partners. This is due to the exceptional biodiversity contained in these PAs. For Kafue NP, it could be considered that a large blocks within the park be considered for PPPs, as the Park is too large for one partner. A specific study should be conducted on which parts of the Park is financially viable. If ZAWA accepts such a fragmentation policy for Kafue NP, the parts that are financial viable or will be in the near future, should be managed by ZAWA. ZAWA should maintain its current investment in these areas. In both of the Protected Areas, the threats are low and manageable, but the current levels of investment are high as a result of the assistance of donors. ZAWA should source for further funding in these areas through grants from donors or government. Effort should be made in increasing the income stream of these two Protected Areas through Tourism Concession Agreements and setting out Large Block Concessions. PPPs with private partners with experience in Protected Area management can be considered. Clear guidelines should be established on the carrying capacity of the National Parks so that tourism does not have a negative effect on the conservation of biodiversity.

Sub-strategy B3 – Low Management Effectiveness, Financial Unviable

These Protected Areas are financially unviable, with the minimum years that it would take for ZAWA to address the financial viability being 10 years, but the majority of these PAs will take 15 or more years to reach this target. It is also believed that the low Management Effectiveness scores of these PAs are closely linked to the lack of resources. In order to address this lack of financial and other resources, private partners should be sought and appropriate Public-Private Partnership

structures established. If these partnerships are established on customary land, the community should be included in such structures and considered as a major partner. For these Protected Areas potential private partners with experience in Protected Area management should be sourced. These partners should focus on Protected Area management and the partnership arrangements should outsource the management of lodges and tourism activities to the private sector in order to minimize the risk. These organizations should preferably be Conservation NGOs interested in taking over the responsibility of managing and financing Protected Areas for a long term period. Non-profit organizations would be preferable.

Strategy C:
High Biodiversity, Higher Threat
Objective: Containment of existing or potential threats to biodiversity and ecological processes

Management actions in addition to those of Strategy A:

In-depth follow-on inventory and studies

Basic inventories and research will have indicated subjects of further interest useful to management of the Protected Area, particularly in terms of threats and their most useful indicators. Monitoring the latter will be a priority. There will also be a need to obtain a greater understanding of local peoples' activities within the area or immediately around the Protected Area, especially their perception of the Protected Area, and their resource needs and availability, in order to develop appropriate management responses.

Conservation management plan

A specific plan is needed that focuses on obtaining a better understanding of the biodiversity and ecology of the Protected Area. Protection strategies will also be developed, including basic protection needs and projected responses to potential increases in threat that may be identified.

Strengthening research and ecological monitoring:

Special attention will be given to ensuring that existing and potential threats are well understood and minimised to acceptable levels. This will be achieved whenever possible with the full agreement and participation of local communities and their representatives. Emphasis should be placed on promoting local control of threats rather than recourse to legal repression. However, in cases where the threat is external to local communities and/or severe (e.g. mining), legal action may become necessary as a deterrent. Collaboration with other government and/or law enforcement agencies will be necessary in such cases.

Strengthened IEC strategies

Increased effort will be given to improve peoples' awareness of the threats to the Protected Area, and the negative consequences that may result. The targeted result will be a voluntary and positive change in local attitudes towards the Protected Area, with a commensurate reduction of negative pressure and/or increased participation in conservation activities. The selection of target groups will be an important factor in the success of the program. Besides working with the local public at large, there will be a need to improve awareness and attitudes among local decision-makers, traditional leaders and law enforcement agencies, depending on the messages that are to be transmitted.

Implementing optional small-scale development projects as a means to reduce threats

These small-scale projects will be developed participatively by local communities as a means to reduce threat.

Sub-Strategy C1 – Low Management Effectiveness, Financial Viable

This area is financial viable or close to reaching such a point, but Management Effectiveness is low. In order to increase management effectiveness, it is advised that a stronger cooperation be formed between the local communities (through their respective CRBs) and ZAWA. The structure can be formal or informal but the structure should be seen as one and all revenue should be retained at site level until such time as when a profit is realised.

