



KAVANGO ZAMBEZI TRANSFRONTIER CONSERVATION AREA

MASTER INTEGRATED DEVELOPMENT PLAN

2015 - 2020

ACKNOWLEDGEMENTS

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ACRONYMS

CBEDF:	Community Based Enterprise Development Facility
CBNRM:	Community Based Natural Resource Management
CBT:	Community Based Tourism
CCCD:	Community Centred Conservation and Development
CHA:	Controlled Hunting Areas
CITES:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COSO:	Committee of Senior Officials
CRIDF:	Climate Resilient Infrastructure Development Fund
DFID:	Department for International Development
GMA:	Game Management Area
GPS:	Geographical Positioning System
HWC:	Human Wildlife Conflict
IDP:	Integrated Development Plan
IRDNC:	Integrated Rural Development and Nature Conservation
IUCN:	International Union for Conservation of Nature
KAZA:	Kavango Zambezi
KfW:	Kreditanstalt für Wiederaufbau
MIDP:	Master Integrated Development Plan
NP:	National Park
NTFP:	Non Timber Forest Products
OKACOM:	The Permanent Okavango River Basin Water Commission
PPF:	Peace Parks Foundation
RAMSAR:	The Ramsar Convention on Wetlands
RETOSA:	Regional Tourism Organisation for South Africa
SADC:	Southern Africa Development Community
SARAP:	Southern African Rock Art Project
TFCA:	Transfrontier Conservation Area
UNITA:	The National Union for the Total Independence of Angola
WDA:	Wildlife Dispersal Area
WMA:	Wildlife Management Area
ZAMCOM:	The Zambezi Watercourse Commission

EXECUTIVE SUMMARY

Introduction

This is the Master Integrated Development Plan for the Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA). The Plan highlights the global relevance of transfrontier conservation areas in their ability to promote and maintain large-scale ecological processes.

As the largest of its kind, the KAZA TFCA is an extraordinary example of international conservation cooperation. Five governments have shown their commitment and enthusiasm in developing their own National Integrated Development Plans, and in supporting the development of this five-year Master Integrated Development Plan (MIDP).

By adopting such a unified approach, KAZA TFCA's many stakeholders have the best chance of adapting to climate change, of linking protected areas, and of addressing the many challenges posed by incompatible land use and human encroachment.

The MIDP is based upon analysis of the five National Integrated Development Plans and the major development needs of the KAZA TFCA. These development needs can be summarised as natural resource management, tourism, infrastructure, land use, livelihoods and transboundary political cooperation. By applying geographic analysis to the KAZA TFCA, six Wildlife Dispersal Areas (WDAs) have been identified and are discussed in detail in the MIDP. Each of these WDAs creates essential links between adjacent land use types and across international boundaries. These six WDAs are in turn supported by two projects that have been designed for their applicability across the entire KAZA TFCA.

With a five-year timeframe and an indicative budget of US\$92 million, the Master Integrated Development Plan provides clear direction for the KAZA TFCA.

Transfrontier Conservation Areas

Transfrontier Conservation Areas (TFCAs) have won worldwide admiration in both the conservation and tourism fraternities. This is largely due to a realisation that conservation initiatives need not concentrate solely on species and ecosystems in protected areas, but also on the conservation and maintenance of large-scale ecological processes that extend beyond the boundaries of protected areas.

By creating larger connected areas, TFCAs enable wildlife to move seasonally and make better use of a variety of habitats. They also help wildlife to adapt to climate change, enabling movement away from climate-stressed areas. This is particularly important in southern Africa where climate change may lead not only to drier conditions but also to changes in precipitation patterns that will affect the distribution of plants and animals, both spatially and temporally.

Kavango Zambezi Transfrontier Conservation Area

The Kavango Zambezi (KAZA) TFCA is an initiative of the Governments of Angola, Botswana, Namibia, Zambia and Zimbabwe. It is situated in the Okavango and Zambezi river basins where the borders of the five countries converge and, is one of eighteen (18) TFCAs of the Southern African Development Community.

This document is the Master Integrated Development Plan for the KAZA TFCA. It provides the strategic direction for development of the KAZA TFCA over the next five years and is based upon consultation of the five National Integrated Development Plans and an analysis of the main development needs of the KAZA TFCA. These development needs have been identified as natural resource management, land use, tourism, livelihoods and, infrastructure.

Land Use and Natural Resource Management

Covering nearly 520,000km², the KAZA TFCA is the largest transfrontier conservation area in the world. The area comprises 20 National Parks, 85 Forest Reserves, 22 Conservancies, 11 Sanctuaries, 103 Wildlife Management Areas and 11 Game Management Areas. This gives a total of 371,394 km² under some form of wildlife management, leaving 148,520 km² for agricultural use including rangeland.

The huge variety of land uses presents a major challenge as adjacent areas often have conflicting and incompatible uses. In addition, many of the areas suffer from outdated or non-existent information, which hampers planning and management.

KAZA TFCA's people and their livelihoods

KAZA TFCA's total population is estimated at 2,677,086, giving an overall population density of 5.15ppkm², with the majority of people living in the 29% of land that is not protected for wildlife. In the last two decades, population growth has tended to be high, averaging 2% per annum and, this has given rise to human encroachment and increased human-wildlife conflict especially where the unprotected land borders protected land.

A 2014 livelihood baseline survey highlights the extent to which communities derive their livelihoods from the immediate external environment. However, it also highlights that this environment is affected by trends, shocks and seasonality that can lead to the destruction of assets both directly and indirectly. The most common threats to livelihood assets are human wildlife conflict, human health, animal health, floods and droughts, as well as variable rainfall.

Tourism

There has been a general trend of growth in international arrivals to KAZA TFCA countries since 1995. This is due in part to the three World Heritage Sites that are found within the KAZA TFCA – Mosi-oa-Tunya / Victoria Falls, the Tsodilo Hills and, the Okavango Delta. KAZA TFCA also has over 620 other sites that have been recorded and mapped, including monuments, archaeological, historical, religious and anthropological areas of interest.

However, these lesser sites receive very few tourists and generally suffer from underinvestment and unfulfilled potential.

Infrastructure

A few major roads cross the KAZA TFCA, serving the tourist, resident and commercial markets. However, access within many of the protected areas is reliant upon tracks that date back to military operations and liberation struggles. Many of these tracks are poorly maintained and deteriorate during annual rainy seasons, restricting the movement of tourists and residents, and frustrating socio-economic development within the KAZA TFCA.

International visitors, constrained by time, often choose to travel by air rather than by road, but travelling between the various countries is difficult, time consuming and expensive.

Governance and legal frameworks

At a macro level, the KAZA TFCA and its partner countries are signatory to the 1999 SADC Protocol on Wildlife Conservation and Law Enforcement, and the 1997 SADC Wildlife Policy and Development Strategy, as well as a great many other protocols and conventions.

Yet, despite being signatory to many or all of the same conventions, a 2013 policy harmonisation review highlights that there is variation in the management and conservation of natural resources between the five partner countries. Tourism development, policies, and practices also vary across the KAZA TFCA landscape. This variation includes conservation status of the different protected areas, the level of development, management regimes, management capacities and governing policies, legislation, and land use practices.

Locating the development needs

In reviewing the development needs of the KAZA TFCA, it was noted that two types exist. Some are geographically specific; others are more general and relate to the KAZA TFCA as a whole. The six geographically specific areas that have been identified are referred to as Wildlife Dispersal Areas and are located in the following parts of the KAZA TCFA:

- Kwando River
- Zambezi-Chobe floodplain
- Zambezi-Mosi Oa Tunya
- Hwange-Kazuma-Chobe
- Hwange-Makgadikgadi-Nxai
- Khaudum-Ngamiland

Addressing the development needs

The Wildlife Dispersal Areas emphasise the inter-connectedness of the various protected areas. The Master IDP identifies location-specific challenges and proposes a range of approaches to help address those challenges – these include land use mapping, infrastructure development, socio-economic investments, policy harmonisation, transboundary collaboration, as well as support to natural resource management.

The KAZA TFCA-wide development needs have been divided into two Support Projects that will be applicable in each of the six Wildlife Dispersal Areas but also throughout the wider KAZA TFCA. They are:

- Tourism investment facilitation
- Community based enterprise development facility

Budget

The total budget required for the next phase in the proposed development of transboundary activities in the KAZA TFCA is summarised below.

Wildlife Dispersal Area Name or Project Description	Budget (US\$)
Kwando River WDA	21,225,000
Zambezi-Chobe WDA	15,220,000
Zambezi-Mosi oa Tunya WDA	14,240,000
Hwange-Kazuma-Chobe WDA	10,970,000
Hwange-Makgadikgadi-Nxai Pan WDA	11,745,000
Khaudum-Ngamiland WDA	12,705,000
Tourism investment facilitation project	595,000
Community Based Enterprise Development Facility	6,000,000
Total	92,700,000

Conclusion

In developing this Master Integrated Development Plan, the KAZA TFCA Secretariat has undertaken broad consultation to ensure that the MIDP is aligned with the National Integrated Development Plans, Strategic Action Plan and other guiding documents. It has sought to distinguish between activities that are the responsibility of national governments, and those that are truly transboundary in nature. The KAZA TFCA Secretariat will use this Master IDP as the basis upon which to secure further support for the continued development of the KAZA TFCA.

1. INTRODUCTION

1.1 Background and Location

The creation of transfrontier conservation areas in general and in southern Africa in particular, is an initiative that has won worldwide admiration in both the conservation and tourism fraternities. This is largely attributed to the increasing recognition that conservation initiatives need not concentrate solely on species and ecosystems in protected areas, but also on the conservation and maintenance of large-scale ecological processes that operate at spatial scales that extend beyond the boundaries of protected areas and international boundaries. Examples of large-scale processes include animal migrations and seasonal movements across habitats, dispersal of plants, the carbon cycle, and hydrological functioning of river systems and the ecosystems associated with them.

It is in that context that transboundary conservation which attempts to link protected areas within and across political boundaries and also promotes the management of farmed landscapes and the natural resources they contain, is important in both ecological and tourism development terms. The creation of larger and connected conservation areas enables all types of wildlife to seasonally move and make better use of a variety habitats, than would be otherwise possible.

It is also a climate change compatible initiative in the sense that connectivity between conservation areas enables both animals and plants to cope with climate change through movement. In southern Africa, climate change may lead not only to drier conditions but precipitation patterns could also change and affect the distribution of plants and animals, both spatially and temporally.

The Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) is a conservation and development initiative of the Governments of Angola, Botswana, Namibia, Zambia and Zimbabwe. It is situated in the Okavango and Zambezi river basins where the borders of the five countries converge.

Creation of the KAZA TFCA – one of the eighteen (18) TFCAs of the Southern African Development Community based on the Protocol on Wildlife Conservation and Law Enforcement of 1999 –has been a thorough and participatory process, coordinated by the KAZA TFCA Secretariat. Key stages in its development can be summarised as follows:

- Establishment of the KAZA TFCA dates back to 29th May 2003 when the Tourism Ministers from Angola, Botswana, Namibia, Zambia and Zimbabwe held a meeting in Luanda, Angola and agreed in principle to establish a major new TFCA in the Okavango and Upper Zambezi River Basins. The emphasis was to be on conservation and tourism development.
- In July 2003, at Katima Mulilo, Namibia, the Ministers defined key elements of the KAZA TFCA programme.

- A Pre-Feasibility Study was commissioned to formulate an Agenda of Action for taking the KAZA TFCA development process forward. The Study lasted from October 2005 to August 2006 and was undertaken by the Transfrontier Conservation Consortium, with financial and technical support from the Peace Parks Foundation.
- Upon review of the Study and resolutions arising from the deliberations that started in 2003, the five partner countries signed a Memorandum of Understanding on 7th December 2006. This created the necessary platform for formal negotiations to establish the KAZA TFCA.
- In June 2008 a document outlining the organizational and operational arrangements for the development of the KAZA TFCA was adopted by the KAZA TFCA Ministers and a 3 year strategic planning process was begun. A series of planning sessions, participatory and technical meetings culminated in the production of the first draft Strategic Plan. Following review by the Committee of Senior Officials and the Committee of Ministers, a third draft of the Strategic Plan was produced in October 2010.
- To benchmark the KAZA TFCA against other TFCAs in SADC, the Strategic Plan was audited using a Performance Auditing Management System.
- The Committee of Ministers adopted and ratified the final Strategic Plan in February 2011, in Katima Mulilo, Namibia.
- The Organizational and Operational Structure Document for the KAZA TFCA and the Strategic Plan formed the basis for drafting the KAZA TFCA Treaty, which was signed by the Presidents of the five partner countries on 18th August 2011, in Luanda, Angola, alongside the SADC Heads of State Summit.

Covering nearly 520,000km², the KAZA TFCA is the largest transfrontier conservation area in the world. The KAZA TFCA comprises more than 20 National Parks, 85 Forest Reserves, 22 Conservancies, 11 Sanctuaries, 103 Wildlife Management Areas and 11 Game Management Areas, as shown in Figure 1. This gives a total of 371,394 km² under some form of wildlife management, leaving 148,520 km² for agricultural use including rangeland.

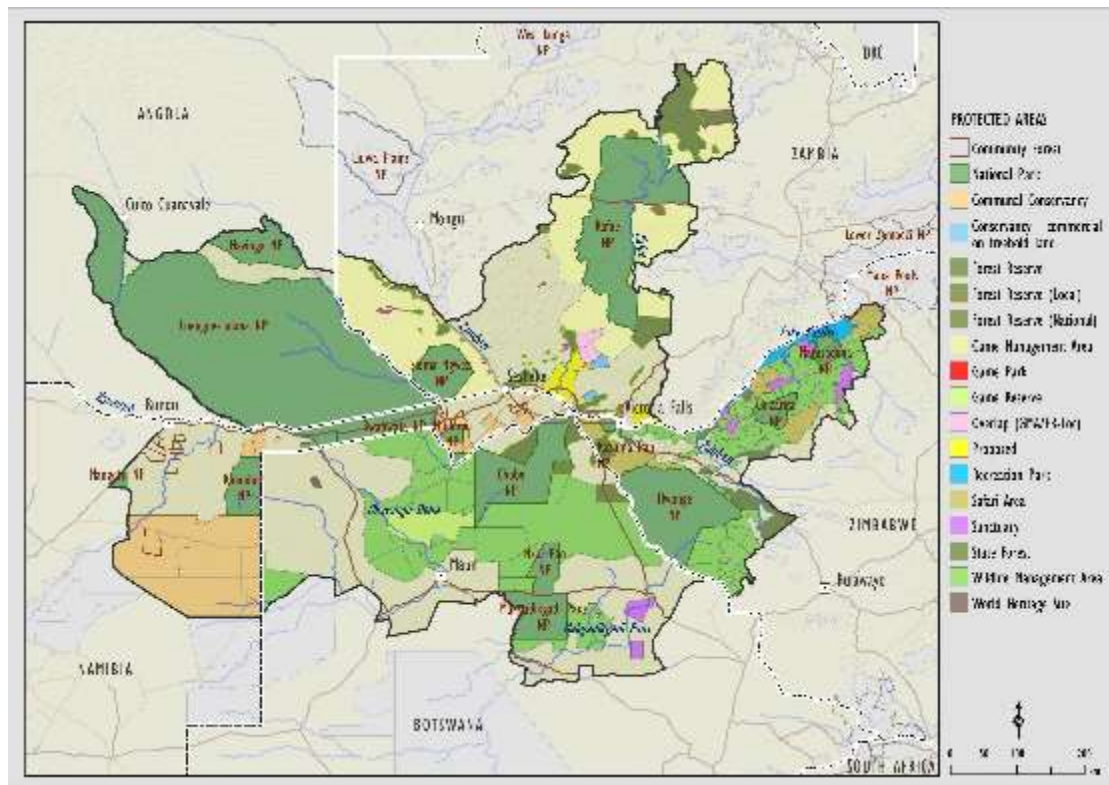


Figure 1: Area covered by KAZA TFCA and types of land use

1.2 Vision, Mission and Objectives of the KAZA TFCA

SADC Vision

SADC's TFCA programme provides the vision upon which all other regional TFCAs are anchored. This vision is to be 'a model of community centred, regionally integrated and sustainably managed network of world class transfrontier conservation areas'. KAZA TFCA's specific vision, mission and objectives complement the SADC mission and are laid out below.

KAZA TFCA Vision

To establish a world-class transfrontier conservation area and tourism destination in the Okavango and Zambezi River Basin regions of Angola, Botswana, Namibia, Zambia and Zimbabwe within the context of sustainable development.

KAZA TFCA Mission

To sustainably manage the Kavango Zambezi ecosystem, its heritage and cultural resources based on best conservation and tourism models for the socio-economic wellbeing of the communities and other stakeholders in and around the eco-region through harmonisation of policies, strategies and practices.

Objectives

- o To manage shared natural and cultural heritage resources and biodiversity to support healthy and viable populations of wildlife species.

- To promote a network of interlinked protected areas to safeguard the welfare and continued existence of migratory wildlife species.
- To provide opportunities, facilities and infrastructure to transform the area into a premier tourist destination.
- To facilitate tourism across the international borders.
- To implement programmes to enhance the sustainable use of natural and cultural heritage resources to improve the livelihoods of resident communities.
- To facilitate a healthy and competitive economic environment.
- To share experiences, resources and expertise across international borders.
- To promote the management of natural and cultural heritage resources and ensure the protection and sustainable use of species and ecosystems.
- To build capacity for and within the area.
- To promote and facilitate transboundary animal disease prevention, surveillance and control.
- To promote research to increase the knowledge base for the area.
- To mainstream emerging environmental and social issues, including climate change and HIV/AIDS.

1.3 Purpose of the Master IDP

The Master IDP is a five-year strategic plan that will guide development of the KAZA TFCA at a regional level, by:

- Providing for sustainable conservation and management of transboundary natural resources;
- Promoting harmonisation of policies, strategies and practices for managing the shared natural resources across the KAZA TFCA landscape;
- Providing for the development of infrastructure which will allow economic integration, specifically the promotion of regional tourism products across boundaries and private sector investment;
- Providing benefits to local communities within and adjacent to key conservation areas within the KAZA TFCA through the development of tourism and the protection of natural and cultural resources.

To achieve this, the Master IDP pulls together information from the Treaty, the Strategic Action Plan, the Pre-Feasibility Study, the Operational Framework, five National Integrated Development Plans, the Policy Harmonisation Report, the Financial Sustainability Strategy, the Livelihoods Baseline, various SADC reports, and many other documents.

In planning for the next phase of development of the KAZA TFCA, the Secretariat contracted a team of thematic experts to undertake situational analyses of the major development needs of the KAZA TFCA. Analyses were undertaken in the following areas:

- Natural resources management
- Land use
- Tourism
- Livelihoods

- Infrastructure

Each thematic expert undertook a literature review and examination of the national integrated development plans for the five partner countries. Meetings and discussions were held with relevant stakeholders, and field visits undertaken where appropriate.