Sub-strategy C2 – Low Management Effectiveness, Financial Unviable

These Protected Areas are financially unviable, with the minimum years that it would take for ZAWA to address the financial viability is 10 years, but the majority of these PAs will take 15 or more years to reach this target. It is also believed that the low Management Effectiveness of these PAs are closely linked to the lack of resources. In order to address this lack of financial and other resources, private partners should be sought and appropriate Public-Private Partnership structures established. If these partnerships are established on customary land, the community should be included in such structures and considered as a major partner. These Protected Areas should be advertised to the wider private sector in which the entire Protected Area is taken over by a profit-driven private partner. The tourism facilities inside the Protected Areas can also be managed by the same private partners thereby maximizing the return on investment. These areas will disappear if such steps are not taken and the private sector should be given any possible opportunity to turn these Protected Areas into viable Protected Areas. PPP arrangements can be extended to longer periods than 20 years, in order to allow the private sector to gain proper return on their initial investment.

Strategy D:
Exceptional biodiversity, higher threat
Objective: Containment of existing or potential threats to biodiversity and ecological processes, and improved knowledge of biodiversity and ecological processes in order to ensure their maintenance.

The management actions to be adopted are a combination of those adopted for Strategies B and C.

Sub-Strategy D1 – High Management Effectiveness, Financial Viable

The situation of these Protected Areas is ideal and this should be the target of all PAs with High Biodiversity and Higher Threat. However, there is a need for management to try and address the most important threats and minimising its impacts in the long term. Liuwa Plains National Reserve and Kasanka National Park are excluded from these governance strategies as they are already within Public-Private Partnerships. For Lower Zambezi NP: the governance – state owned and controlled – is the preferred option although the involvement of local communities, tour operators and lodge owners in the management of the Protected Areas should be increased through the creation of Protected Area specific advisory committees. ZAWA to continue its current management of this Protected Area, investment should be maintained and developments should be kept at its present level, no further tourism developments should be allowed, even if the carrying capacity has not been reached. This is necessary because of the exceptional biodiversity status of this Protected Area and the desire to maintain such diversity in as a pristine state as possible.

Sub-Strategy D2 – High Management Effectiveness, Financial Unviable

The Lochinvar NP is financial unviable and it is estimated that it will take 15 or more years for ZAWA to reach the target of financial viability of this PA. ZAWA has however, with this lack of resources, managed the PA effectively. The governance – state owned and controlled – is the preferred option although the involvement of local communities, tour operators and lodge owners in the management of the Protected Areas should be increased through the creation of Protected Area specific advisory committees. ZAWA should also set this PA as priority for donor-funding as the PA can quickly degrade with a long period of neglect. Public-private partnership can be considered but the partner should be a non-for-profit conservation NGO and the support partnership arrangement is a preferred option to the devolved management partnership. ZAWA to continue its present management of the Protected Area, as well as maintain the current investment into the area. Emphasis should be placed on the concessioning of Tourism Concession Agreements for both lodges and campsites. This Protected Area could possibly be made viable as a result of its proximity to Lusaka.

Sub-Strategy D3 – Low Management Effectiveness, Financial Unviable

These Protected Areas are financially unviable, with the minimum years that it would take for ZAWA to address the financial viability is 10 years, but the majority of these PAs will 15 or more years to reach this target. It is also believed that the low Management Effectivenss of these PAs are closely linked to the lack of resources. In order to address this lack of financial and other resources, private partners should be sought and appropriate Public-Private Partnership structures established. The preferred private partners should be non-for-profit conservation agencies. If these partnerships are established on customary land, the community should be included in such structures and considered as a major partner. For these Protected Areas potential private partners with experience in Protected Area management should be sourced. These partners should focus on Protected Area management and the partnership arrangements should outsource the management of lodges and tourism activities to the private sector in order to minimize the risk. These organizations should preferably be Conservation NGOs interested in taking over the responsibility of managing and financing Protected Areas for a long term period. Non-profit organizations would be preferable.

5.1.3.5 Monitor and Evaluate Progress

To measure the effectiveness of management progress, it is necessary to establish whether the management objectives of a PA are achieved. One method of measuring Protected Area management effectiveness was developed by the World Bank/World Wide Fund for Nature (WWF) Alliance for Forest Conservation and Sustainable Use. To evaluate progress towards this target, the Alliance developed a tracking tool to facilitate reporting known as Management Effectiveness Tracking Tool (METT).

The Zambia Wildlife Authority modifies the METT so that it could be used to measure management effectiveness in ZAWA-managed Protected Areas. The tool is known as the Management Effectiveness Tracking Tool for Protected Areas managed by ZAWA (METTPAZ). The tool is specifically designed to:-

a) Provide a harmonised reporting system for Protected Area assessment;
b) Supply consistent data to allow tracking of progress over time;
c) Be relatively quickly completed by Protected Area staff, so as not to be reliant on high levels of funding or other resources;
d) Provide a 'score';
e) Provide for alternative text answers to each question, strengthening the scoring system;
f) Be easily understood by non-specialists; and
g) Be nested within existing reporting systems to avoid duplication of effort.

Management is usually influenced by contextual issues; in the case of a Protected Area by its significance and uniqueness including the threats and opportunities that it faces. Evaluation must therefore look at all aspects of the management cycle, including the context within which management takes place. The results of evaluation can be fed back into different parts of the Management Cycle.

Management consists of several linked, iterative phases:-

a) Planning
b) Resource Allocation
c) Implementation
d) Monitoring and Evaluation
e) Feedback

The Framework (below) is based on the six elements of the Management Cycle:-

a) it begins with understanding the **context** of existing values and threats;
b) progresses through **planning**, and
c) allocation of resources (**inputs**), and
d) as a result of management actions (**processes**)
e) eventually produces products and services (**outputs**),
f) that result in impacts or **outcomes**.

The METTPAZ tool was designed to measure two components important in PA management:-

1. The Management Effectiveness of a Protected Area
2. The Threats and Pressures to a Protected Area

Overall management effectiveness for each Protected Area is based on six management components discussed in the table below.

Table 16. Management Components to Measure Management Effectiveness

Elements of evaluation	**Explanation**	**Criteria that are assessed**	**Focus of evaluation**
Context	**Where are we now?** Assessment of importance, threats and policy environment	– Significance – Threats – Vulnerability – National context – Partners	Status
Planning	**Where do we want to be?** Assessment of Protected Area design and planning	– Protected Area legislation and policy – Protected Area system design – Reserve design – Management planning	Appropriateness
Inputs	**What do we need?** Assessment of resources needed to carry out management	– Resourcing of agency – Resourcing of site	Resources
Processes	**How do we go about it?** Assessment of the way in which management is conducted	– Suitability of management processes	Efficiency and appropriateness
Outputs	**What were the results?** Assessment of the implementation of management programmes and actions; delivery of products and services	– Results of management actions – Services and products	Effectiveness
Outcomes	**What did we achieve?** Assessment of the outcomes and the extent to which they achieved objectives	– Impacts: effects of management in relation to objectives	Effectiveness and appropriateness

It is recommended that the METTPAZ is done at regular intervals (every 2 – 5 years, depending on funding) and that lessons learnt are incorporated into the management of Protected Areas.

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All these documents area available in their original format on the resource CD.