In addition to conducting situational analyses, each thematic expert had to propose projects for the next phase of development of KAZA TFCA. The Secretariat reviewed the proposals submitted by the thematic experts and approved them on the basis of their relevance. The Master IDP brings together the proposals that have been approved for the next phase of development of the KAZA TFCA. In so doing, the Master IDP serves as the strategic plan for use by the KAZA TFCA Secretariat, the partner countries, and any organisations seeking to support the KAZA TFCA in its continued growth and development.

2. KAZA TFCA IN CONTEXT

2.1 Description

In 2003, when the first discussions about the KAZA TFCA were held, transfrontier conservation areas were still a relatively new conservation paradigm, promoting peaceful relations and new levels of cooperation between participating countries. In making the commitment to pursue the establishment of the KAZA TFCA, the five partner countries recognized a suite of benefits that will accrue to each country and to the region as a whole. The benefits include a significant enhancement of socio-economic development associated with nature-based tourism, the promotion of a culture of peace and regional cooperation, and the linking of fragmented habitats to enhance the conservation of biological diversity.

Various studies have established that there is widespread and enthusiastic support for the KAZA TFCA initiative. Stakeholders see the initiative as a long-term regional programme that Angola, Botswana, Namibia, Zambia and Zimbabwe are pursuing together. The initiative focuses specifically on the coordinated development and management of the wildlife and tourism assets in the Kavango and Zambezi river basins.

The target beneficiaries of the KAZA TFCA are local communities, and public and private stakeholders in the wildlife and tourism sectors. From this joint venture the five partner countries want to achieve sustainable improvements in the livelihoods of resident communities, better protection of the region's biological diversity, establishment of a premier African tourism destination, and the building of sufficient capacity for the continued management of the region's wildlife and tourism resources.

2.1.1 Biophysical context

The KAZA TFCA embraces most of the Okavango River Basin, an integral part of an ecosystem that is connected to the Upper Zambezi River Basin, extending the regional links of the area to the five partner countries. The landscape is generally flat to gently undulating.

The wetlands of the KAZA TFCA depend on water flows from highlands in Angola, Zambia and the DR Congo, with over 70% of the water flowing into the Okavango Delta coming from the Angolan highlands.

The Zambezi River rises in the Kalene hills in northwestern Zambia and flows northwards for 30km. It then turns west and south to run 280km through Angola before reentering Zambia where it flows southwards through marshy plains. In the southwest of Zambia the river becomes the border between Zambia and the eastern Zambezi Region of Namibia for about 130km. Further east, the Zambezi River forms the border between Zambia and Zimbabwe and reaches its greatest width, over 1.3 km, before its waters plunge over the Victoria Falls.

Annual rainfall varies from 100mm in the southwest to 1,100mm in the northeast. The associated gradient in vegetation structure starts with desert shrubs in the southwest and culminates in miombo forest in the northeast. Figure 2 provides an overview of the eco-regions within the KAZA TFCA.

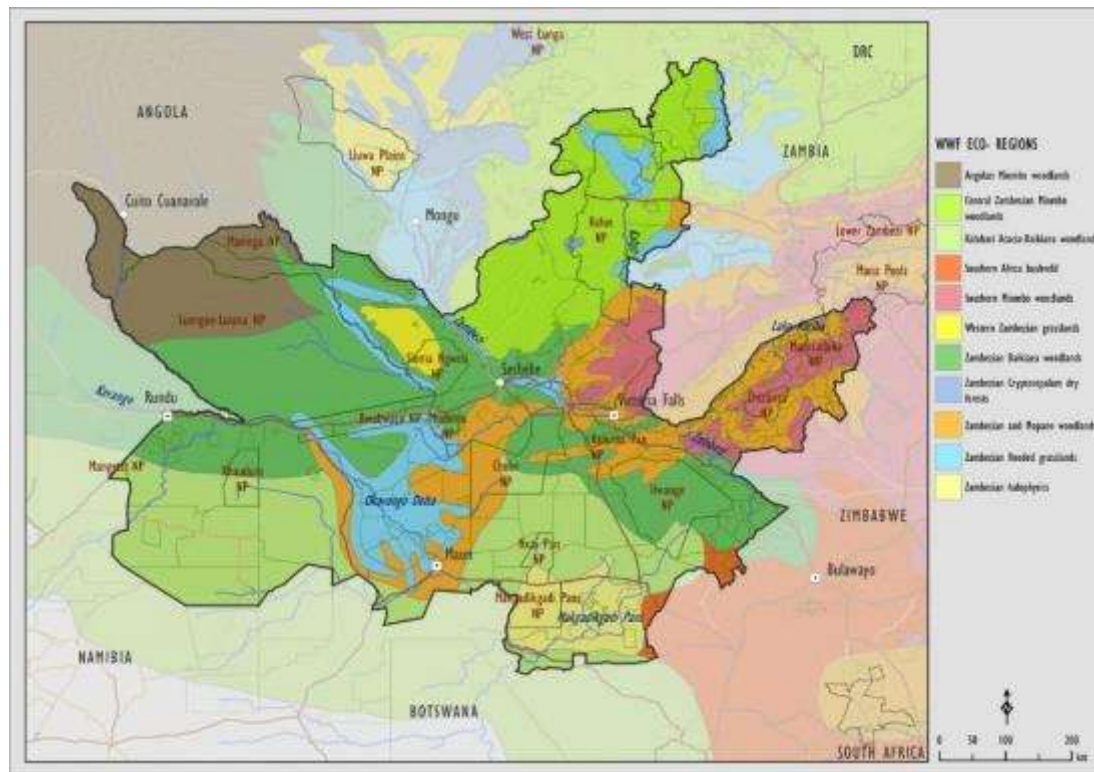


Figure 2: Eco regions in KAZA TFCA

Biodiversity

The KAZA TFCA is characterised by large-scale migrations of mega fauna and several IUCN Red Data Book animal species, making it a wilderness of global biological significance. The KAZA TFCA still has remnants of relatively intact wilderness areas with a high number of species recorded in the miombo woodland. It is anticipated that the KAZA TFCA will play a valuable role in the conservation of flora and fauna not found elsewhere in Africa. The KAZA TFCA therefore makes a significant contribution towards the conservation of such threatened species as the African wild dog, the wattled crane, Slaty Egret, Sable and Roan antelope, Nile crocodile and cheetah.

Vegetation structure

Four main structural vegetation types are recognised in the KAZA TFCA area, namely dry forest; various types of woodland that cover by far the greatest portion of the area; grassland; and wetland. The juxtaposition of these vegetation types gives rise to the area's moderately high biodiversity, and greatly facilitates animal movement between habitats. From a conservation perspective, *Baikia* and Teak are significant woodland types. Wetland vegetation is of major importance and creates much of the diversity as well as being the source of the uniqueness of the area.

The KAZA TFCA has a moderately rich flora in terms of diversity with 2,645 species listed. The Okavango Delta, inscribed as the 1,000th World Heritage Site on 22/06/2014 for its extraordinary annual flooding, is one of the most important inland wetlands of the world, supporting one of the greatest concentrations of wildlife in Africa. Covering 15,000 km², the Delta is a highly variable and complex aquatic ecosystem, largely structured by the climatic regime, chemical and physical environment and the biological interactions that occur within it. Three major biomes are represented, the permanent swamp, the seasonal swamp and the drainage rivers, the last component creating a mosaic of aquatic habitats which forms the core of northern Botswana's successful tourism industry.

Mammals

The area has one of the richest mammalian assemblages in southern Africa, with a full complement of herbivores and carnivores. Natural predator/prey cycles still occur, a consequence of the high proportion of formally protected land in the area. However, habitat fragmentation and disruption of historical movements is now threatening this diversity. Out of the 197 species listed as occurring, there are no endemic mammals. The Okavango Delta has 128 species of mammals (including 20 large herbivores), with major populations of large mammals that are not well represented in other parts of the continent, including the red lechwe and sitatunga. All of Africa's non-forest large predators are conspicuous, with the wild dog being present in significant numbers, although not as well represented as in Kafue National Park.

African elephant

The African elephant is one of the continent's most important flagship species and is of economic and ecological importance to the region. The KAZA TFCA has the largest contiguous population of elephants in Africa, with a 2012 aerial census suggesting that Botswana plays host to over 130,000 elephants and an additional 50,000 are hosted in northwest Zimbabwe (2001 aerial census). Several dispersal routes have been documented, primarily for elephant but also for buffalo, zebra and other species as shown in Figure 3.

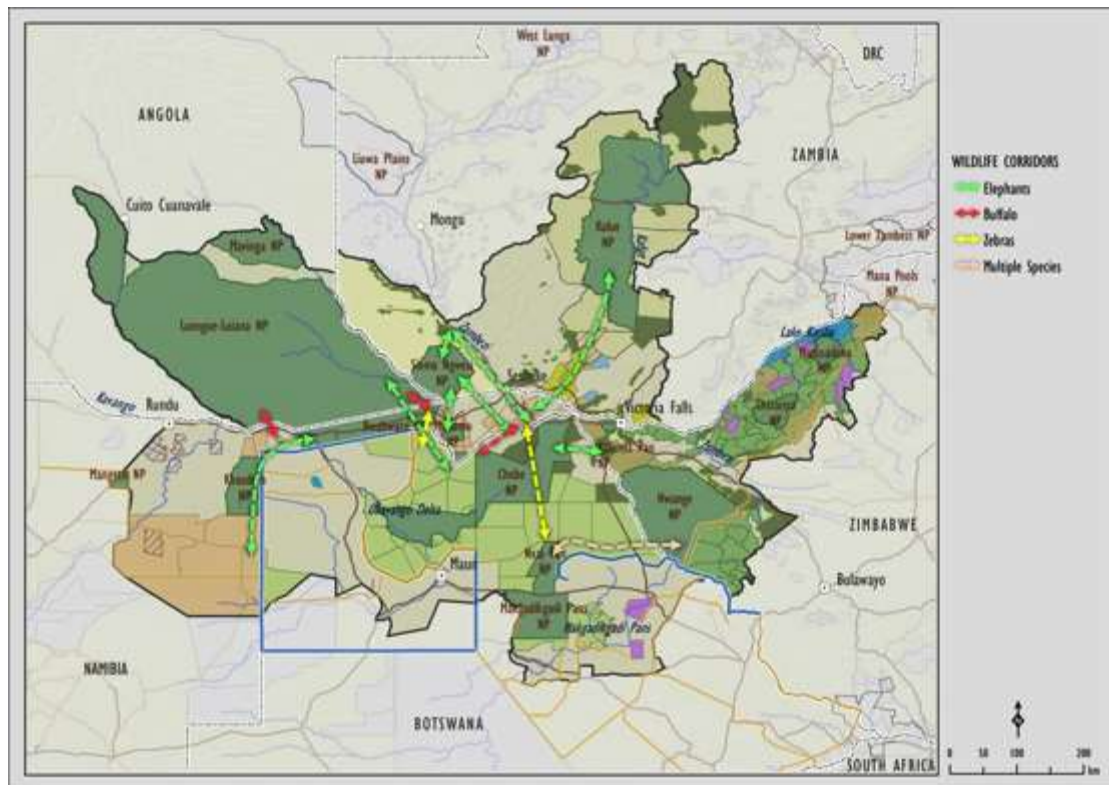


Figure 3: Documented wildlife dispersal routes in KAZA TFCA

Birds

Of the 601 species of avifauna recorded, 524 species breed within the KAZA TFCA. There are 76 Palearctic migrants and an additional 52 intra-African migrants. Many reside for a number of months in wetlands, pans or floodplains, while others wander over grasslands and thorn-veld. Important habitats for birds are a) grasslands, which are a centre for speciation for some genera, b) wetlands, in particular the Okavango swamps, and c) pans, particularly for waterfowl. Ornithologists have identified 12 Important Bird Areas within the KAZA TFCA – see Figure 4.

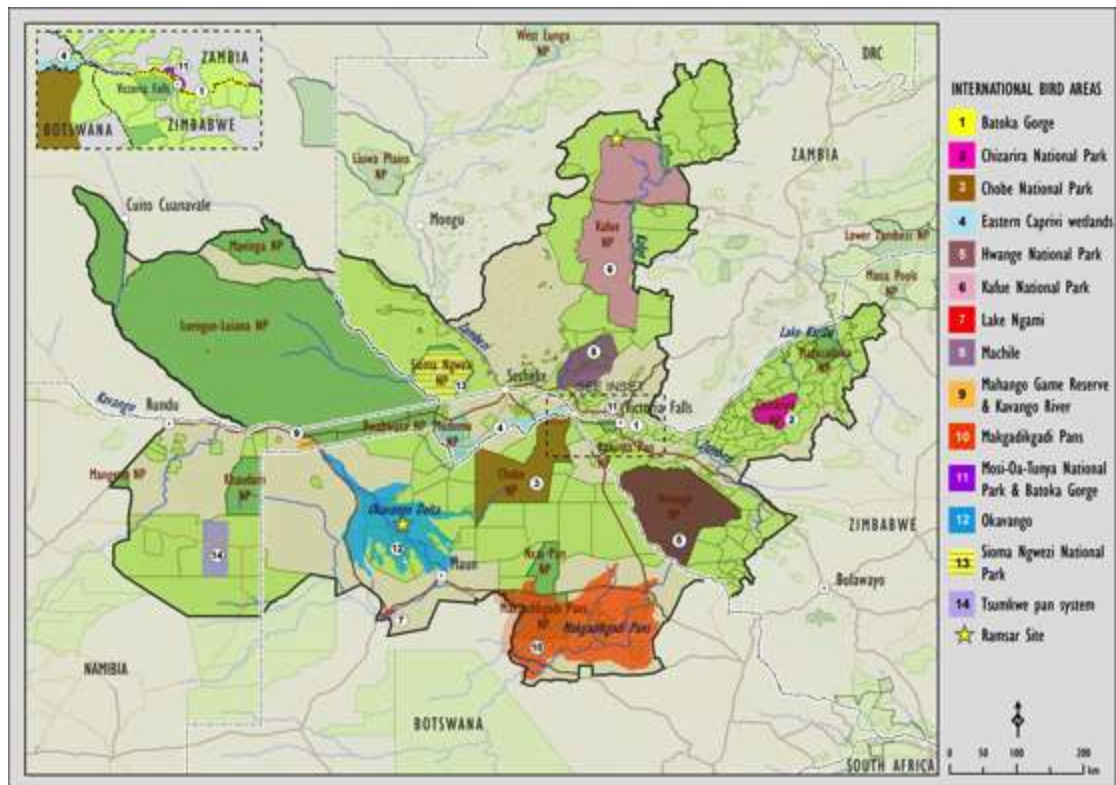


Figure 4: Important Bird Areas in KAZA TFCA

Reptiles and Amphibians

The KAZA TFCA is a meeting place of the reptilian and amphibian fauna from the Kalahari, the Upper Zambezi, and from the broad-leaved woodlands of Central Africa. There are 128 species of reptiles and 50 species of amphibians. Owing to the often sandy soils, burrowing or fossorial reptiles are comparatively common as they can more readily dig and their invertebrate food source is relatively abundant. As these animals cannot cross large perennial water bodies such as the Zambezi River, speciation occurs more readily. Out of the 178 species recorded there are five endemic or near-endemic reptiles, and three endemic frogs. The gaps in knowledge are mainly with the distribution and status of many species in Angola and Southwest Zambia.

Aquatic biodiversity

Over 100 species of fish have been recorded in the KAZA TFCA, and aquatic biodiversity is of particular significance in the Upper Zambezi River system and its natural resources are vital elements in sustaining the local populace and economy. Recent studies in the northern tributaries have yielded numerous new distribution records, including many species either new to science or previously known only from Congo collections.

Invertebrates

Relatively little research has been conducted on invertebrate species. Of the 300 butterfly species recorded, most are found in Zambia and Zimbabwe; Angola is poorly known. The major threats to butterflies are habitat destruction, particularly riparian and well-developed woodlands.

Although forming a significant proportion of invertebrate diversity, only 5% of soil fauna has been formally described.

2.1.2 Land use, and cultural and socio-economic context

Population

Census data and information contained in the five countries' national integrated development plans suggest that the KAZA TFCA now comprises 519,914 km² with a population of 2,677,086, giving an overall population density of 5.15ppkm². The KAZA TFCA comprises more than 20 National Parks, 85 Forest Reserves, 22 Conservancies, 11 Sanctuaries, 103 Wildlife Management Areas and 11 Game Management Areas. This gives a total of 371,394 km² under some form of wildlife management, leaving 148,520 km² for agricultural use including rangeland.

Most of the 2.67 million people live in the 29% of land that is not protected for wildlife. In the last two decades, population growth has tended to be high in these areas, averaging 2% per annum. This has given rise to human encroachment and increased human-wildlife conflict especially where the unprotected land borders protected land.

By overlaying human population distribution, urban areas, roads, navigable rivers, wildfires (Figure 5) and various agricultural land uses, and applying these to the relevant biome, it is possible to develop Human Footprint maps. This approach recognises that human influence is a global driver of ecological change and one that is extremely important in the development of the KAZA TFCA. Figure 6, below, shows the results of the human footprint mapping exercise for the KAZA TFCA.