APPENDICES

Appendix I. Representation of Large Mammals in National Parks

	South Luangwa	North Luangwa	Luanbe	Lukusuzi	Nyika	Nsumbu	Mweru Wantipa	Lusenga Plain	Isangano	Lavushi Manda	Kasanka	Lochinvar	Blue Lagoon	Kafue	West Lunga	Mosi oa Tunya	Liuwa Plain	Sioma Ngwezi	Lower Zambezi
Vervet Monkey (also called Green, Tantalus or Grivet Monkey) *Cercopithecus pygerythus or C. aethiops)*	●	●	●	●		●	●	●		●	●	●	●	●	●	●		●	●
Blue Monkey (also called Samango Monkey) *Cercopithecus mitis*							●	●			●				●				
Moloney's Monkey *Cercopithecus albogularis*	●	●			●						●								●
Baboon *Papio* spp.	●	●	●	●		●	●	●			●	●	●	●	●	●	●	●	●
Side-striped Jackal *Canis adustus*	●	●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●
Wild Dog *Lycaon pictus*	●	●	●	●		●	●					●	●	●	●		●	●	●
Spotted Hyena *Crocuta crocuta*	●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	●
Leopard *Panthera pardus*	●	●	●	●	●	●	●	●		●	●		●	●	●	●	●	●	●
Lion *Panthera leo*	●	●	●	●		●	●	●	●	●	●		●	●	●	●	●	●	●
Cheetah *Acinonyx jubatus*	●	●	●	●		●					●		●	●	●		●	●	●
Elephant *Loxodonta africana*	●	●	●	●		●	●	●	●	●	●			●	●	●		●	●
Black Rhinoceros *Diceros bicornis*		●																	
Zebra *Equus burchelli*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Hippopotamus *Hippopotamus amphibious*	●	●	●	●		●	●		●	●	●	●	●	●	●	●		●	●
Giraffe *Girriffa camelopardelis angolensis*																●		●	
Thornicroft's Giraffe *Girriffa camelopardelis thornicrofti*	●		●																
Yellow-backed Duiker *Cephalopus silvicultor*						●	●	●		●	●			●	●				
Blue Duiker *Cephalopus monticola*					●	●	●	●						●	●				
Common Duiker *Sylvicapra grimmia*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Red Forest Duiker *Cephalopus natalensis*					●														
Steinbok *Raphicerus campestris*														●				●	
Sharpe's Grysbok *Raphicerus sharpei*	●	●	●	●		●	●	●		●	●	●	●	●		●			●
Oribi *Ourebia ourebi*	●		●	●								●	●	●	●		●	●	●

	South Luangwa	North Luangwa	Luanbe	Lukusuzi	Nyika	Nsumbu	Mweru Wantipa	Lusenga Plain	Isangano	Lavushi Manda	Kasanka	Lochinvar	Blue Lagoon	Kafue	West Lunga	Mosi oa Tunya	Liuwa Plain	Sioma Ngwezi	Lower Zambezi
Klipspringer *Oreotragus oreotragus*	●	●		●	●	●	●	●		●					●				
Reedbuck *Redunca arindinum*	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
Common Waterbuck *Kobus ellipsiprymnus ellipsiprymnus*	●	●	●	●												●		●	●
Defasso Waterbuck *Kobus ellipsiprymnus crawshayi*						●	●	●	●	●	●		●	●	●				
Puku *Kobus vardoni*	●	●	●	●		●	●	●	●	●	●			●	●			●	
Impala *Aepyceros melampus*	●	●	●	●		●	●					●		●	●			●	●
Roan Antelope *Hippotragus equines*	●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	●	●
Sable Antelope *Hippotragus niger*	●			●		●	●	●		●	●		●	●	●			●	●
Tsessebe *Damaliscus lunatus*																	●	●	
Lichtenstein's Hartebeest *Alcelaphus lichtensteini*	●	●	●	●		●	●	●	●	●	●			●	●				●
Blue Wildebeest *Connochaeres taurinus taurinus*	●	●	●●	●								●		●			●	●	
Cookson's Wildebeest *Connochaeres taurinus cooksoni*	●	●	●																
Bushbuck *Tragelaphus scriptus*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●
Sitatunga *Tragelaphus spekei*						●	●				●			●	●				
Greater Kudu *Tragelaphus strepsiceros*	●	●	●	●								●	●	●				●	●
Eland *Taurotragus oryx*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●
Buffalo *Syncerus caffer*	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
Black/Bangweulu Lechwe *Kobus leche smithemani*									●[1]										
Red/Zambezi lechwe *Kobus leche leche*														●			●	●	
Kafue Flats/Brown lechwe *Kobus leche kafuensis*												●[1]	●[1]						

[1] Only seasonally enters these National Parks

Appendix II Representation of Globally Threatened Bird Species of Birds in National Parks in Zambia

BIRDS	South Luangwa	North Luangwa	Luanbe	Lukusuzi	Nyika	Nsumbu	Mweru Wantipa	Lusenga Plain	Isangano	Lavushi Manda	Kasanka	Lochinvar	Blue Lagoon	Kafue	West Lunga	Mosi oa Tunya	Liuwa Plain	Sioma Ngwezi	Lower Zambezi
Madagascar Squacco Heron *Ardeaola ralloides*	●					●						●							
Slaty Egret *Egretta vinaceigula*												●	●	●	●	●	●	●	●
Shoebill *Balaeniceps rex*						[2]●	●[1]				●[1]								
Lesser Flamingo *Phoeniconaias minor*		●				●	●					●		●		●			
Cape Vulture *Gyps coprotheres*												●	●	●					
Lappet-faced Vulture *Torgos tracheliotus*	●	●			●	●		●			●	●	●	●	●	●	●		●
Pallid Harrier *Circus macrourus*	●				●						●	●	●	●		●			●
Greater Spotted Eagle Aquila clanga	●	●																	
Lesser Kestrel *Falco naumanni*	●			●	●						●	●	●	●		●	●		●
Taita Falcon *Falco fasciinucha*																●			
Corn Crake *Crex crex*	●				●						●		●	●		●			
Wattled Crane *Grus carunculatus*	●				●		●	●	●		●	●	●	●	●		●	●	
Great Snipe *Gallinago media*	●									●		●	●	●	●	●			
African Skimmer *Rynchos flavirostris*	●	●	●			●						●	●	●		●	●		●
Black-cheeked lovebird *Agapornis nigricens*														●					
Chaplin's Barber *Lybius chaplini*													●	●					
Blue Swallow *Hirundo atrocaerulea*					●														
Papyrus Yellow Warbler *Chloropeta gracilirostris*																			

[2] Very rarely seen and non-breeding in these areas

Appendix III. Criteria for Identifying Stakeholders in Protected Area Management

Many stakeholders might claim a legitimate voice in determining how a protected area is established and managed. To determine the relative importance of the various claimant stakeholders, the following criteria might be useful:-

- The capacity to contribute to protected area management;
- Existing rights to land or natural resources;
- Continuity of relationship (for example, residents versus visitors);
- Unique knowledge and skills for managing the resources at stake;
- Potential losses and damage incurred in the management process (opportunity costs);
- Historical and cultural relations with the resources at stake;
- Degree of economic and social reliance on such resources;
- Degree of effort and interest in management;
- Equity in the access to resources and the distribution of benefits from their use;
- Compatibility of the interests and activities of stakeholders with the national protected areas=s system plan; and
- Present or potential impact of stakeholder activities on the resource base.

Consideration of these criteria can help determine which primary stakeholders are and which are secondary, leading to different voices in decision-making and different roles, rights and responsibilities in protected area management. Such decisions often are best taken at the individual protected area level.

Source: Borrini-Feyerabend and Brown, 1997.

1. INTRODUCTION

window of hope to securing the future of Zambia's Protected Areas with the biological diversity occurring therein and the development of quality infrastructure is being seen opening in the establishment and implementation of effective Public-Private-Partnerships (PPPs). The Government of the Republic of Zambia gets credit for having timely risen to the occasion and not only has it developed but has also launched a policy to guide the creation and implementation of PPPs in the country. This innovative approach seeks to tap private finance to support infrastructure development and provision of service to the public. It is aimed at augmenting, and in many cases fully substituting Government revenue, which by any measure fails to meet the nation's competing demands. This directly aids the Government in fulfilling its obligation to both Zambian citizens and the global community at large. Natural resources managed, by and large for public (benefit) good, fall in the service category.

2. CONSTITUENTS OF A PARTNERSHIP ENTITY

Following a well thought and carefully guided process, the Public and the Private Sector engage in dialogue with a view to together establishing a mutually acceptable and functional legal entity. A variant to this assemblage (PPP) incorporates the local community occupying land or who are custodians of land/area that is the subject of planned management intervention.

The Public depicts Government through its appropriate principal authority e.g. Ministry, Department, Commission, District Council etc while the Private represents organisations/institutions which may invariably include corporate bodies such as companies, Non-Governmental Organisations, Civil Society Organisations (CSOs) or can be an individual or a group of individuals with good standing in society owning reputable businesses. In many a situation, the Local Authority (District Councils) are considered as a separate interest group so are NGOs and CSOs distinguished from common business people or business concerns. It is desirable that the two therefore have their own independent representative. In the focal area where there are several District Councils, these will together provide one representative and so will NGOs and CSOs. On the Board/Trust, NGOs/CSOs representative serves to ensure that the quest for profit does not disadvantage conservation or compromise sound Protected Area management.