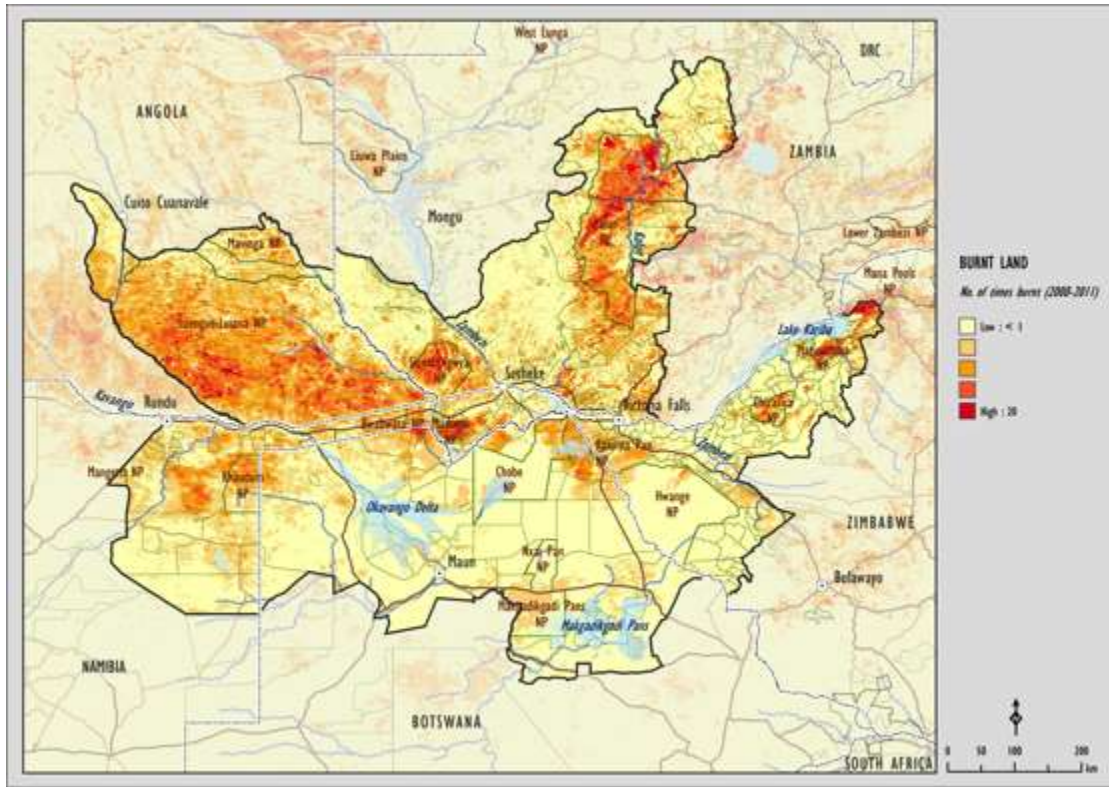


Figure 5: Overview of burnt land in KAZA TFCA, monitored between 2000-2011

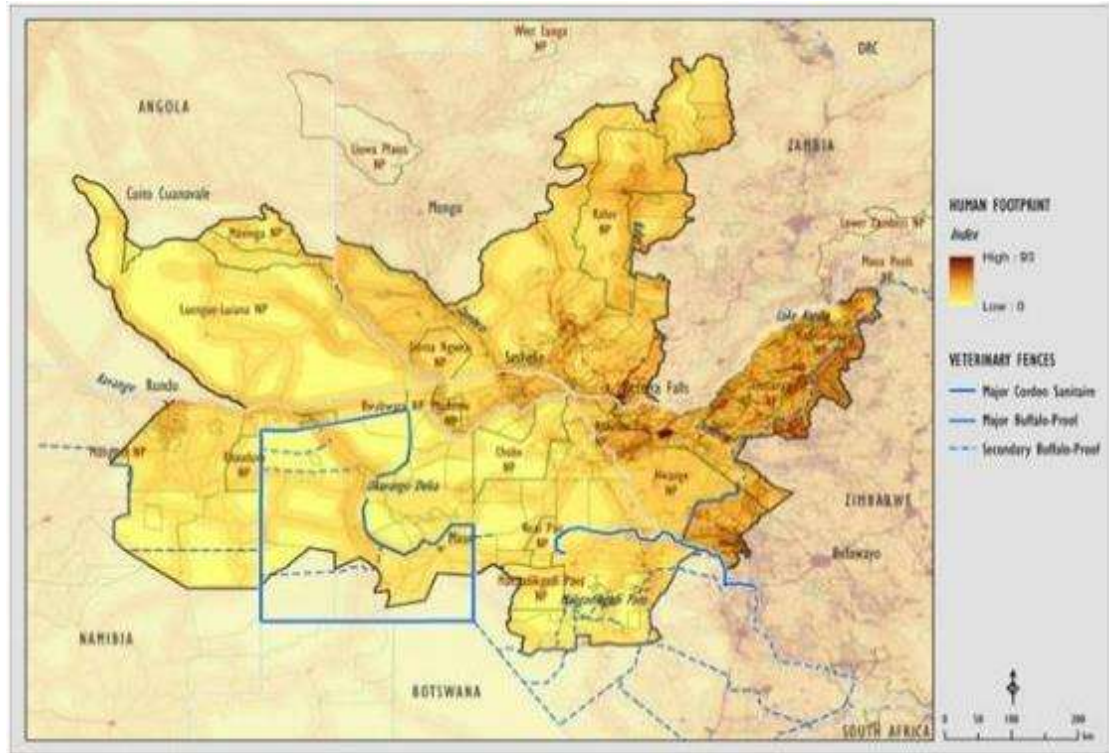


Figure 6: Human footprint map for KAZA TFCA

The Angolan portion of the human footprint map shows low impact and limited infrastructure, due in part to lingering impacts of years of conflict. Botswana also has low overall human impact, but relatively high impact along the Okavango Delta panhandle, the western and southwestern delta fringes and along the Zimbabwe and Namibia borders in the east and north east. In Namibia, impacts are low in the southwestern portion of the KAZA TFCA, but fairly high in the eastern Zambezi Region and especially around the population centres of Katima Mulilo and Rundu. In Zambia the impact is generally low except for high impacts in the south eastern section, while very high impacts prevail just outside the KAZA TFCA boundary on the east. In Zimbabwe impacts tend to be high to very high throughout its KAZA TFCA area with the exception of the broad area around and inside Hwange National Park. The general pattern is that the population is higher in the east, decreasing westward, except for the area around Rundu.

In addition to the results of the human footprint mapping exercise, it is worth noting that there is much higher population density in the eastern part of the KAZA TFCA than the western two thirds. This reflects the relative fertility of the soils, rainfall, proximity to perennial rivers and a series of historic factors. While resident populations have traditionally lived alongside wildlife the relative density of people in certain areas and the greater incidence of arable farming means that human wildlife conflicts will be greater in these areas and problems could be more difficult to solve should wildlife populations increase.

Livelihoods within KAZA TFCA

In 2014, a socio-economic baseline survey was conducted in all five countries, with a particular focus on the Simalaha Communal Conservancy in Zambia. Results from the survey show that most households are female headed – through direct ownership or because of the absence of the male head. Women are important decision makers at household level, though at community level men remain heads of institutions and key decision makers.

Human assets are limited amongst communities living in the KAZA TFCA because of low education levels, widespread health risks and general food insecurity.

Financial assets are vested in livestock ownership, crop farming, and the use of natural resources that are traded in informal markets. Livestock ownership and crop farming have declined in recent years because of disease and natural shocks. Tourism contributes very little to household income in any of the countries except for Botswana. Traditional land use rights are the most common form of land ownership, but given the area, there are restrictions on the use of natural resources, especially wildlife, forests and rivers.

Across the KAZA TFCA, people use local materials to build their houses, with the exception of Botswana where bricks are used. Physical infrastructure for electricity, water and sanitation, health, transport, and administrative services is very low across the region.

Social capital is developed through kinship and networking within the community. Most households in Angola, Namibia and Zambia have nuclear

families, while Botswana and Zimbabwe have extended families. Traditional authority structures in all countries are important institutions that bring people together and facilitate trust and adherence to community rules. Despite the importance of traditional rule, participation in community-based initiatives (essential for the further development of social capital) is very low in all countries, except for Botswana.

The livelihood baseline highlights the extent to which communities derive their livelihoods from the immediate external environment. However, it also highlights that this environment is affected by trends, shocks and seasonality that can lead to the destruction of assets both directly and indirectly. The most common threats to livelihood assets are human wildlife conflict, human health, animal health, floods and droughts, as well as variable rainfall.

There are many opportunities to improve livelihoods within the KAZA TFCA. These include:

- Conservation agriculture whose resultant increase in yields and reduced production costs are economically attractive.
- Improvements in food security through the introduction of new crop varieties, including chillies, cassava, maize, sorghum, millet, cowpeas, soya beans, groundnuts and new rice for Africa.
- Market linkages, which have the potential to boost community income and contribute to more environmentally friendly sourcing. With support from the private sector, small-scale producers could supply the tourism industry, especially lodges, which currently source most food and other products from outside the KAZA TFCA region.
- Support to Community Based Natural Resource Management (CBNRM) which is widespread throughout the KAZA TFCA and which has helped ensure development at the lowest levels.
- Programmes supporting value addition for Non Timber Forest Products, fish, livestock, game, timber and agricultural products. Value addition significantly boosts the economic value of products but such programmes require skills training, branding, and policies that promote open borders for the movement and trade of agreed products.
- The development of cultural tourism (as opposed to wildlife tourism). The KAZA TFCA has a wealth of cultures whose customs, dress, festivals and music could be packaged and promoted to the tourism sector.
- Small, Medium and Micro Enterprise (SMME) development, which has the potential to increase indirect tourism opportunities for local residents. Products include the production of soaps and natural oils, textile manufacture, traditional cuisine, village or township guided tours, taxis, and many others. The development of successful SMME programmes would require investment in financing and skills training for entrepreneurs.
- Fisheries expansion, which can improve food security and create jobs. The middle to upper sections of the Zambezi River support traditional, sport and commercial fishing, as well as some aquaculture. Traditional fisheries provide important food security when other food sources have dwindled. However, the current supply of fish does not meet local demand indicating that there is scope to increase the numbers of people involved in aquaculture, and to develop fish processing and distribution centres.

Tourism attractions

Three major tourism attractions in the KAZA TFCA are World Heritage Sites, namely Mosi-oa-Tunya / Victoria Falls (Zambia and Zimbabwe), Tsodilo Hills (Botswana), and the Okavango Delta (Botswana). In addition to these iconic sites, many other primarily wildlife-related tourist attractions exist in the area and, with development, could further increase the tourism appeal of the KAZA TFCA. Figure 7 shows the geographic position of the major tourist attractions and Figure 8 illustrates that the concentration of tourism facilities is, unsurprisingly, directly linked to the locations of major tourist sites.

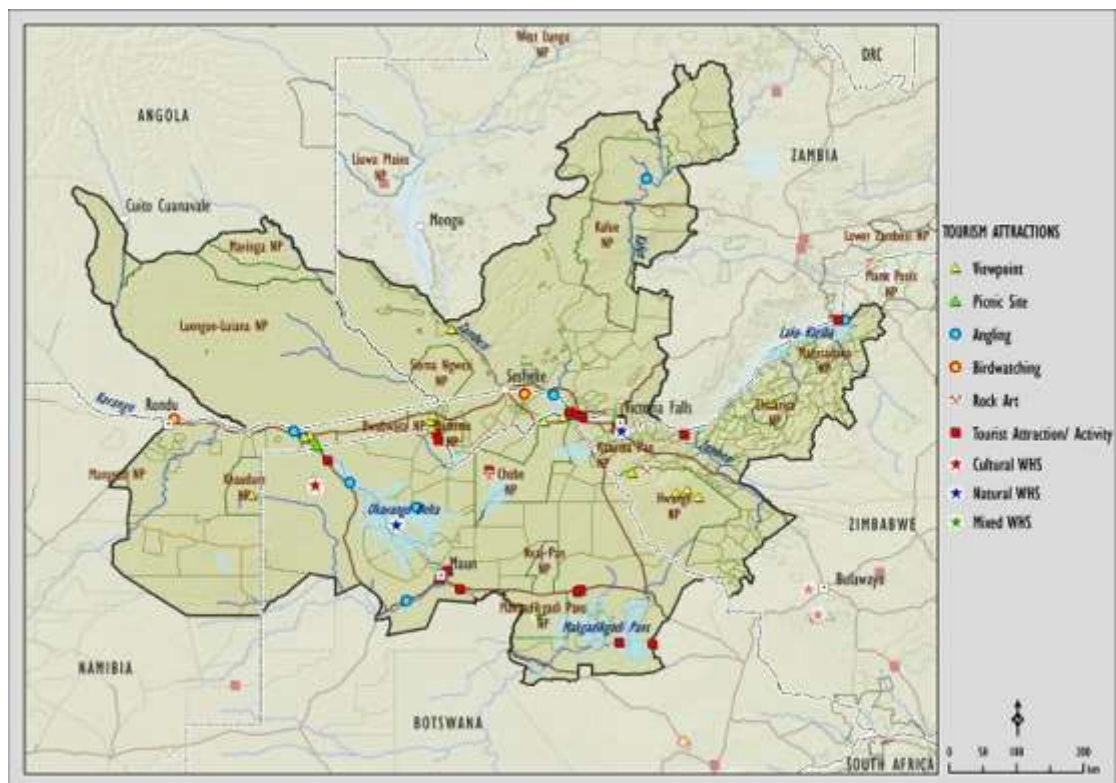


Figure 7: Tourist attractions in KAZA TFCA

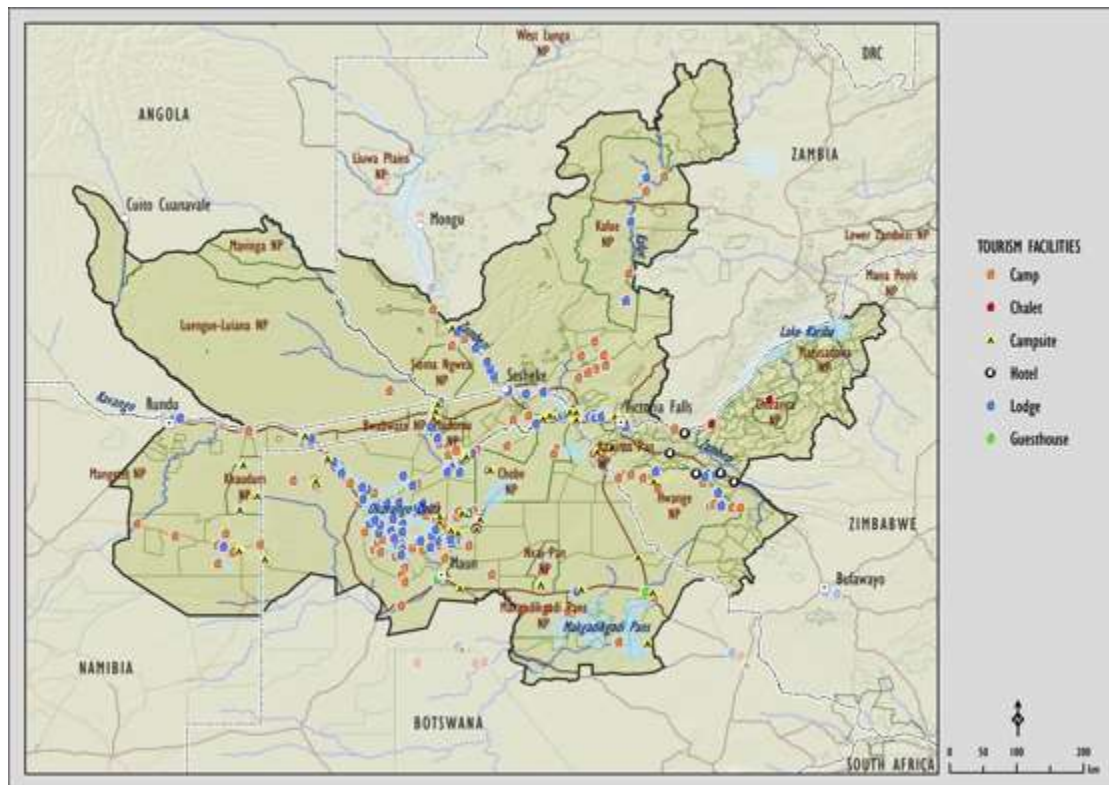


Figure 8: Tourism facilities in KAZA TFCA

In addition to the more wildlife-related tourism attractions highlighted in Figure 7 above, the KAZA TFCA boasts a wealth of cultures and heritage. A total of 625 sites have been recorded and mapped, including monuments, historical, archaeological, religious and anthropological areas of interest (see Figure 9). The quantity and variety of these sites reflects the rich history and diversity of resident communities including the San, Tonga, Lozi, Herero, Ndebele, and Tswana that live within the boundaries of the KAZA TFCA.

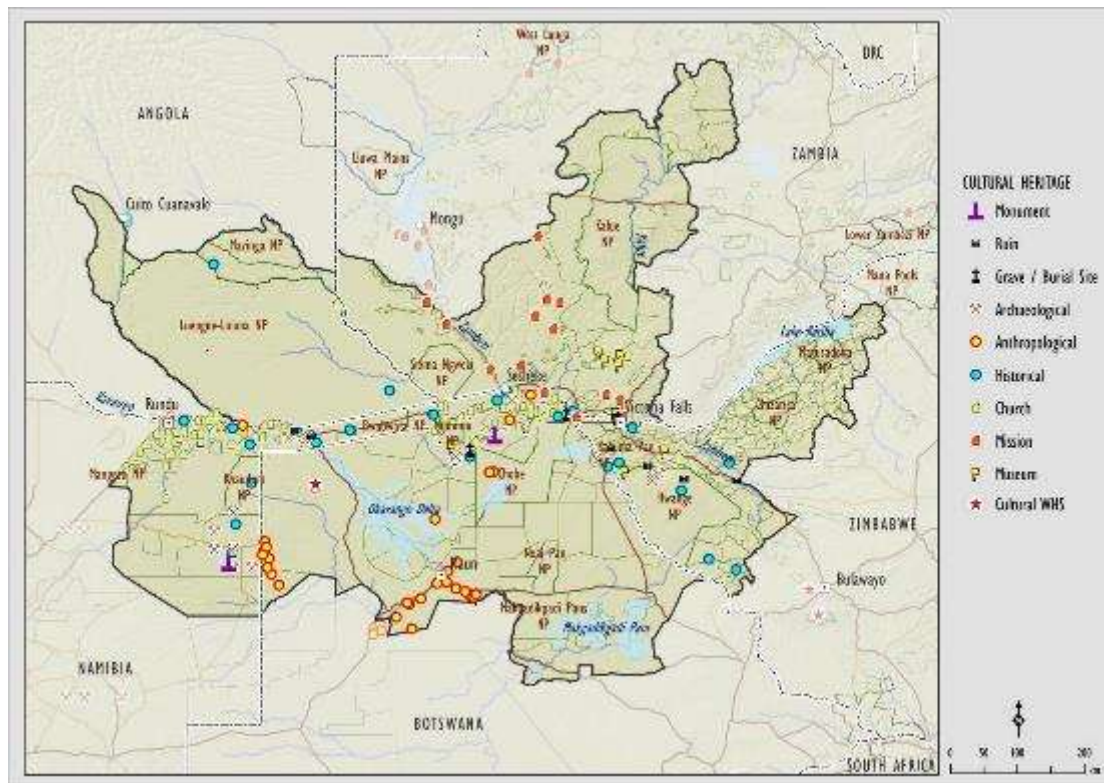


Figure 9: Cultural heritage sites across KAZA TFCA

Tourism growth

There has been a general trend of growth in international arrivals to KAZA TFCA countries since 1995. Angola, Zambia and Namibia have followed similar growth rate patterns, while Botswana has shown dramatic growth, from around 450,000 international arrivals in 1995 to over 2 million in 2010. The pattern for Zimbabwe has been more erratic, but it currently has the highest level of visitation among the KAZA TFCA countries.

Tourism in the region is highly seasonal and in turn limited in many parts by the realities of natural cycles of flooding and rainfall.

There is a risk that the tourism experience will change in areas in which a limited but very attractive product is exploited. This is considered to have happened in eastern Chobe National Park, and core areas in Botswana, Zimbabwe and Zambia, all of which show similar patterns of uncontrolled over-development of a narrow river frontage area.