Local communities are also represented through their democratically elected leaders employing a local election system. In a catchment or focal area that encompasses several Districts and several chiefdoms it is advisable that communities organise themselves in chiefdoms according to their respective Districts. If representation for

communities according to Districts still produces a number more than the recommended, Districts that present similarities in resource distribution or ethnicity (tribal) are grouped together.

The described interest groups namely the Public, Private, Community and NGOs/CSOs come together to form one management entity to be called by a befitting title accordingly. Such a body can be a Management Board or a Management Trust. Depending on the situation and circumstance the composition of any management entity may vary from place to place and depending on the resource to be managed. It may therefore not be surprising that Government and the Private Sector may together alone form a partnership and that Government, Private Sector and Community can also together form an entity while still some partnerships may include NGOs/CSOs.

The bottom line to any partnership is that a legal entity is established and that Government delegates full powers governing the management of identified resources or provision of particular services or undertaking specified developmental tasks such as infrastructure development including its operations.

The essence of any PPP is to provide relief to Government or a public body leading to these requiring less or no finances to mobilise to have anything done.

3. THE FOUNDING DOCUMENT & REGISTRATION

Once parties operating or to operate in any particular focal area are identified, and they agree to cooperate for a common cause, these commence discussions of ideals that will bind them together and which will guide their operations as one entity. These shared ideals are developed into Articles of Association, Constitution or Trust Deed which ever the case may apply.

Following all the parties' approval of the contents of the Articles of Association/Trust Deed which includes the business name, they each sign to confirm acceptance. Thereafter the Chairperson (elected from among the signatories) submits details of each representative along with the signed Articles of Association/Trust Deed to the appropriate Government office (Registrar) for registration as a legal entity - for the entity to assume legal personality.

4. THE PARTNERSHIP ENTITY

This can either be a Management Board or a Trust depending on the members' resolution on the matter but in either case registered as a Company Limited by Guarantee.

Any entity so established will draw equal representation from principal parties coming together. A case where it is Government and the Private Sector alone both parties shall

provide equal numbers of representatives. However, where partnership hinges on managing resources on customary land, it is desirable that Government gives less weight than the Community and Private Sector. In the latter case Government is present on the Board or Trust to provide timely advice on policy and legislation. Any other interest groups desirable and appropriate to be joined to the partnership shall provide one representative each (c.f. Fig. 1).

In any given situation there should be no more than three representatives of principal parties and no more than one representative of other parties except in circumstances where a focal area comprises several resources that are under different Government Agencies, in which case due consideration must be given to have principal authorities (Government Agencies) represented by one person each but not exceeding two representatives for Government overall.

5. GENERAL MANAGEMENT PLAN AND BUSINESS PLAN

a) General Management Plan (GMP)

A General Management Plan is a tool that is used to guide the management of the area including resources occurring therein. It is developed for an area whose boundaries are clearly delineated and once approved by appropriate authorities, a GMP remains in force for a minimum of **three years** before it can be reviewed.

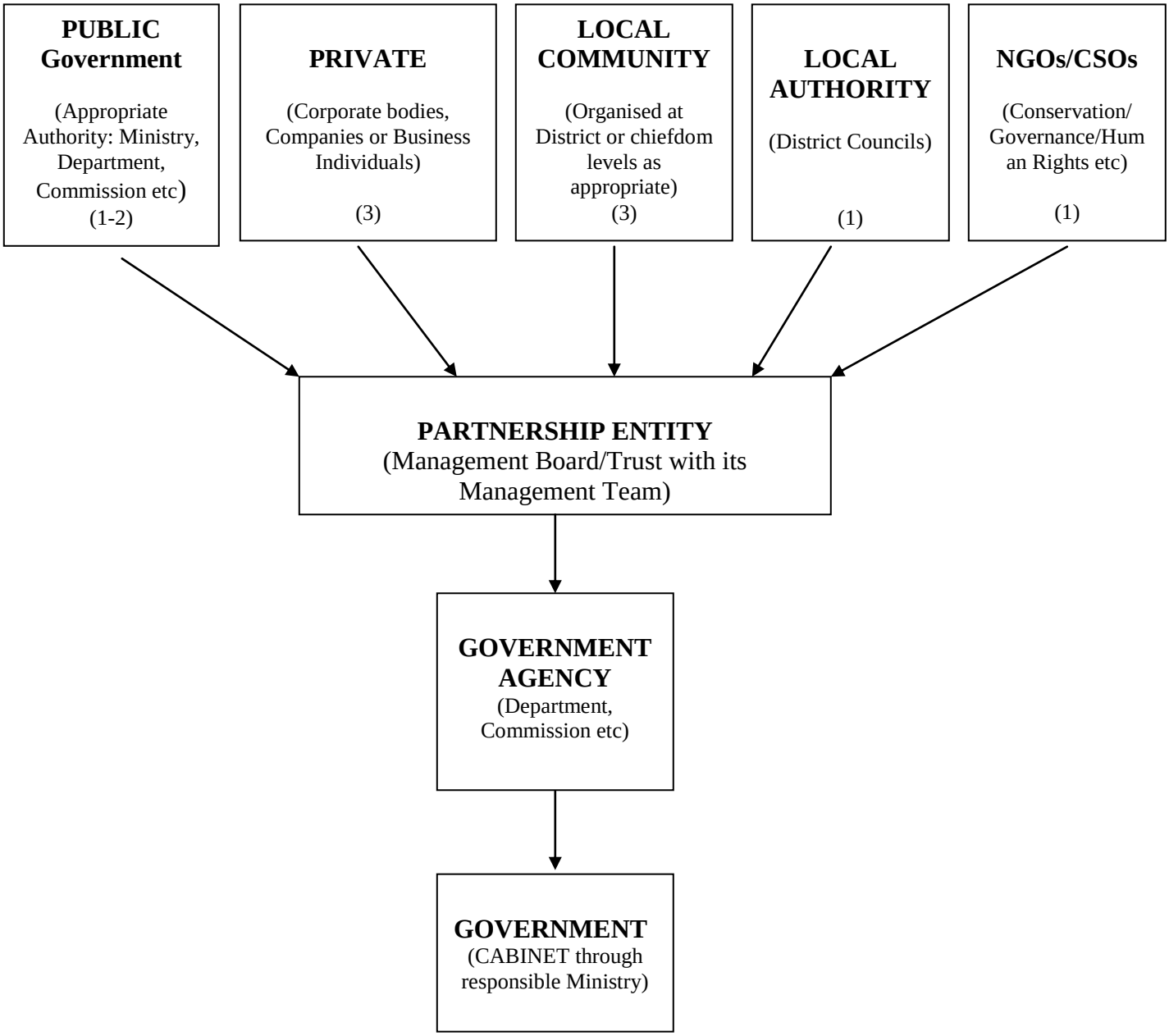
b) Business Plan (BP)

A Business Plan is a tool that guides financial management and operations in an area. It shows how revenue will be generated, how much is expected and how such revenues together with incomes from other sources will be appropriated to different tasks. A BP shows who else contributes to costs or who simply has a stake in the area and how that stake translates into shared responsibilities.

The viability of any Partnership entity will much depend on how the entity will much able be to generate income from its own resources and elsewhere to cover costs. A positive BP renders much credence, and is therefore a major indicator to the sustainability of a partnership undertaking. It is important to note that motivation to delegate any management responsibility, by Government or its agent, to a partnership entity is substantially based on (Business Plan) the assurance that the established entity will be able to mobilise adequate financial (and human) resources that meet costs at the same time make reasonable profit.

It is the responsibility of directors of the partnership entity to develop a BP which they discuss with the local communities and the Government for them to provide input. A BP is developed and implemented over a period of **five (5) years** maxim after which it requires review.

Figure 1: A Structure of a typical Partnership Entity for a Protected Area on customary land



6. MANAGEMENT AGREEMENT

The Board/Trust negotiates with Government or its agent and local communities an agreement to manage the described area. In the Agreement, Government and local community representatives spell out conditions on which they delegate their powers to the established Board/Trust. Both the duration of the Management Agreement and benefit sharing arrangements are clearly detailed in the agreement. It is recommended that a Management Agreement is signed for a period of not less than **twenty (20) years** before it can be reviewed by parties. Parties to the Agreement are the Board/Trust, Local Communities and Government or its agent.