There are considerable differences in the trends in international tourism receipts between KAZA TFCA countries. Although such receipts are an imperfect measure, slow but steady growth in international tourism receipts has been exhibited in Zambia between 1995 and 2011. There has also been a dramatic increase in visitor spend in Angola since 2006, but there were also steep declines in receipts between 2007 and 2011 in Botswana; and strong and relatively steady growth in Namibia between 2000 and 2011. By 2011 the value of tourism receipts from Angola, Zimbabwe and Namibia were highest among the five KAZA TFCA nations, at over USD6 million.

Infrastructure

Infrastructure coverage throughout the KAZA TFCA is patchy. There are a total of 14 ports of entry, which is inadequate in terms of serving the needs of tourists and residents. Their distribution is concentrated around the areas with well-established tourist attractions, as can be seen in Figure 10 below. It should be noted that some of these ports of entry have very poor facilities (e.g. lack of water and sanitation, electricity, or good road access) and are rarely used.

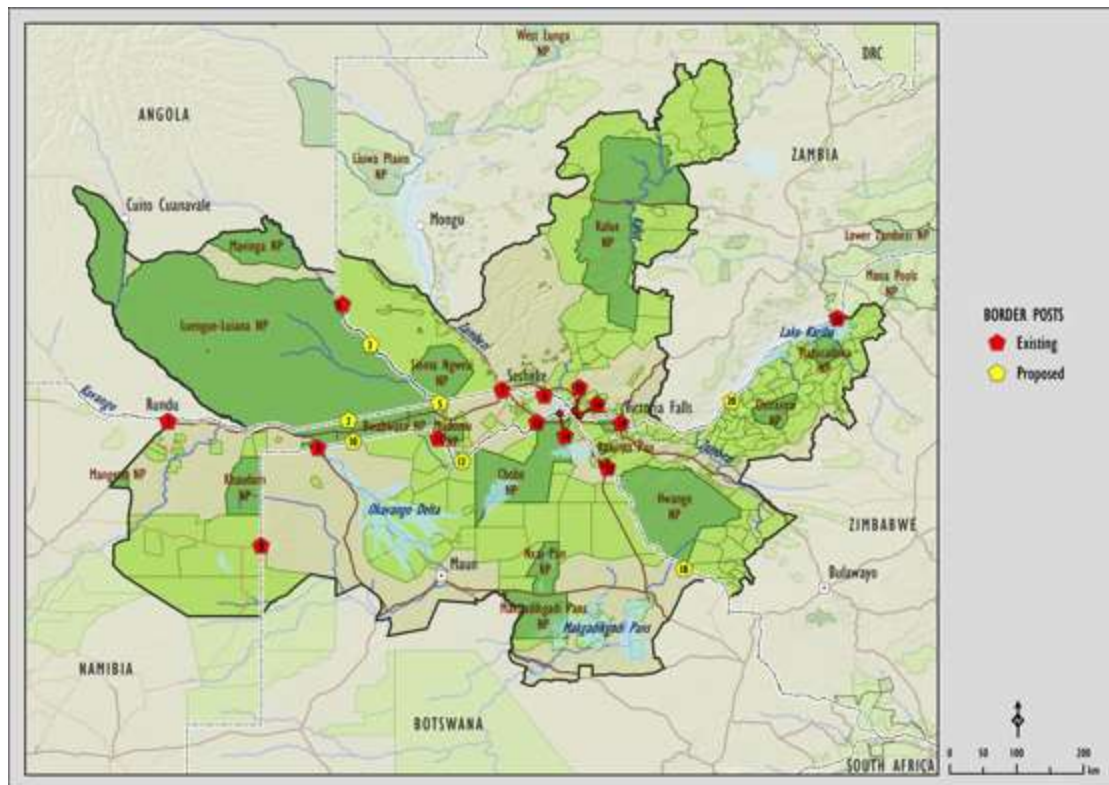


Figure 10: Border posts in KAZA TFCA

A few major roads cross the KAZA TFCA, serving the tourist, resident and commercial markets. However, access within many of the protected areas is reliant upon tracks that date back to military operations and liberation struggles. Many of these tracks are poorly maintained and deteriorate during annual rainy seasons. This restricts the movement of tourists and of resident populations, frustrating socio-economic development within the KAZA TFCA.

International visitors, constrained by time, often choose to travel by air rather than by road. The KAZA TFCA has a history of aerial access being used as a solution to visiting several of the key areas of the region, with the Okavango Delta serviced from Maun and Kasane airports, and the Victoria Falls and Hwange National Park serviced both from Livingstone and Victoria Falls airports being some of the best examples.

However, travelling between the various countries is often not easy. It requires complicated routings, which influence tourists' time and costs.

Coverage of information and communication technologies is also very varied with some areas having, e.g. good mobile phone coverage whereas others have limited or no national phone coverage. Poor communication facilities negatively affect the tourism market but perhaps more importantly hold back socio-economic development.

2.2 Governance context

Governance

The governance structure for the KAZA TFCA has six levels:

- The highest authority is the Ministerial Committee, which provides political leadership and ultimate approval.
- The Coordinating Country rotates every 2 years. It drives the planning processes and, as the representative of the Partner Countries, is able to expedite decision-making. It is responsible for convening meetings that involve all Partner Countries, and is tasked with mobilising resources for the KAZA TFCA.
- The Committee of Senior Officials (COSO) renders Ministerial Committee decisions more operational, provides policy guidance, has financial oversight, harmonises Partner Country expectations and supervises the Joint Management Committee.
- The Joint Management Committee administers and manages the KAZA TFCA under the guidance of the COSO. It ensures the participation of stakeholders, monitors the operations of the Secretariat and creates *ad hoc* Specialist Advisory Groups when necessary.
- The National Committees coordinate the implementation of country-specific conservation programmes, ensuring alignment between national and KAZA TFCA-wide activities. The committees facilitate the participation of national stakeholders in the wider planning processes and seek to ensure that local communities derive benefits from the KAZA TFCA.
- The Secretariat coordinates the day-to-day operations of the KAZA TFCA. It facilitates participation, develops tools, identifies programmes and ensures effective communication. It manages finances, human resources, procurement and language translation. It undertakes publicity and advocacy and is responsible for the website. It develops proposals for donor funding, operates the KAZA TFCA Fund, drafts policy documents and is responsible for monitoring and evaluate on of the KAZA TFCA programmes.

Key Plans and Strategies

Under the leadership of the Secretariat, the KAZA TFCA has developed the following key documents, each of which is summarised:

- Treaty, 2011
- Strategic Action Plan, 2011 – 2016
- Stakeholder Engagement Strategy, 2011
- Operational Framework, 2012
- Financial Sustainability Strategy, 2013 – 2018

- Livelihood Baseline Survey Report, 2014
- Master Integrated Development Plan, 2014 – 2019
- KAZA TFCA Policy Harmonization Proposals, 2013

Strategic Action Plan summary

The Strategic Action Plan was developed in keeping with SADC Protocol on Wildlife Conservation and Law Enforcement of 1999.

A Performance Auditing Management System was used to develop the Plan and identified eight Key Performance Areas. These are 1) Legal Status and Institutional Arrangements, 2) Sustainable Financing, 3) Policy Harmonisation, 4) Conservation of the KAZA TFCA Landscape, 5) Joint Planning and Integrated Management, 6) Integrated Regional Development Strategies, 7) Benefit Flow Management, and 8) Communication & Stakeholder Engagement Strategies. These Key Performance Areas serve as milestones against which the KAZA TFCA's performance can be measured.

Coordination of the Plan is led by the Secretariat. The KAZA TFCA Ministers play an important oversight role, monitoring the attainment of set targets through the Committee of Senior Officials.

Operational Framework summary

This framework outlines the tools and business model to be used in delivering the Key Performance Areas defined in the Strategic Action Plan. It highlights a number of strategic imperatives, summarises the general principles of the KAZA TFCA charter, and explains the Secretariat's planning and operational cycle.

Financial Sustainability Strategy summary

The Financial Sustainability Strategy outlines the Secretariat's funding needs and aims. Partner Countries each contribute US\$ 60,000 per year, which is held in the KAZA TFCA Fund. The Financial Sustainability Strategy also presents options to raise a further US\$ 1,000,000 per annum via the establishment of a Property Fund or an Endowment Fund, as well as plans to recruit a Fundraising Agent.

Funding for the wider KAZA TFCA is premised upon the development of the Master Integrated Development Plan (IDP). This outlines projects and strategies for which external funding will be sought. The Master IDP is the culmination of many months of consultation, collaboration between partner countries, stakeholder input, and recommendations from thematic experts.

Livelihood Baseline summary

A baseline survey was concluded in early 2014. Across the five countries, a total of 1,565 households were interviewed, their assets evaluated and their GPS coordinates recorded for future reference.

Using DFID's Sustainable Livelihood Framework, the research team developed a livelihood index that can be used to monitor changes over time. It is based on 47 variables and can be used to compare individual households, villages, larger communities and even country variance. If used appropriately, it can

be used to monitor changes that may be linked to programmes implemented as part of the KAZA TFCA.

2.3 Legal framework

Globally, there are 227 transfrontier conservation areas that encompass 159 countries. Within the Southern African Development Community (SADC), there are 18 existing or potential TFCAs, of which KAZA TFCA is the largest.

At a macro level, the KAZA TFCA and its partner countries are signatory to the 1999 SADC Protocol on Wildlife Conservation and Law Enforcement, and the 1997 SADC Wildlife Policy and Development Strategy. In addition, the five KAZA TFCA partner countries are also signatories to some or all of the following international conventions and frameworks:

- The Revised African Convention on the Conservation of Nature and Natural Resources: Prospects for a Comprehensive Treaty for the Management of Africa's Natural Resources (2013)
- UNESCO Man and the Biosphere Programme(1971)
- Convention on Wetlands(1971)
- World Heritage Convention(1972)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES(1973)
- Convention on Migratory Species(1979)
- Convention on Biological Diversity(1992)
- United Nations Framework Convention on Climate Change (1992)
- United Nations Convention to Combat Desertification (1994)

Despite being signatory to many or all of the same international conventions, the 2013 policy harmonisation review of regional and national policies highlights that there is variation in the management and conservation of natural resources across the KAZA TFCA between the partner countries. Tourism development, policies, and practices also vary across the KAZA TFCA landscape. This variation includes conservation status of the different protected areas, the level of development, management regimes, management capacities and governing policies, legislation, and land use practices. As outlined in the 2013 review, the management and sustainable conservation of natural resources across international boundaries cannot be achieved without harmonisation of certain key policies, legislation, and practices that govern natural resource management and tourism development.

Harmonisation of policies needs to consider the potential synergies that can be achieved through collaborative strategies and management efforts that give priority to the regional perspective and facilitate seamless cross-border natural resource management, protection and utilisation as well as tourism. Several key areas are identified in the 2013 review, all of which require harmonisation. Amongst the many areas identified, the most important areas were selected by the partner countries where the opportunities for harmonised policies, legislation and strategies existed; particularly those that have the potential to play a substantial role in creating some of the intended synergies within the shortest possible timeframe.

The 2013 review therefore makes proposals towards harmonisation of policies and practices in the KAZA TFCA that will address the following key focus areas:

- Natural Resource Management (NRM)
 - Wildlife Corridors.
 - Management of shared watercourses for the purposes of harmonising fisheries.
 - Harmonised strategies for the conservation and management of single species.
- Tourism
 - Addressing economic leakages by developing economic linkages.
 - Commitment to responsible tourism.
- Legal
 - Formal legislative recognition of Transfrontier Conservation Areas (upon which legislation all other recommendations will be dependent).
 - Combating crime throughout the KAZA TFCA.

Detailed proposals, strategies and amended policy statements are available in the KAZA TFCA Policy Harmonisation Volume I Report, produced in 2013.

3. PROJECTS

3.1 Approach to identifying projects

In reviewing the development needs identified in the National Integrated Development Plans and in the reports submitted by the team of thematic experts, it was noted that two types exist. Some development needs are geographically specific; others are more general and related to the KAZA TFCA as a whole. Projects were drawn up to help address both types of development need and so are split accordingly. The location specific projects are called Wildlife Dispersal Area projects and the more general ones are called Support projects.

Six Wildlife Dispersal Areas (WDAs) have been prioritised. In summary, but in no particular order of priority, the six WDAs are:

- Kwando River WDA
- Zambezi-Chobe floodplain WDA
- Zambezi-Mosi Oa Tunya WDA
- Hwange-Kazuma-Chobe WDA
- Hwange-Makgadikgadi-Nxai Pan WDA
- Khaudum-Ngamiland WDA

In no particular order, the two Support projects that have been identified are:

- Tourism investment facilitation
- Community based enterprise development facility

Both the Wildlife Dispersal Areas and the Support projects are presented in detail from section 3.3 onwards.

3.2 KAZA TFCA's approach to facilitating project implementation

The KAZA TFCA Secretariat plays a crucial role in supporting the development of the transfrontier conservation area, and in facilitating the implementation of the projects outlined in this Master IDP. Specifically, the KAZA TFCA Secretariat provides support in the following areas, all of which are described in more detail below:

- Securing financing
- Promoting transboundary cooperation and communication
- Encouraging partnerships with existing structures
- Integrating climate change planning into project design
- Promoting good quality monitoring and evaluation

Securing financing

The KAZA TFCA Secretariat is acutely aware that each of the partner countries has its own national projects to fund and implement, using either government resources or donor funds. The Secretariat will, therefore, limit its support to raising funds for the implementation of truly transboundary

projects. In so doing, the Secretariat will seek to:

- Ensure projects are well designed and budgets properly developed.
- Approach a wide range of potential donors, in recognition of the challenges of securing funding.
- Secure funding with a long-term commitment, where possible.
- Secure funding that provides for institutional and community development as well as capital investment, where possible.
- Work with partner countries to ensure their continued contributions to the wider KAZA TFCA initiative.
- Explore innovative ways of generating additional funds, e.g. endowments and property fund arrangements.
- Implement and update the KAZA TFCA Five Year Financial Sustainability Strategy.

Promoting transboundary communication and cooperation

For the six Wildlife Dispersal Areas and two Support projects to be successfully developed and managed, a KAZA TFCA-wide approach will be required. To this end, the KAZA TFCA Secretariat will promote the following:

- A functional landscape approach transcending international boundaries.
- An ecosystem based approach to managing the Wildlife Dispersal Areas.
- The identification, prioritisation and management of the many conflicting land uses in order to ensure the effective functioning of the Wildlife Dispersal Areas.
- Open, transparent communication and information sharing between partner countries.
- A mixture of joint and collaborative approaches between partner countries.

Partnerships with existing structures

The KAZA TFCA Secretariat places great importance on working in partnership with existing structures, both at government level and at community level. Existing structures have a wealth of experience to share and are essential if new initiatives are to succeed and become truly embedded in the KAZA TFCA. Throughout the Master IDP, reference is therefore made to existing projects and existing transboundary cooperation. These lists are not exhaustive, but highlight some of the most exciting and innovative work that is already underway within the KAZA TFCA.

Integrating climate change into project design

Transfrontier conservation areas are long-term initiatives. As a result, the KAZA TFCA as a whole, and each of the five partner countries will be faced with the increasing impacts of climate change within the lifetime of the KAZA TFCA. The Secretariat therefore plays a role in supporting the integration of climate change strategies to new and existing initiatives. Focusing the five-year IDP on Wildlife Dispersal Areas is a good example of this – by placing WDAs at the heart of KAZA TFCA's development, the Secretariat is promoting climate adaptation by enabling wildlife to more easily move during climate-stressed periods.

Promoting good quality monitoring and evaluation

Several of the initiatives promoted by the KAZA TFCA Secretariat require partner countries to alter or harmonise existing policies and practices; others require partner countries to assist in the monitoring of species; and certain initiatives are quite openly designed as innovative trials, with an uncertain outcome. In order to measure and assess the effectiveness of such strategies, the Secretariat will actively promote good quality monitoring and evaluation on all collaborative and joint initiatives, with a view to sharing lessons with all partner countries and stakeholders.

In the remainder of this section, each of the six Wildlife Dispersal Area projects is mapped and described, and a situational analysis presented. This is followed by an outline of activities for each project and an accompanying high-level budget. This is followed by descriptions, objectives and high-level budgets for each of the two Support projects.

3.3 Kwando River Wildlife Dispersal Area (Figure 11)

3.3.1 Description

The Kwando River Wildlife Dispersal Area crosses 4 international boundaries. To the north, Zambia and Angola share a common border along the Kwando River; heading south, the WDA follows the Kwando River and crosses into the Mudumu North Complex of Namibia; heading still further south, the WDA crosses the Mudumu South Complex and heads into Botswana where the Kwando River becomes the Linyanti River opening into the Linyanti Swamp.

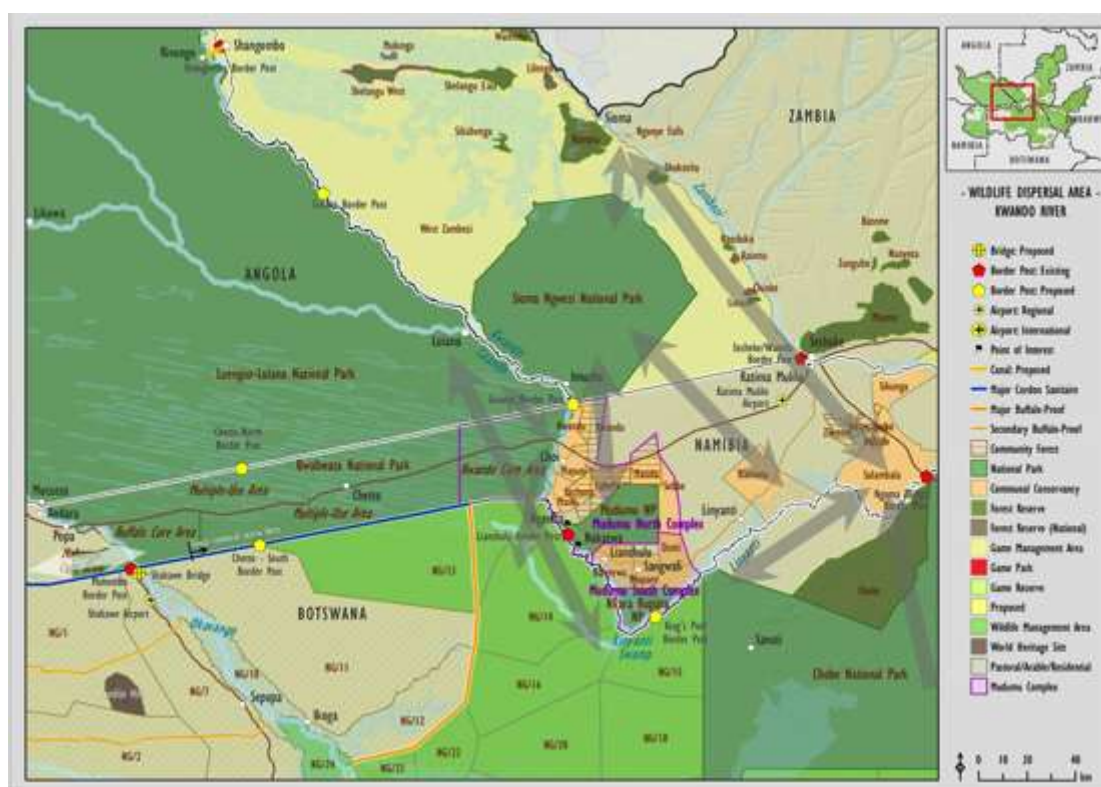


Figure 11: Kwando River WDA

In the north, mapped land use for the WDA is relatively compatible on both sides of the Zambia-Angola border. Sioma Ngwezi National Park (NP) and the West Zambezi Game Management Areas (GMA) dominate the Zambian side, with the newly created Luengue-Luiana National Park dominating the Angolan side. Population density on both the Zambian and Angolan sides is relatively high, with settlements recorded in Sioma Ngwezi NP and in Luengue-Luiana NP, as well as settlements in the West Zambezi GMA. Many of the settlements on the banks of the Kwando River are a result of the Angolan wars (1975-2002), during which refugees fled to Zambia, and/or used Sioma Ngwezi NP as a base from which to launch attacks.

Additional sections of Sioma Ngwezi NP's Kwando River have been settled by Namibians who fled the secession attempts and military operations that were

launched by UNITA forces based in the then Caprivi Strip (now Zambezi Region).

Continuing along the Kwando River into Namibia, the western side of the WDA is bordered by the Kwando Core Area (part of Bwabwata National Park), whilst the eastern side is flanked by Communal Conservancies some of which include Community Forests.

As the Kwando River progresses south into the Linyanti Swamp it is bordered by Mudumu and Nkara Rupara National Parks and at least three Communal Conservancies located between the National Parks, all of which have approved management plans. Human population density is fairly high in the conservancies and there is intense wildlife utilisation in the area, though this is in keeping with approved wildlife utilisation quotas and a permit control system operated by Namibia's Ministry of Environment and Tourism. On the Botswana side, there are river management plans for the private concessions near NG 14 and NG 15 Wildlife Management Areas.

Further west, NG 13 Wildlife Management Area is reported to have a draft river management plan. One of the most significant features of this area is the Major Cordon Sanitaire (veterinary fence) that separates Namibia from Botswana. This veterinary fence runs east and south, and forms a major part of the Khaudum-Ngamiland WDA, which is the final WDA presented in this section.

From an ecological perspective, the Kwando River WDA is important for wildlife, playing host to large elephant populations, as well as important populations of buffalo, sable, roan, tsessebe and all the major predators. The WDA is also particularly important for wildlife migration. Research in 2011 showed that elephants migrate southwards from the grasslands and pans of Sioma Ngwezi NP to the Zambezi and Linyanti Rivers. During this dry season migration, it was however noted that elephants completely avoided the Kwando River, choosing instead to congregate in the eastern Zambezi region of Namibia, via migration routes through the Western Zambezi GMA and the Zambezi River. **Figure 3** shows wildlife dispersal routes that have been documented in the KAZA TFCA, highlighting the WDA's importance in ecological terms. It summarises movement of zebra, buffalo and elephant all of which have been recorded in this WDA. The grey arrows in **Figure 11** provide further detail on the number and relative density of recorded wildlife dispersal routes, further highlighting the ecological importance of this WDA.

3.3.2 Situational Analysis

Key issues and challenges

Given the multiple borders, complicated history and various land uses it is unsurprising that this Wildlife Dispersal Area faces many significant challenges, as summarised:

- **Poaching** is generally a common problem in this WDA.
- **Commercial timber operations**, especially Zambezi Teak, which is harvested on the Zambian side for the South African market, and an

increasing far-eastern demand for Mopane wood, need to be managed in a sustainable way.

- **Human-Wildlife Conflict** is believed to be widespread in many sections of this WDA.
- **Excessive burning** is taking place in and around Mudumu NP, in the Kwando Core Area, in NG 13, and further upstream in Angola and Sioma Ngwezi NP. (This can be viewed on Figure 5, which summarises the extent of burnt land monitored over 10 years.)
- **Restricted wildlife movement** along the Botswana-Namibia border is due to the Major Cordon Sanitaire (veterinary fence). Discussions between the Governments of Botswana and Namibia have yet to lead to concrete plans for removal or realignment of the fence despite several pieces of research highlighting the potential to reduce the impact of the fence without causing an increase in wildlife-livestock disease transmission.
- **Lack of accurate and detailed land use information** for the WDA makes planning and management extremely difficult, particularly given the four international borders of this WDA.
- **Limited transboundary infrastructure** in many parts of the WDA hampers access and opportunities for resident communities and tourists. Specifically, the border posts at Susuwe and Lianshulu are in very remote areas, with generally poor road access, limited administration and staff facilities, limited water and electricity, poor access roads and poor communication facilities. Land mines continue to plague much of Angola though clearance work is underway in some areas. In September 2011 the Angolan Government approved the operational plan to demine the Angolan component of KAZA TFCA. This involved the deployment of more than 5 demining brigades and modern equipment. Approximately 70% of the area is considered to have been cleared of mines.

Existing transboundary cooperation

There are many examples of transboundary cooperation between the partner countries in this WDA. This list is not exhaustive but serves to illustrate a few of the areas most relevant to the KAZA TFCA. Examples include:

- The Southern African Rock Art Project (SARAP) aims: to create momentum for rock art preservation, conservation, accessibility, and management in the Southern African region; to offer opportunities for capacity building in rock art site management, conservation, interpretation, presentation, and specialized tourist guiding; and to strengthen contacts and create a community of practice among rock art professionals in Southern African countries. Within the KAZA TFCA, Botswana, Namibia and Zimbabwe participate in SARAP.
- The Permanent Okavango River Basin Commission (OKACOM) is based upon a 1994 Agreement that commits the member states to promote coordinated and environmentally sustainable regional water resources development, while addressing the legitimate social and economic needs of each of the riparian states. Of the KAZA TFCA partner countries, Angola, Botswana and Namibia are members of OKACOM.
- The Zambezi Watercourse Commission (ZAMCOM) brings together all five KAZA TFCA partner countries as well as Malawi, Mozambique and

Tanzania. Its vision is to be a water management organization for the entire Zambezi River Basin, as stipulated in the ZAMCOM Agreement and drawn in line with the revised SADC Protocol on Shared Watercourses of 2001.

- At a senior government level, there are Joint Permanent Commissions of Cooperation between all of the partner countries. Areas in which countries may cooperate are wide ranging and include transport and communication, irrigation and water development, education, science and research, agriculture, etc.
- One of the most active partnerships between CBOs exists between the Kwandu Conservancy (in Namibia) and the Imusho Project (on the edge of Zambia's Sioma Ngwezi NP). These two CBOs have worked closely since 2008 and have conducted joint anti-poaching patrols with members of Namibia's Ministry of Environment and Tourism and the Zambia Wildlife Authority. The potential for communication between the CBOs has been improved through the installation of a radio network. In addition, the forum has designated certain members to be in charge of specific areas the forum has decided it would like to address, such as craft making, HIV/AIDS, and poaching. These members are responsible for ensuring that activities in their focal area are carried out. The forum has the full support and active participation of the Imusho area traditional authority; one induna and one councillor are members of the forum. Other CBOs operating in the area include the Sikunga Conservancy (Namibia) and the Inyambo Community Development Trust (Zambia).
- The African Wildlife Foundation, together with the local community and other partners, is providing alternative livelihoods through the Inyambo Fish Farm, a sustainable aquaculture enterprise. Fish native to the Zambezi River are bred in ponds, and some are farmed and sold while others are released into the river to replenish diminished fish populations.
- Several CBNRM initiatives have been organised by Integrated Rural Development and Nature Conservation, an NGO that operates within the Caprivi and Kunene regions of Namibia. Participants in the transboundary workshops include Kyaramacan Association (Namibia), Teemashane Trust (Botswana), #heku/Tcheku Trust (Botswana), Kwandu Conservancy (Namibia), Imusho Project (Zambia), Zambia Wildlife Authority, WWF, Sekute Community Development Trust (Zambia), Kasika Conservancy (Namibia), Impalila Conservancy (Namibia), Salambala Conservancy (Namibia), Chobe Enclave Conservation Trust (Botswana), Sikunga Conservancy (Namibia), Namibia Nature Foundation, Ministry of Livestock and Fisheries Development (Zambia), Ministry of Fisheries (Namibia), Ministry of Environment (Namibia), Elephant Pepper Development Trust and, the Department of Forestry (Namibia).

Existing projects in the WDA

There are a number of projects already underway in this WDA, all of which illustrate the progress that is being made through collaboration:

- In infrastructure terms, the Government of Namibia is already building a 24km stretch of bituminous road up to Kamenga, where the proposed Susuwe Border Post will be located. Further north in Zambia, the Zambia Wildlife Authority has started work on a new administration office and staff

quarters in Sioma. These will be equipped with a workshop, electricity, water and sewerage systems, and ZAWA plans to develop 595km of access roads as well as eight (8) crossings, all of which will help increase access for tourists and resident communities.

- KfW has supported field patrols, the mitigation of Human-Wildlife Conflict, participation in the Community Centred Conservation and Development (CCCD) programme, compilation of work plans and finalisation of the Ngonye Falls development plan in Sioma Ngwezi National Park. This complements work undertaken by the Peace Parks Foundation, with support from The Rufford Foundation and the CCCD programme, to erect elephant-restraining lines around villages. (An elephant-restraining line consists of electrified wires that run two metres above ground, thereby allowing communities free movement while protecting crops from elephants.)
- Bushfire management in the Namibian section of the WDA has progressed significantly through collaborative efforts between the Directorate of Forestry, IRDNC, Community Forestry of North Eastern Namibia, Ministry of Environment and Tourism, and local communities including those in Communal Conservancies and Community Forests.
- In Namibia's Bwabwata and Mudumu NPs, the Ministry of Environment and Tourism, and KfW have funded and opened two new state-of-the-art park management offices.
- The KAZA Secretariat, Namibia's Ministry of Environment and Tourism, and Namibia's Ministry of Agriculture, Water and Forestry have secured financial and technical support from DFID's Climate Resilient Infrastructure Development Fund (CRIDF) to develop water points in several key areas of Zambezi Region. Seven sites were selected in 2014.
- Local communities have also been involved in informal mapping of the movements of wildlife within the Zambezi Region. This has led to the mapping of local dispersal routes that are being used in regional land use planning exercises.

3.3.3 Project Approach

Project objectives

Given the range of challenges facing this WDA, there are several high level objectives, as follows:

- Develop detailed land use plans to enhance management in the WDA.
- Increase use of Kwando River and the wider area as a wildlife dispersal route.
- Reduce incidence of Human-Wildlife Conflict throughout the WDA and especially along the Kwando River.
- Increase adoption of CBNRM by communities resident in the WDA.
- Reduce incidence of unnecessary burning.
- Improve social and economic conditions for communities resident in the WDA.
- Improve accessibility of WDA for tourists, commercial operators and communities resident in the WDA.

Critical enabling conditions

In order to achieve the project objectives, the following will be required:

- Availability of financial and human resources to undertake detailed land use mapping.
- Legal agreement and practical collaboration between the Governments of Angola, Botswana, Namibia and Zambia on transboundary priorities including infrastructure, the development of tourism, and investment in CBNRM.
- Availability of financial and human resources to introduce CBNRM, to provide training on fire management, and to provide viable alternative livelihoods.
- Availability of financial and technical resources to improve infrastructure within the WDA.

3.3.4 Activities

The following table summarises activities that are required to help achieve the project objectives outlined above.

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Land use planning</i>			
Develop, review and implement management and development plans for National Parks, conservancies and Wildlife Management Areas.	100,000		High
Detailed land use mapping at 1:25,000 scale.	250,000	Duplication of national mapping initiatives Inefficient use of resources if significant map overlap Limited value of maps and plans if different methodologies used	
Detailed land use zoning.	80,000	As per land use mapping	
Joint aerial and ground counts of wildlife – establishment of baseline in first year for immediate use in wider land use planning exercise. Tie baseline into biennial wildlife counts featured in natural resources management section below.	250,000	Double counting and limited value of counts if different methodologies and dates	
<i>Subtotal land use mapping</i>	<i>680,000</i>		
<i>Tourism development</i>			
Re-establishment of cross-border tourist access at Lianshulu and Kings Pool.	30,000	Crossing under-utilised due to limited interest from partner countries	Low
Development and use of WDA marketing materials (e.g. signage and local advertising)	75,000	Style and management of materials inconsistent with approach used by KAZA Secretariat	Medium
<i>Subtotal tourism development</i>	<i>105,000</i>		
<i>Infrastructure development</i>			
Support to the development of transboundary tourism routes in the WDA (linking Bwabwata NP and Luiana).	50,000		Low
Infrastructure development (including upgrading of roads, culverts, bridges and communication facilities)	2,000,000		Medium
Support to national and transboundary discussions regarding the future of veterinary fences.	150,000		High
Construction of three-way border crossing and facilities between Namibia, Angola & Zambia.	5,000,000	Limited use of border crossing due to poor marketing	Medium
<i>Subtotal infrastructure development</i>	<i>7,200,000</i>		
<i>Community livelihood enhancement</i>			
Support to mitigation measures, including: human-wildlife conflict and climate change	1,000,000	Limited adoption by communities if livelihood enhancement schemes do not offer viable alternatives	Medium
Development of community livelihood schemes, including: joint ventures between communities and private investors, conservation agriculture, fish ranching, creation of fish reserves,	10,000,000	Community dissatisfaction due to unequal distribution of resources Limited success of schemes due to lack of community	Medium

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
horticulture, community owned tourism and accommodation facilities, commercialisation of NTFPs, etc. Use of the UN WTO's Sustainable Tourism – Eliminating Poverty initiative.		consultation and involvement	
Capacity building schemes based on local needs analysis, including continuous organisational development (finance, governance, legal compliance, etc.)	1,000,000		Medium
<i>Subtotal infrastructure development</i>	<i>12,000,000</i>		
<i>Natural resources management</i>			
Implementation of management plan for community based organisations-Institutional and governance support to meet compliance requirement	140,000		Medium
Standardisation of data collection for participatory monitoring of wildlife dispersal area resources and community training. Development of protocol for data management sharing and of systems for common reporting.	80,000	Data collection ceases due to lack of community incentives to collect Data analysis limited by quality of data and resources to analyse	Medium
Joint aerial and ground counts of wildlife, including development of protocols on counting methodology and sharing of data. To be tied in to baseline that is established for land use planning in first year of activities.	500,000	Double counting and limited value of counts if different methodologies and dates used.	Medium
Harmonisation of policies for sustainable use of shared natural resources – in keeping with the KAZA TFCA Treaty.	20,000	Non adherence to quotas by communities if none were previously set and traditional ways are challenged	High
Development of fire management plans where non-existent and updating of fire management plans that do exist. Further support provided to existing fire management teams or the creation of new fire management teams as necessary. This will include provision of training, awareness raising, and equipment.	500,000	Incidence and control of fires does not improve due to inconsistent application of fire management practices across boundaries and between fire management teams	High
<i>Subtotal natural resources management</i>	<i>1,240,000</i>		
Total budget for Kwando River WDA	21,225,000		

3.4 Zambezi-Chobe floodplain Wildlife Dispersal

3.4.1 Description

Focused on the most easterly section of the Zambezi Region, this WDA has four international boundaries, being Zambia to the north and northwest, Namibia to the west, Botswana to the south and a tip of Zimbabwe to the southeast.

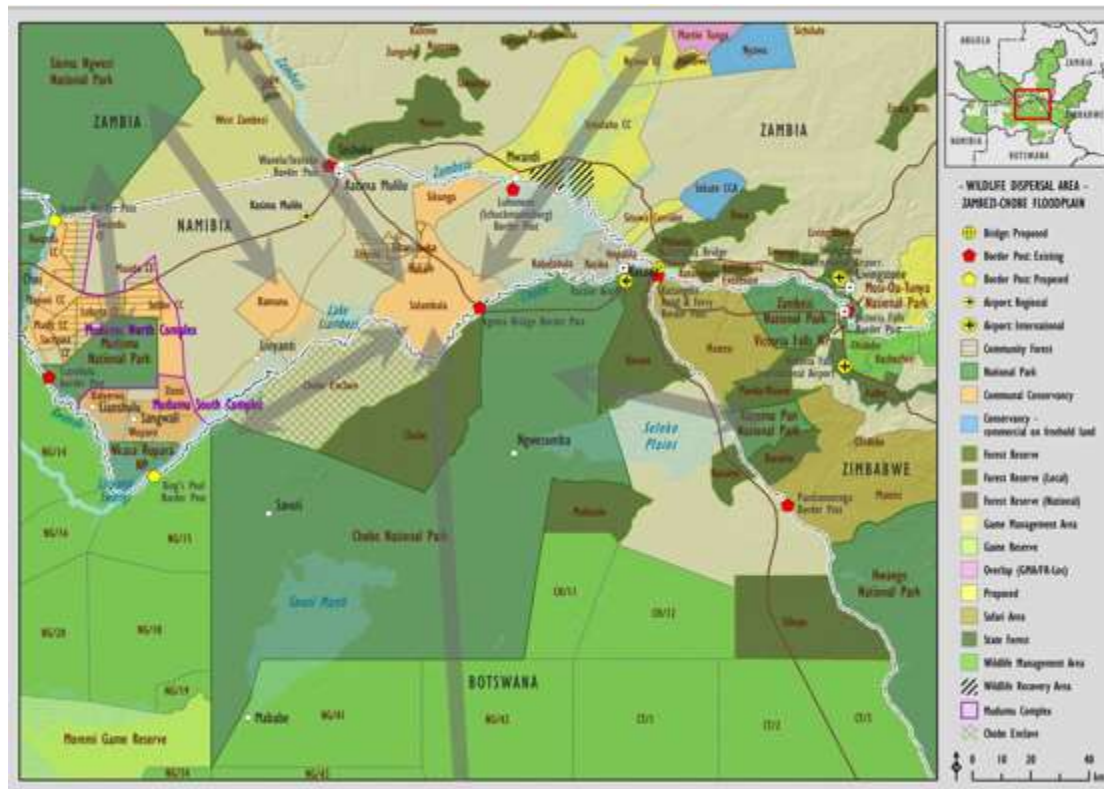


Figure 12: Zambezi-Chobe floodplain WDA

This WDA exhibits a myriad of different land uses, some of which are broadly compatible whilst others are potentially incompatible and very complex. The area has also experienced a huge growth in wildlife based tourism over the past twenty years and is considered to be reaching saturation.