Notwithstanding the twenty-year period recommended or agreed, the Management Agreement may be terminated any time before it officially lapses if and when occurrence of serious incidents of defaults become evident at performance reviews taking place every five years.

7. MANAGEMENT TEAM

a) Team Leader and Followers

The Board/Trust recruits a management team headed by a Team Leader (Park/Project Manager) who reports to the Chairman of the Board/Trust. Senior members of the team are similarly recruited by the Board and these are all given contracts according to the relevance of respective positions to the Board/Trust. Junior staff are recruited by the Management Team under the hand of the Board/Trust. The Board/Trust achieves its objectives through its management team.

b) Budgets and Workplans (BWps)

The Management team develops annual Budgets and Work Plans and submits to the Board/Trust for approval. The BWps are derivatives of approved Business Plan for the area. They ensure transparency and accountability on funds provided to the Board/Trust. Financial audits are conducted following completion of a financial year, and resultant reports become public documents that are availed to both Government and respective local communities.

Appendix V. Guidelines for involving Local Communities in Protected Area Management

- Identify the local communities and other groups and individuals who have a stake in the Protected Area, and assess the power relationships of the various interest groups to determine patterns of resource use. On the basis of this assessment, enable local residents to derive benefits from the Protected Area in proportion to their investment in the area and its conservation objectives.
- Build sensitivity towards the inequities within and between communities and make special attempts to empower the underprivileged, including women.
- Ensure that the benefits of the Protected Area to the local community are equal to or greater than the potential benefits from other uses of the Protected Area (in other words, develop means of compensating local stakeholders for their opportunity costs). This may require economic incentives provided by other stakeholders with an interest in the area (for example, the tourism industry.
- Specify the functions, powers, rights and responsibilities of local communities in relation to the Protected Area; acknowledge skills, educational and cultural gaps that might exist, and plan for incremental devolution of responsibilities, along with training.
- Where the local people are empowered to protect and utilise resources from Protected Areas, also raise their awareness of broader environmental issues through the implementation of conservation education programmes.
- Develop institutional structures at local and wider levels to facilitate community participation in various Protected Area management issues. Provide legislative and policy support to build a strong foundation for such arrangements. Provide firm legal backing. Informal participatory conservation initiatives can be powerful and successful, but often do not last long. Legal backing, through statutory or customary law or both, can be one element in providing such long-term sustenance.
- Develop appropriate attitudes of Protected Area staff towards local people, replacing the traditional police role with a more cooperative and collaborative role.
- Select the right person to lead the local-level management committee. Many real leaders may not hold any political position; so select the leader through a democratic means, rather than through nomination b the Protected Area managers.
- Initiate a process of dialogue. Often, genuine and open dialogue among various right holders and stakeholders are missing, leading to misunderstandings and lost opportunities to bring their respective strengths together. Such regular dialogue at local, regional and national levels is needed to reduce stereotypes, increase understanding and arrive at mutually acceptable ways forward.
- Set up accessible and transparent dispute-resolution mechanisms. Disputes among community members, or between communities and others, including official agencies, are commonplace in participatory conservation initiatives. Transparent and accessible mechanisms to resolve such disputes, including third-party resolution, are a good investment.
- Ensure a public right to information. Secrecy about conservation and development programmes (including budgets) is one major reason for suspicion and misunderstanding. Citizens, particularly local communities, must have full access to all aspects of the conservation initiative and to development inputs that have a bearing on it.
- Adapt to site-specific situations. Given the enormous ecological, cultural, economic and political diversity within which Protected Areas are located, a uniform legal and programmatic approach for an entire country or region is usually counterproductive. Protected Area policies and programmes need to be open and sensitive to local conditions. Built-in flexibility should promote creativity, but also contain checks against misuse.
- Treat conservation as a process, not a project. Short-term projects aimed at achieving participatory conservation are often unsuccessful because they try to force an artificial pace or achieve impractical targets. Experience from successful community-based initiatives strongly suggests that a long-term process is important, keeping in mind the varying pace of communities, the need to build sustainable institutional arrangements and so on.

Source: Kothari et al (1997) and Kothari (2004).