Potentially incompatible land uses exist along the eastern margins of the Zambezi Region where it abuts against Chobe NP and Chobe and Kasane Forest Reserves on the Botswana side. The Namibian side consists of the Impalila, Kasika, Salambala and Sikunga conservancies, which are compatible insofar as they are protective of wildlife hunted under license from the Ministry of Environment and Tourism. In Zambia the area comprises the newly established Simalaha conservancy and open communal land.

Slightly to the west, land uses in the central Zambezi Region can be considered compatible, for instance where the Chobe River becomes Lake Liambizi and the Linyanti River. The border here consists of the Chobe

Enclave community Controlled Hunting Areas (CHAs) on the Botswana side and open communal land interspersed with conservancies in Namibia and Zambia. The challenge in this area is the management of wildlife movement alongside human settlements.

To the northwest, the river-less border with Zambia is open and the central Zambezi Region abuts against the West Zambezi GMA close to Sioma Ngwezi NP. Wildlife, especially elephant, migrates extensively through this area from Chobe NP and Sioma Ngwezi NP. Buffalo also migrate through the Linyanti wetlands. Hunting is allowed (under license) in some border communal areas in Zambia and Namibia, and agricultural developments have taken place near villages and larger towns.

There are incompatible policies that affect the Chobe and Zambezi Rivers. Specifically, the Namibian government allows fishing in its Communal Conservancies and in areas outside the conservancies. It also allows sport fishing. None of these types of fishing is allowed on the Botswana side. Annual fishing bans are supposed to be in effect in the Zambezi Region but their implementation varies between countries, leading to incompatibility during the fish-breeding season.

A very significant component of the overall development of this WDA is the proposed Communal Conservancy in the Simalaha floodplain in Zambia. It is intended as a Wildlife Recovery Area, encompassing approximately 200,000ha of seasonally inundated lands, combining areas under the traditional rule of two chiefdoms, and providing access to the Machile River system. Although this has been proposed as a protected Wildlife Recovery Area there is potential land use incompatibility as the proposed conservancy adjoins open communal areas in Namibia and Zambia itself. Towns and tourism establishments are expanding on the Zambian side.

The WDA is serviced by at least three major roads, three border posts, one regional airport (Katima Mulilo), as well as the Kasane international airport and border post that are situated at the extreme eastern side of the WDA.

In ecological terms, this WDA sustains some of the highest resident wildlife biomass (including birds) on the planet. It also plays host to major wildlife dispersal routes including the critical annual zebra migration from Nxai Pan NP to the Chobe riverfront/eastern Zambezi, as well as elephant migration from the Nata area in the south, and from Sioma Ngwezi in the north east. **Figure 3 Error! Reference source not found.** provides overviews of these documented migration routes. Finally, the Zambezi and Chobe Rivers are rich in fish species with over 80 species identified from the Namibian section. Several species have been identified as having specialized life cycles and habitat niches that are unique to the area.

3.4.2 Situational analysis

Key issues and challenges

The majority of challenges facing this WDA are linked to the multiple land uses, co-existence of significant human and wildlife populations, and the rapid expansion of tourism in recent years. These are summarized as follows:

- **Human-Wildlife Conflict** is a common phenomenon in this WDA.
- **Restricted wildlife movement** attributed to incompatible land uses in the central Zambezi Region.
- **Water pollution and poorer tourism experience** that is being caused by the expansion of tourist boat activities, especially in peak holiday periods. Water quality, riverbanks and fish stocks are believed to be suffering because of noise, wave, propeller and fuel pollution associated with the high frequency of houseboat activities.
- **Depletion of fish stocks**, which is attributed to the use of inappropriate fishing techniques, as well as expansion of boat tourism.

Current institutional arrangements

There are many examples of transboundary cooperation between the partner countries in this WDA. This list is not exhaustive but serves to illustrate a few of the areas most relevant to the KAZA TFCA. Examples include:

- The Southern African Rock Art Project (SARAP) aims: to create momentum for rock art preservation, conservation, accessibility, and management in the Southern African region; to offer opportunities for capacity building in rock art site management, conservation, interpretation, presentation, and specialized tourist guiding; and to strengthen contacts and create a community of practice among rock art professionals in Southern African countries. Within the KAZA TFCA, Botswana, Namibia and Zimbabwe participate in SARAP.
- The Permanent Okavango River Basin Commission (OKACOM) is based upon a 1994 Agreement that commits the member states to promote coordinated and environmentally sustainable regional water resources development, while addressing the legitimate social and economic needs of each of the riparian states. Of the KAZA TFCA partner countries, Angola, Botswana and Namibia are members of OKACOM.
- The Zambezi Watercourse Commission (ZAMCOM) brings together all five KAZA TFCA partner countries as well as Malawi, Mozambique and Tanzania. Its vision is to be a water management organization for the entire Zambezi River Basin, as stipulated in the ZAMCOM Agreement and drawn in line with the revised SADC Protocol on Shared Watercourses of 2001.
- At a senior government level, there are Joint Permanent Commissions of Cooperation between all of the partner countries. Areas in which countries may cooperate are wide ranging and include transport and communication, irrigation and water development, education, science and research, agriculture, etc.
- Community Based Organisations (CBOs) operating in the area include the Chobe Enclave Community Trust (CECT) and Salambala Conservancy whose work includes combating poaching, controlling veld fires, and improving fishery management, as well as CECT's community campsite and beekeeping initiatives. Further exchanges have been rekindled between Kasika, Impalila and Sekuti Community Development Trust. These

three CBOs are exchanging ideas on future projects, the status of fish stocks and wildlife numbers, incidences of poaching, benefit sharing with the community, sources of income, etc.

Existing projects in the WDA

There are several interesting projects in the area, including:

- The Namibian Ministry of Fisheries and Marine Resources has recognised the need to closely monitor fish species and has recommended that fish be used as indicators for aquatic ecosystem health.
- The Namibian Ministry of Land and Resettlement is busy developing a Zambezi Regional Land Use Plan.
- In conjunction with the Ministry of Fisheries and Marine Resources, WWF Namibia has implemented a project promoting the formation of community fish reserves.
- The Zambezi Society has worked with ZAMCOM, UNESCO, WWF and Flora and Fauna International (amongst others) to develop a series of conservation priorities and river basin initiatives.
- The Chobe NP Management Plan and Chobe River Front Decongestion Strategy both include proposals to improve the jetties. This may help reduce negative effects of mass boat tourism, and can be considered as a transboundary activity given that rivers serve as international borders in this area.
- Development of the Simalaha conservancy in Zambia is underway. As part of phase 1 of the conservancy's development 24,000ha have been cordoned off as a wildlife sanctuary. A game proof fence has been erected with support from the MAVA Foundation, the Swedish Postcode Lottery and Cleveland Zoological Society. Community members were employed to help construct the fence. Once wildlife numbers have increased the fence will be removed, allowing the animals to move in to the wider area. 22 community wildlife monitors have been trained and have started work with financial support from PIFworld.
- Within the same Simalaha conservancy, the Swedish Postcode Lottery, Kadans Foundation, Hitachi Data Systems, Hercuton and Stichting Ergo have also provided funding for community projects including conservation agriculture, training in controlled grazing, the introduction of sustainable energy sources, and the construction of new teacher housing at Mwandu School. The conservancy is managed out of buildings that have been made available by the Barotse Royal Establishment, under guidance from Senior Chief Inyambo Yeta.
- In Botswana there are a variety of projects underway. At the community level, the Chobe Enclave Community Trust is involved in photographic safaris, and the Ngoma Community operates a Lodge. At the national level, the Bio-Chobe project, also known as the Chobe, Linyanti Matrix of protected areas has been financed by UNDP and the Government of Botswana. In Northern Botswana, the Human Wildlife Co-existence Project has been co-financed by the World Bank and has a focus on human wildlife mitigation measures, chilli propagation, demonstration kraals and cluster fencing in agricultural land.

3.4.3 Project Approach

Project objectives

Given the range of challenges facing this WDA, there are several high level objectives, as follows:

- Develop detailed land use plans to enhance management in the WDA.
- Reduce incidence of Human-Wildlife Conflict throughout the WDA.
- Improve social and economic conditions for communities resident in the WDA.
- Facilitate wildlife dispersal through improved planning.
- Monitor fish stocks throughout the WDA.
- Manage the disposal of effluent from tourism facilities
- Reduce negative impacts of unregulated fishing and boat tourism.
- Support the Government of Zambia in its continued development of the Simalaha Communal Conservancy.
-

Critical enabling conditions

In order to achieve the project objectives, the following will be required:

- Availability of financial and human resources to undertake detailed land use mapping.
- Legal agreement and practical collaboration between the Governments of Botswana, Namibia and Zambia on transboundary priorities including riverfront infrastructure, community infrastructure and settlement planning, fishing, the regulation of mass tourism, and investment in CBNRM.
- Availability of financial and technical resources for the above.
- Willingness of the Governments of Botswana, Namibia and Zambia to adhere to fishing seasons and to monitor fish stocks.
- Collaboration between governments, communities and tourism operators.

3.4.4 Activities

The following table summarises activities that are required to help achieve the project objectives outlined above.

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Land use planning</i>			
Develop, review and implement management and development plans for National Parks, conservancies and Wildlife Management Areas.	100,000		High
Detailed land use mapping at 1:25,000 scale.	250,000	Duplication of national mapping initiatives Inefficient use of resources if significant map overlap Limited value of maps and plans if different methodologies used	
Detailed land use zoning.	80,000	As per land use mapping	
Joint aerial and ground counts of wildlife – establishment of baseline in first year for immediate use in wider land use planning exercise. Tie baseline into biennial wildlife counts featured in Natural Resources Management section below.	250,000	Double counting and limited value of counts if different methodologies and dates	
<i>Subtotal land use mapping</i>	<i>680,000</i>		
<i>Tourism development</i>			
Development and use of WDA marketing materials (e.g. signage and local advertising)	75,000	Style and management of materials inconsistent with approach used by KAZA Secretariat	Medium
<i>Subtotal tourism development</i>	<i>75,000</i>		
<i>Infrastructure development</i>			
Assessment of measures to mitigate HWC (Salambala-Sikunga and Simalaha). This study will include an assessment of the impacts for communities living in and around the area.	50,000	Limited community buy in if assessment not conducted in participatory manner	High
<i>Subtotal infrastructure development</i>	<i>50,000</i>		
<i>Community livelihood enhancement</i>			
Support to mitigation measures, including: human-wildlife conflict and climate change	1,000,000	Limited adoption by communities if livelihood enhancement schemes do not offer viable alternatives	Medium
Development of community livelihood schemes, including: joint ventures between communities and private investors, conservation agriculture, fish ranching, creation of fish reserves, horticulture, community owned tourism and accommodation facilities, commercialisation of NTFPs, etc. Use of the UN WTO's Sustainable Tourism – Eliminating Poverty initiative.	10,000,000	Community dissatisfaction due to unequal distribution of resources Limited success of schemes due to lack of community consultation and involvement	Medium
Capacity building schemes based on local needs analysis, including continuous organisational development (finance, governance, legal compliance, etc.)	1,000,000		Medium
<i>Subtotal infrastructure development</i>	<i>12,000,000</i>		
<i>Natural resources management</i>			
Establishment and development of community based organisations with	140,000		Medium

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
Constitutions, By-laws, Benefit Distribution Plans, Management Plans, Zonation Plans, etc.			
Standardisation of data collection for participatory monitoring of wildlife dispersal area resources and community training. Development of protocol for data management sharing and of systems for common reporting.	80,000	Data collection ceases due to lack of community incentives to collect Data analysis limited by quality of data and resources to analyse	Medium
Joint aerial and ground counts of wildlife, including development of protocols on counting methodology and sharing of data. To be tied in to baseline that is established for land use planning in first year of activities.	500,000	Double counting and limited value of counts if different methodologies and dates used.	Medium
Harmonisation of policies for sustainable use of shared natural resources – in keeping with the KAZA TFCA Treaty.	20,000	Non adherence to quotas by communities if none were previously set and traditional ways are challenged	High
Support to transboundary government fisheries committees, establishment and registration of community groups.	100,000		Medium
Support for alignment and implementation of designated fish reserves and fisheries, endorsed by governments.	250,000	Non adherence if communities and government bodies are not adequately consulted Communities unwilling to adhere to regulations if none were previously set and traditional ways are challenged.	High
Support for joint fish research and monitoring protocols, and training in their use.	250,000		Medium
Harmonisation of fishing regulations	25,000		High
Pilot project on value addition through fish packing, drying and processing facilities for Mwandia aquaculture project.	400,000	Inadequate market analysis leads to project failure. Lack of expertise in processing and use of technology leads to project failure. Increased demand leads to over fishing.	Medium
Support for purchase of equipment for community monitoring, e.g. boats	100,000	Equipment used for non-monitoring activities	Medium
Introduction of practical fisheries projects, e.g. fish farms	500,000		Medium
Development of a transboundary fisheries management plan	50,000		High
<i>Subtotal natural resources management</i>	<i>2,415,000</i>		
Total budget for Zambezi – Chobe floodplain WDA	15,220,000		

3.5 Zambezi – Mosi Oa Tunya Wildlife Dispersal Area (Figure 13)

3.5.1 Description

The Zambezi – Mosi Oa Tunya Wildlife Dispersal Area has the Victoria Falls / Mosi Oa Tunya World Heritage Site at its heart. The WDA is bordered by Zambia in the north and Zimbabwe in the south, with the Zambezi River running west-east and acting as the international boundary.

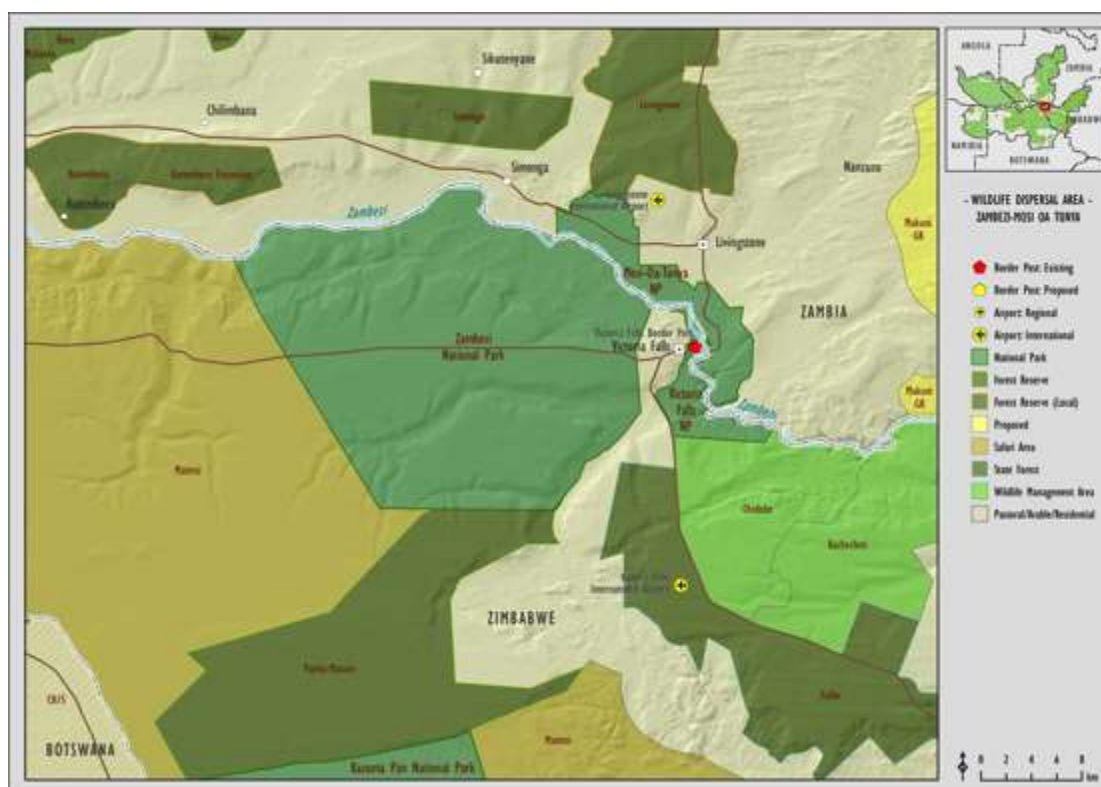


Figure 13: Zambezi - Mosi-oa-Tunya WDA

(Please note that this map does not show the location of the wildlife dispersal routes highlighted on other maps.)

As illustrated in Figure 13 above, the area suffers from differences in land use, many of which are incompatible. To the north, land use is primarily open, being pastoral, arable and residential in nature. This is interspersed with three forest reserves, namely Katombora extension, Simonga and Livingstone. Heading south, Zambia's Mosi-Oa-Tunya NP borders the Zambezi River and is flanked by Zambezi NP and Victoria Falls NP, with a small but significant section of open access land separating the two Zimbabwean National Parks. Victoria Falls NP is flanked by the Chidobe Wildlife Management Area to the south, and by open access land on the Zambian side. The Zambezi NP lies adjacent to the Matetsi Safari Area to the west, the Panda-Masueie Forest Reserve to the south, and open access land to the west. As a major tourist destination the region is served by two international airports and two major roads in both Zambia and Zimbabwe.

Figure 6 shows that the human footprint is at its most concentrated in this WDA, with high population density, large numbers of human settlements, agricultural development, land clearing, tourism and infrastructure developments. Despite the concentration of human activities, the WDA is important for wildlife migration, as animals drink from and cross the Zambezi River, especially in the dry season.

3.5.2 Situational analysis

Key issues and challenges

Many of the challenges facing this WDA are directly linked to the high population density and tourism-related economy; others relate to the aim to create ecological linkages in areas that traverse open access land. Key challenges can be summarised as follows:

- **Environmental pollution** is being created as a result of inadequate waste disposal and sanitation infrastructure, especially in urban and tourist areas.
- **Deforestation** is high because of the demand for wood for construction and for fuel in urban and tourist areas.
- **Wildlife migration routes are impeded** because of poorly planned infrastructure and human settlements.
- **Tourism is suffering** from increased urbanisation and the tourist experience may deteriorate if tourism and other developments are not approached in a more considered manner.
- **Transboundary land use is incompatible** leading to challenges for wildlife management, habitat conservation and biodiversity.
- **Community involvement in tourism** could be improved through better planning and management.
- **Land use is poorly mapped** although town plans and maps should be available from government offices.
- **Co-management agreements between government and traditional authorities will be essential** if ecological linkages are to be created from Katombora, through to Simonga and Livingstone forest reserves, leading eventually to Mosi Oa Tunya.

Current institutional arrangements

There are many examples of transboundary cooperation between the partner countries in this WDA. This list is not exhaustive but serves to illustrate a few of the areas most relevant to the KAZA TFCA. Examples include:

- The Zambezi Watercourse Commission (ZAMCOM) brings together all five KAZA TFCA partner countries as well as Malawi, Mozambique and Tanzania. Its vision is to be a water management organization for the entire Zambezi River Basin, as stipulated in the ZAMCOM Agreement and drawn in line with the revised SADC Protocol on Shared Watercourses of 2001.
- At a senior government level, there are Joint Permanent Commissions of Cooperation between all of the partner countries. Areas in which countries may cooperate are wide ranging and include transport and communication, irrigation and water development, education, science and research, agriculture, etc.

- As part of the World Heritage Convention, there are institutional frameworks for the management of the Victoria Falls / Mosi-oa-Tunya site. These operate at three levels: Joint Ministerial, Joint Technical and Joint Site Management Committees.

Existing projects in the WDA

There are several interesting projects in the area, including:

- The Tashinga Initiative provides support to the Matetsi Safari Area and the Victoria Falls NP. Support has included the provision of communication and solar equipment, infrastructure and tourism development, and ranger training and selection.
- The Wildlife Horizons Trust projects include rehabilitation of injured and orphaned wildlife, anti-poaching and wildlife veterinary assistance, community-based projects, and a children's conservation education programme.
- Victoria Falls Anti-Poaching Unit works in close collaboration with the Zimbabwe Parks and Wildlife Management Authority and the Zimbabwe Republic Police on anti-poaching efforts. They patrol a 50km² area around Victoria Falls with 18 full time scouts to combat poaching in all its forms. The Unit focuses on the removal of snares and the apprehension of subsistence and commercial poachers, but also undertakes education and CBNRM work.
- The Mukuni Development Trust was developed in 2003, in Mukuni village, near Livingstone. Income generated through village tours, curio markets and rafting on the Zambezi River is spent improving access to education and health.
- The Elephant Pepper Development Trust works with farmers to reduce the short-term impacts of elephants raiding. Their work focuses on the development of strategies, the creation of buffer zones, the burning of chilli briquettes and the erection of barriers coated in chilli grease. The Trust is based in Livingstone and has developed demonstration sites in and around the area, as well as working in Botswana, Namibia and Zimbabwe.

3.5.3 Project Approach

Project objectives

Given the range of challenges facing this WDA, there are several high level objectives, as follows:

- Develop detailed land use plan to enhance management in the WDA.
- Reduce environmental pollution by promoting good waste disposal and sanitation management.
- Reduce deforestation by providing alternative sources of fuel and building materials.
- Maintain or increase current levels of wildlife and habitat conservation by mitigating land use conflicts.
- Improve social and economic conditions for communities resident in WDA.
- Improve tourist experience through better planning and management.
- Improve accessibility of WDA for tourists by upgrading Zambia / Zimbabwe border post.

Critical enabling conditions

In order to achieve the project objectives, the following will be required:

- Availability of financial and human resources to undertake detailed land use mapping.
- Legal agreement and practical collaboration between Governments of Zambia and Zimbabwe to reduce negative impacts of poorly managed urban and peri-urban settlements.
- Legal agreement and practical collaboration between Governments of Zambia and Zimbabwe to set and manage tourism levels.

3.5.4 Activities

The following table summarises activities that are required to help achieve the project objectives outlined above.

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Land use planning</i>			
Develop, review and implement management and development plans for National Parks, conservancies and Wildlife Management Areas.	100,000		High
Detailed land use mapping at 1:25,000 scale.	250,000	Duplication of national mapping initiatives Inefficient use of resources if significant map overlap Limited value of maps and plans if different methodologies used	
Detailed land use zoning.	80,000	As per land use mapping	
Joint aerial and ground counts of wildlife – establishment of baseline in first year for immediate use in wider land use planning exercise. Tie baseline into biennial wildlife counts featured in Natural Resources Management section below.	250,000	Double counting and limited value of counts if different methodologies and dates	
<i>Subtotal land use mapping</i>	<i>680,000</i>		
<i>Tourism development</i>			
Joint tourism packages Promotion, marketing and development of UNIVISA Harmonisation of policies on tourism Private sector/business development Joint bilateral tour packages development Joint bilateral tour operations development Joint bilateral tour guiding development Tourism Education and training Tourism related infrastructure (e.g. museums, cultural centres, monuments, heritage sites)	2,945,000		Medium
Development and use of WDA marketing materials (e.g. signage and local advertising)	75,000	Style and management of materials inconsistent with approach used by KAZA Secretariat	Medium
<i>Subtotal tourism development</i>	<i>3,020,000</i>		
<i>Infrastructure development</i>			
Development of transboundary communication system. Feasibility studies Harmonisation of policies, legislation and development of protocols Collaborative Parks Developments Signage Development Physical equipment and support infrastructure i.e. Zambia-Zimbabwe bridge development and upgrade	1,000,000 1,700,000	Purchase of equipment not accompanied by training or incentives to improve transboundary communication Safety and security	High

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
Interpretation centres Parks Coordination - office and accommodation facilities in both NPs Bilateral TFCA river developments i.e. boating, jetties, and quays.			
<i>Subtotal infrastructure development</i>	<i>2,700,000</i>		
<i>Community livelihood enhancement</i>			
Support to mitigation measures, including: human-wildlife conflict and climate change	1,000,000	Limited adoption by communities if livelihood enhancement schemes do not offer viable alternatives	Medium
Development of community livelihood schemes, including: joint ventures between communities and private investors, conservation agriculture, fish ranching, creation of fish reserves, horticulture, community owned tourism and accommodation facilities, commercialisation of NTFPs, etc. Use of the UN WTO's Sustainable Tourism – Eliminating Poverty initiative.	5,000,000	Community dissatisfaction due to unequal distribution of resources Limited success of schemes due to lack of community consultation and involvement	Medium
Capacity building schemes based on local needs analysis, including continuous organisational development (finance, governance, legal compliance, etc.)	1,000,000		Medium
<i>Subtotal infrastructure development</i>	<i>7,000,000</i>		
<i>Natural resources management</i>			
Establishment and development of community based organisations with Constitutions, By-laws, Benefit Distribution Plans, Management Plans, Zonation Plans, etc.	140,000		Medium
Standardisation of data collection for participatory monitoring of wildlife dispersal area resources and community training. Development of protocol for data management sharing and of systems for common reporting.	80,000	Data collection ceases due to lack of community incentives to collect Data analysis limited by quality of data and resources to analyse	Medium
Joint aerial and ground counts of wildlife, including development of protocols on counting methodology and sharing of data. To be tied in to baseline that is established for land use planning in first year of activities.	500,000	Double counting and limited value of counts if different methodologies and dates used.	Medium
Harmonisation of policies for sustainable use of shared natural resources – in keeping with the KAZA TFCA Treaty.	20,000	Non adherence to quotas by communities if none were previously set and traditional ways are challenged	High
Development of Dambwa Forest	100,000		Medium
<i>Subtotal natural resource management</i>	<i>840,000</i>		
Total budget for Zambezi – Mosi oa Tunya WDA	14,240,000		

3.6 Hwange-Kazuma-Chobe Wildlife Dispersal Area (Figure 14)

3.6.1 Description

Stretching in a NW-SE direction, an international border runs down the middle of this WDA, with Zimbabwe lying to the east and Botswana to the west.

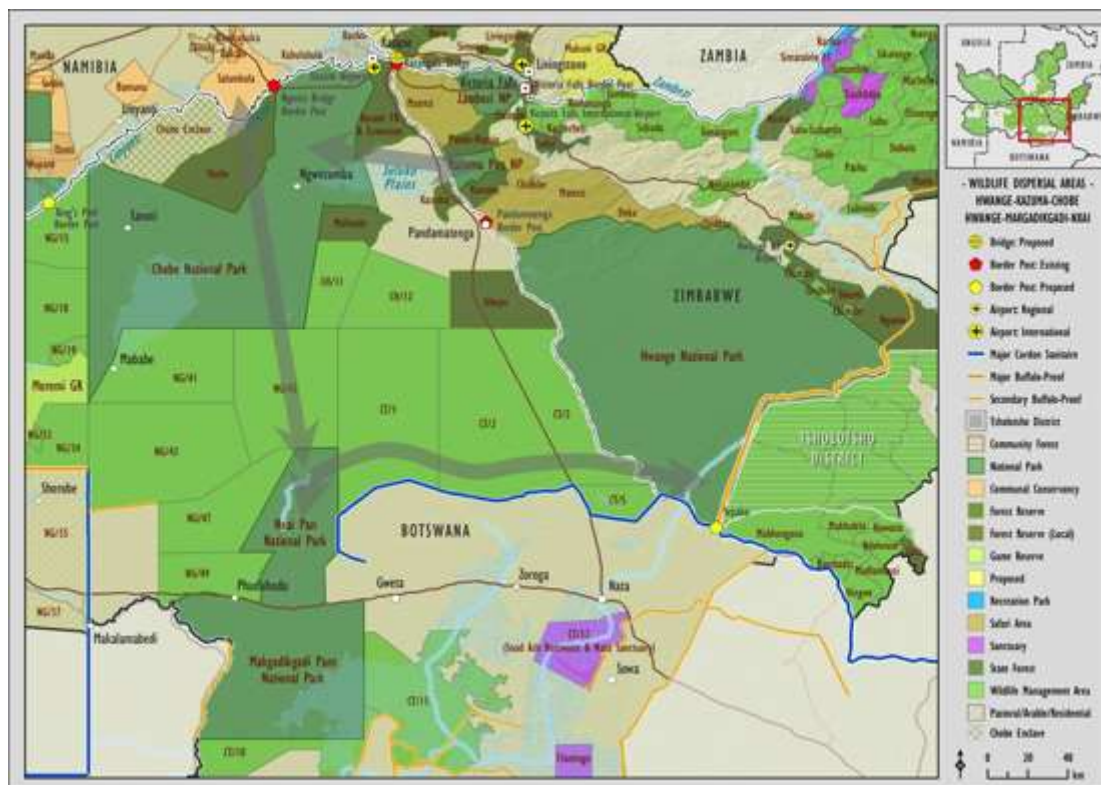


Figure 14: Hwange-Kazuma-Chobe WDA

Lying just to the west of the border is the main road from Kazangula to Nata. This is a major arterial road carrying significant commercial and tourist traffic and running down the middle of several wildlife dispersal routes that run east-west between Hwange, Kazuma and Chobe National Parks. This presents a land use challenge that is further complicated by an increasing number of agricultural developments in the area, especially around Pandamatenga. There are proposals to expand and fence agriculture in this area, to further develop the Kazangula-Nata road and possibly to introduce rail links.

There are several other areas of potential land use incompatibility. The two Matsienghoma Safari Areas in Zimbabwe are mainly used for hunting, but lie adjacent to Botswana's communal farming areas, tourism concessions and the Kasane Forest Reserve and Extension. On the Zimbabwean side, the Kazuma Pan NP and the north westerly tip of Hwange NP lie adjacent to farming areas in Botswana. Further south, land uses are more compatible, where Hwange NP borders Sibuyu Forest Reserve and Wildlife Management Areas CT 3 and CT 5. Heading still further south, the cultivated areas of Tsholotsho District meet communal areas east of Nata and land uses can be

considered relatively compatible. A section of veterinary fence affects the southern tip of Hwange NP and the Tsholotsho District – this is covered and budgeted in the Hwange-Makgadikgadi-Nxai Pan WDA. A major buffalo proof fence separates Hwange NP from Tsholotsho District.

From Figure 5 the incidence of recorded anthropogenic and natural wildfires is midrange. This area forms part of the Baikiae woodland ecosystem, interspersed with acacia dominated, mixed mopane and wooded grasslands. Figure 5 suggests that NE Chobe NP, Kasane Forest Reserve and Extension, Kazuma Pan NP and the Matetsi Safari Areas all host a mid level incidence of fires. The area around Pandamatenga seems to be the most densely burnt. As a general observation, the incidence of burning seems higher in Botswana than in Zimbabwe, despite the higher human population density on the Zimbabwean side.

Water resources are only seasonally available and groundwater levels are vulnerable. Scarcity of water and forage affect both wildlife and humans during the dry season.

In ecological terms, this WDA hosts over 100 mammal species and 400 species of bird. Within the WDA are several important wildlife dispersal routes, including documented routes for elephant, lion and other species (Figure 3 and Figure 14).

3.6.2 Situational analysis

Key issues and challenges

The majority of challenges facing this WDA are linked to the co-existence of human and wildlife populations, the road network, possible rail network and continuing agricultural developments. These are summarized as follows:

- **Human-Wildlife Conflict**, which occurs where existing human settlements and the multiple wildlife dispersal routes interact along the international border, e.g. around Pandamatenga.
- **Land use management challenges** as opportunities for agriculture, tourism and socio-economic development expand alongside the existing wildlife dispersal routes.
- **Wildfire management** especially around Pandamatenga, Kazuma Pan NP, Matetsi, Kasane FR and the north-eastern section of Chobe NP.
- **Water resource scarcity** for both human and wildlife populations.
- **Potential for restricted wildlife movement** as a result of possible road expansion and the potential railway.

Current institutional arrangements

There are many examples of transboundary cooperation between the partner countries in this WDA. This list is not exhaustive but serves to illustrate a few of the areas most relevant to the KAZA TFCA. Examples include:

- The Southern African Rock Art Project (SARAP) aims: to create momentum for rock art preservation, conservation, accessibility, and management in the Southern African region; to offer opportunities for capacity building in

rock art site management, conservation, interpretation, presentation, and specialized tourist guiding; and to strengthen contacts and create a community of practice among rock art professionals in Southern African countries. Within the KAZA TFCA, Botswana, Namibia and Zimbabwe participate in SARAP.

- At a senior government level, there are Joint Permanent Commissions of Cooperation between all of the partner countries. Areas in which countries may cooperate are wide ranging and include transport and communication, irrigation and water development, education, science and research, agriculture, etc.

Existing projects in the WDA

These include, but are not limited to the following:

- The Zambezi Society in partnership with the Zimbabwe Parks and Wildlife Management Authority and Wildlife Conservation and Research Unit (Oxford University) is collecting information to assess the status of leopard populations.
- In Zimbabwe's Zambezi Valley, CIRAD (the French Agricultural Research Centre for International Development) has been working to promote conservation agriculture and is exploring self-cleaning cropping systems.
- Painted Dog Conservation, in collaboration with the Zimbabwe Parks and Wildlife Management Authority, undertakes anti poaching activities as well as community development and outreach programmes, with a view to protecting and increasing the numbers of Wild Dog in Zimbabwe including in Hwange NP and the neighbouring conservancies.
- With support from the African Conservation Foundation, the Chobe Wildlife Trust works with local organisations to conduct research and conservation management, as well as conducting environmental awareness and education projects.
- In Botswana, photographic safaris are being run by the KALEPA Community Trust and at the national level, the Zambezi Water Carrier Project is underway with an Environmental Impact Assessment that has been completed.

3.6.3 Project Approach

Project objectives

Given the range of challenges facing this WDA, there are several high level objectives, as follows:

- Develop detailed land use plans to enhance management in the WDA and to assist with co-existence of wildlife dispersal routes alongside plans for infrastructure, tourism and agricultural expansion.
- Improve social and economic conditions for communities resident in the WDA.
- Reduce incidence of Human-Wildlife Conflicts.
- Improve water resource availability.
- Improve wildfire management.

Critical enabling conditions

In order to achieve the project objectives, the following will be required:

- Availability of financial and human resources to undertake detailed land use mapping.
- Legal agreement and practical collaboration between Governments of Botswana and Zimbabwe to manage developments in infrastructure, tourism and agriculture alongside existing wildlife dispersal routes.
- Availability of financial resources to undertake infrastructural, agricultural and tourist developments.
- Availability of financial and technical means to improve water resource availability.
- Availability of financial and human resources to invest in Human-Wildlife Conflict mitigation strategies.

3.6.4 Activities

The following table summarises activities that are required to help achieve the project objectives outlined above.

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Land use planning</i>			
Develop, review and implement management and development plans for National Parks, conservancies and Wildlife Management Areas.	100,000		High
Detailed land use mapping at 1:25,000 scale.	250,000	Duplication of national mapping initiatives Inefficient use of resources if significant map overlap Limited value of maps and plans if different methodologies used	
Detailed land use zoning.	80,000	As per land use mapping	
Joint aerial and ground counts of wildlife – establishment of baseline in first year for immediate use in wider land use planning exercise. Tie baseline into biennial wildlife counts featured in Natural Resources Management section below.	250,000	Double counting and limited value of counts if different methodologies and dates	
<i>Subtotal land use mapping</i>	<i>680,000</i>		
<i>Tourism development</i>			
Development and use of WDA marketing materials (e.g. signage and local advertising)	75,000	Style and management of materials inconsistent with approach used by KAZA Secretariat	Medium
Support development of tourism income along Hunters / Border Road	100,000		Medium
Capacity building for staff	75,000		Medium
<i>Subtotal tourism development</i>	<i>250,000</i>		
<i>Infrastructure development</i>			
Support for existing water resources.	500,000		High
Purchase and supply of transboundary communication equipment	200,000		High
Rehabilitation of roads and trails.	500,000		High
<i>Subtotal infrastructure development</i>	<i>1,200,000</i>		
<i>Community livelihood enhancement</i>			
Support to mitigation measures, including: human-wildlife conflict and climate change	1,000,000	Limited adoption by communities if livelihood enhancement schemes do not offer viable alternatives	Medium
Development of community livelihood schemes, including: joint ventures between communities and private investors, conservation agriculture, fish ranching, creation of fish reserves, horticulture, community owned tourism and accommodation facilities, commercialisation of NTFPs, etc. Use of the UN WTO's Sustainable Tourism – Eliminating Poverty initiative.	5,000,000	Community dissatisfaction due to unequal distribution of resources Limited success of schemes due to lack of community consultation and involvement	Medium
Capacity building schemes based on local needs analysis, including continuous organisational development (finance, governance, legal compliance, etc.)	1,000,000		Medium

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Subtotal infrastructure development</i>	7,000,000		
<i>Natural resources management</i>			
Establishment and development of community based organisations with Constitutions, By-laws, Benefit Distribution Plans, Management Plans, Zonation Plans, etc.	140,000		Medium
Standardisation of data collection for participatory monitoring of wildlife dispersal area resources and community training. Development of protocol for data management sharing and of systems for common reporting.	80,000	Data collection ceases due to lack of community incentives to collect Data analysis limited by quality of data and resources to analyse	Medium
Joint aerial and ground counts of wildlife, including development of protocols on counting methodology and sharing of data. To be tied in to baseline that is established for land use planning in first year of activities.	500,000	Double counting and limited value of counts if different methodologies and dates used.	Medium
Harmonisation of policies for sustainable use of shared natural resources – in keeping with the KAZA TFCA Treaty.	20,000	Non adherence to quotas by communities if none were previously set and traditional ways are challenged	High
Development of fire management plans where non-existent and updating of fire management plans that do exist. Further support provided to existing fire management teams or the creation of new fire management teams as necessary. This will include provision of training, awareness raising, and equipment.	500,000	Incidence and control of fires does not improve due to inconsistent application of fire management practices across boundaries and between fire management teams	High
Recruitment of staff, construction of accommodation and purchase of equipment	300,000		High
Wildlife monitoring through use of telemetry	300,000		High
<i>Subtotal natural resources management</i>	1,840,000		
Total budget fo Hwange – Kazuma – Chobe WDA	10,970,000		

3.7 Hwange-Makgadikgadi-Nxai Pan Wildlife Dispersal Area (Figure 15)

3.7.1 Description

This Wildlife Dispersal Area straddles two countries, namely Botswana and Zimbabwe, with Botswana making up the larger portion.

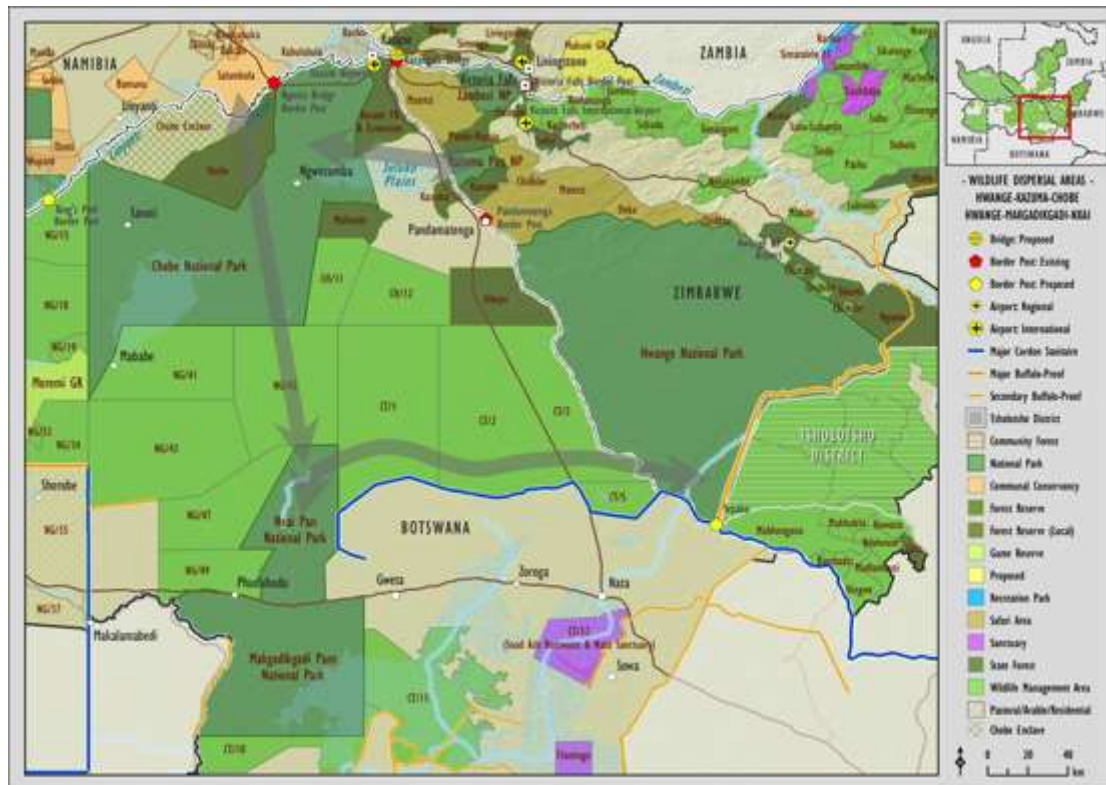


Figure 15: Hwange-Makgadikgadi-Nxai WDA

Botswana's Makgadikgadi Pans National Park lies at the southern tip of this Wildlife Dispersal Area. Along with the Nxai Pan NP, these salt pans are amongst the major tourist destinations within the KAZA TFCA and boast some of the best tourism facilities (Figure 8). The salt pans are served by the River Nata (which rises in Zimbabwe) and, to a lesser extent, by the Boteti River from the Okavango Delta. Makgadikgadi Pans NP shares its northern boundary with Nxai Pan NP, is flanked to the east and south by Wildlife Management Areas CT 10 and 11, and to the west by communal land from which it is partly separated by a secondary buffalo proof fence. To the north east of Makgadikgadi NP lie community land and a Major Cordon Sanitaire (veterinary fence), which is a significant feature of the area. The Major Cordon Sanitaire affecting this WDA starts near the town of Gweta, runs along the eastern border of Nxai Pan NP and along the southern edges of three Wildlife Management Areas, being CTs 1, 2 and 5. The fence proceeds along the southern part of Hwange NP, intersects with the Major Buffalo proof fence at Sepako and then skirts the edge of Tsholotsho District.

In terms of road infrastructure, the area boasts two main roads, one of which runs east-west from Nata, through Zoroga, Gweta and Phuduhudu towards Maun, whilst the other is the major arterial route running parallel to the Zimbabwe-Botswana border from Nata to Kazangula. Despite the existence of these two major roads, access to the south of Hwange NP is limited. For this reason a new border post and access road have been proposed in Sepako, with a link road from Nata, on the eastern boundary of the salt pans.

In land use terms, the areas of greatest incompatibility are livestock ranching and wildlife dispersal. A total of six secondary buffalo fences crisscross the Makgadikgadi salt pan area, and the Major Cordon Sanitaire lies to the north of the salt pans. Water resources throughout the WDA are very vulnerable, affecting wildlife, livestock and humans.

Ecologically, this is a very important WDA, especially for large mammals including elephant, buffalo and zebra. During the dry season the salt pans are a very inhospitable place, but following rains, the pans play host to large migrations of zebra, wildebeest and their predators; host the arrival of migratory birds such as duck, geese and Great White Pelicans; and accommodate one of only two breeding colonies of Greater Flamingos in southern Africa. Figure 3 and Figure 15 show that several species have been documented as migrating between Hwange NP and the salt pans.

3.7.2 Situational analysis

Key issues and challenges

Virtually all the issues affecting this area relate to the management of fences, water holes and wildlife dispersal routes.

- **Restricted wildlife movement** due to widespread presence of buffalo proof fences and Major Cordon Sanitaire, all of which require action.
- **Restricted wildlife movement** due to decommissioned fences that have yet to be removed.
- **Water resource scarcity** in and between Hwange NP, Nxai Pans NP and Makgadikgadi Pans NP.
- **Human-Wildlife Conflict** that occurs as a result of incompatible land uses, primarily ranching and wildlife dispersal.
- **Wildfire management** throughout the WDA given the arid conditions and water scarcity.

Current institutional arrangements

At a senior government level, there are Joint Permanent Commissions of Cooperation between all of the partner countries. Areas in which countries may cooperate are wide ranging and include transport and communication, irrigation and water development, education, science and research, agriculture, etc.

Existing projects in the WDA

These include, but are not limited to the following:

- In Botswana, the Gwezotshaa Community Trust is proposing game farming in the (NG 51) area as well as trade in veldt products, including Morula.

3.7.3 Project Approach

Project objectives

Given the range of challenges facing this WDA, there are several high level objectives, as follows:

- Develop detailed land use plans to enhance management in the WDA and to assist with co-existence of wildlife dispersal routes and livestock ranches. Particular emphasis is to be placed upon the removal or realignment of fences.
- Improve social and economic conditions for communities resident in the WDA.
- Reduce incidence of Human-Wildlife Conflicts.
- Improve water resource availability.
- Improve wildfire management.
- Improve access through road and border post construction.

Critical enabling conditions

In order to achieve the project objectives, the following will be required:

- Availability of financial and human resources to undertake detailed land use mapping.
- Legal agreement and practical collaboration between Governments of Botswana and Zimbabwe to manage developments in infrastructure, tourism and agriculture alongside existing wildlife dispersal routes, with particular focus on fence removal or realignment.
- Availability of financial resources to undertake or modify infrastructural and agricultural developments.
- Availability of financial and technical means to improve water resource availability.
- Availability of financial and human resources to invest in Human-Wildlife Conflict mitigation strategies.

3.7.4 Activities

The following table summarises activities that are required to help achieve the project objectives outlined above.

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Land use planning</i>			
Develop, review and implement management and development plans for National Parks, conservancies and Wildlife Management Areas.	100,000		High
Detailed land use mapping at 1:25,000 scale.	250,000	Duplication of national mapping initiatives Inefficient use of resources if significant map overlap Limited value of maps and plans if different methodologies used	
Detailed land use zoning.	80,000	As per land use mapping	
Joint aerial and ground counts of wildlife – establishment of baseline in first year for immediate use in wider land use planning exercise. Tie baseline into biennial wildlife counts featured in Natural Resources Management section below.	250,000	Double counting and limited value of counts if different methodologies and dates	
<i>Subtotal land use mapping</i>	<i>680,000</i>		
<i>Tourism development</i>			
Development and use of WDA marketing materials (e.g. signage and local advertising)	75,000	Style and management of materials inconsistent with approach used by KAZA Secretariat	Medium
<i>Subtotal tourism development</i>	<i>75,000</i>		
<i>Infrastructure development</i>			
Support for existing water resources.	500,000		Low
Construction of a new tourism access facility at Sepako (including reopening of road / track network).	1,500,000		Low
Support to national and transboundary discussions regarding the future of veterinary fences.	150,000		High
<i>Subtotal infrastructure development</i>	<i>2,150,000</i>		
<i>Community livelihood enhancement</i>			
Support to mitigation measures, including: human-wildlife conflict and climate change	1,000,000	Limited adoption by communities if livelihood enhancement schemes do not offer viable alternatives	Medium
Development of community livelihood schemes, including: joint ventures between communities and private investors, conservation agriculture, fish ranching, creation of fish reserves, horticulture, community owned tourism and accommodation facilities, commercialisation of NTFPs, etc. Use of the UN WTO's Sustainable Tourism – Eliminating Poverty initiative.	5,000,000	Community dissatisfaction due to unequal distribution of resources Limited success of schemes due to lack of community consultation and involvement	Medium
Capacity building schemes based on local needs analysis, including continuous organisational development (finance, governance, legal compliance, etc.)	1,000,000		Medium
<i>Subtotal infrastructure development</i>	<i>7,000,000</i>		

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Natural resources management</i>			
Establishment and development of community based organisations with Constitutions, By-laws, Benefit Distribution Plans, Management Plans, Zonation Plans, etc.	140,000		Medium
Standardisation of data collection for participatory monitoring of wildlife dispersal area resources and community training. Development of protocol for data management sharing and of systems for common reporting.	80,000	Data collection ceases due to lack of community incentives to collect Data analysis limited by quality of data and resources to analyse	Medium
Joint aerial and ground counts of wildlife, including development of protocols on counting methodology and sharing of data. To be tied in to baseline that is established for land use planning in first year of activities.	500,000	Double counting and limited value of counts if different methodologies and dates used.	Medium
Harmonisation of policies for sustainable use of shared natural resources – in keeping with the KAZA TFCA Treaty.	20,000	Non adherence to quotas by communities if none were previously set and traditional ways are challenged	High
Development of fire management plans where non-existent and updating of fire management plans that do exist. Further support provided to existing fire management teams or the creation of new fire management teams as necessary. This will include provision of training, awareness raising, and equipment.	500,000	Incidence and control of fires does not improve due to inconsistent application of fire management practices across boundaries and between fire management teams	High
Wildlife monitoring through use of telemetry	300,000		Medium
Recruitment of staff, construction of accommodation and purchase of equipment	300,000		Medium
<i>Subtotal natural resource management</i>	<i>1,840,000</i>		
Total budget for Hwange – Makgadikgadi – Nxai Pan WDA	11,745,000		

3.8 Khaudum – Ngamiland (NGs 1, 2, 3, 4) Wildlife Dispersal Area (Figure 16)

3.8.1 Description

Botswana and Namibia share a common border divided by a Major Cordon Sanitaire running N-S and heading sharply east along the 'pan handle'. To the north of the pan handle lies Angola's Luengue-Luiana NP.

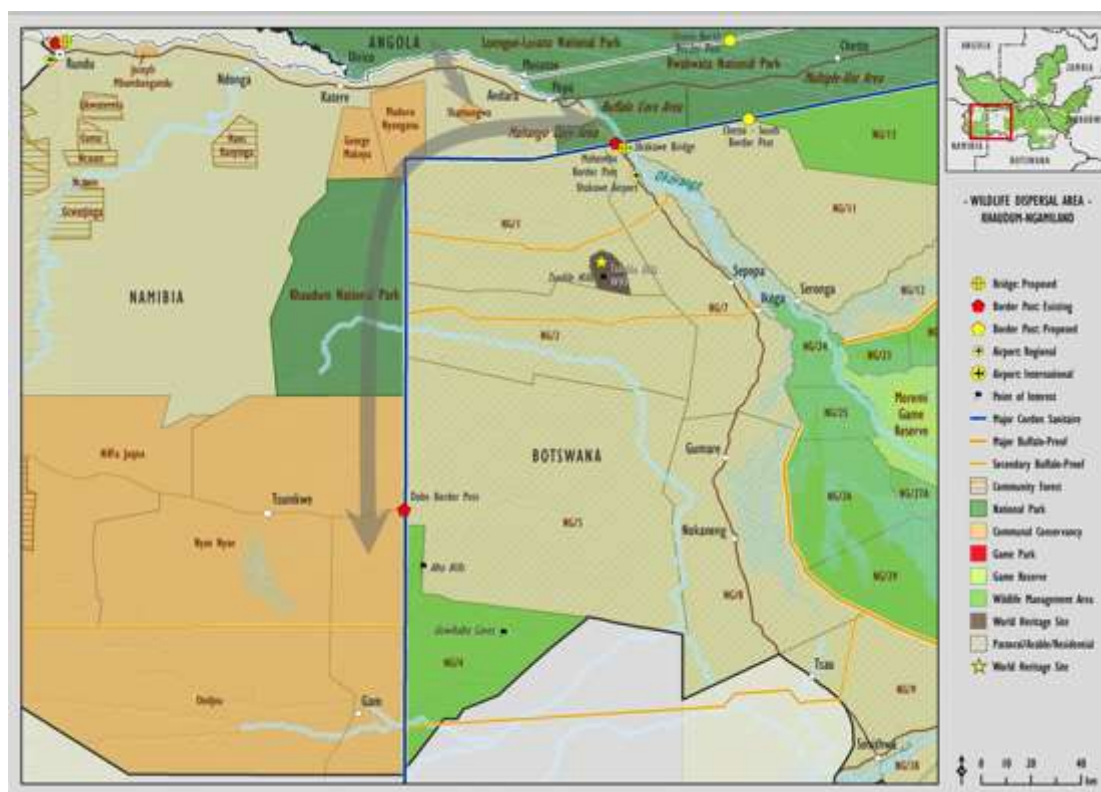


Figure 16: Khaudum-Ngamiland WDA

Mapped land use is incompatible either side of the border. In Namibia, Khaudum NP lies adjacent to Communal Conservancies to the south and north, which in turn lead to Bwabwata NP and the Buffalo Core Area in the northeast. All Namibia's protected areas are bordered on the Botswana side by multiple use open land (NGs 1, 2, 3, 7 and 11) with human settlements at low density, arable fields and livestock grazing throughout. NGs 1, 2, 3 and 4 are classified for community managed wildlife use in a livestock area. The international border fence is a major feature in this area.

In terms of infrastructure, the northern section of the WDA is served by the W-E Rundu-Katima Mulilo main road, whilst the eastern section is served by the N-S Popo-Tsau road which crosses from Botswana to Namibia at the Muhembo border post. There is a second border post at Dobe, east of the Nyae Nyae conservancy in Namibia, though road access is considered poor. Additional border posts and associated link roads are proposed in Bwabwata NP, on both the border with Botswana and with Angola.

This area has several points of interest for tourists but tends to receive limited numbers of tourists. Potential tourism attraction points in western Ngamiland include Tsodilo Hills World Heritage Site, various caves and the Aha Hills, whilst on the Namibian side Khaudum NP and the seasonally wildlife rich conservancies of Nyae-Nyae have tourism potential (Figure 9).

In ecological terms, the WDA is important for elephant dispersal, as shown by documented dispersal routes (Figure 3 and Figure 16). Elephants migrate to and from Khaudum NP and the Communal Conservancies south of Khaudum to Bwabwata NP (and possibly into Angola), where the Okavango River can be accessed. The elephants flatten the border fence between Namibia and Botswana and use the north western tip of Botswana. They pass through NG1/Khaudum, crossing unprotected areas with scattered Hambukushu settlements in Namibia before reaching the Mahango Core Area of Bwabwata National Park.

There are other less well-documented wildlife dispersal routes between the western Botswana areas NG3 and 4 and the wetter areas near the Okavango Delta such as NG25. A few rather narrow dispersal routes remain for zebra, elephant and other animals near Gumare and near Ikoga, where animals traverse Wildlife Management Areas NG7 and NG8. Documented sightings west of Gumare include hundreds of elephant, buffalo and zebra, which cross through the dry valleys and pans annually.

3.8.2 Situational analysis

Key issues and challenges

Most of the issues affecting this area relate to the Major Cordon Sanitaire and its effects on wildlife dispersal, the incompatibility of adjacent land uses, and the underdevelopment of tourism:

- **Restricted wildlife movement** due to Major Cordon Sanitaire.
- **Wildfire management** especially in and around Khaudum National Park and along the western borders of NGs 1 and 2 (Figure 5).
- **Lack of socio-economic opportunities** and potential to lead to higher incidence of Human-Wildlife Conflict.
- **Limited transboundary infrastructure** in many parts of the WDA, which hampers access and opportunities for resident communities and tourists.

Current institutional arrangements

There are many examples of transboundary cooperation between the partner countries in this WDA. This list is not exhaustive but serves to illustrate a few of the areas most relevant to the KAZA TFCA. Examples include:

- The Southern African Rock Art Project (SARAP) aims: to create momentum for rock art preservation, conservation, accessibility, and management in the Southern African region; to offer opportunities for capacity building in rock art site management, conservation, interpretation, presentation, and specialized tourist guiding; and to strengthen contacts and create a community of practice among rock art professionals in Southern African

countries. Within the KAZA TFCA, Botswana, Namibia and Zimbabwe participate in SARAP.

- Community Based Organisations (CBOs) operating in the area include the Teemashane and #heku Trusts, Gorege Mukoya Conservancy, Muduva Nyangana Conservancy, Nyae Nyae conservancy, N#a Jagna Conservancy.

Existing projects in the WDA

These include, but are not limited to the following:

- The Namibian National Parks Programme is part of Namibia's Ministry of Environment and Tourism. It works in Bwabwata, Khaudum, Mudumu and Nkasa Rupara NPs, supporting Namibia's CBNRM Programme.
- The Khaudum North Complex is a cluster of resource management units including George Mukoya and Muduva Nyangana community conservation areas and Khaudum National Park. Its mission is to work together to rehabilitate and manage the area's fauna and flora, and guide the development of tourism and resource use for social, cultural and economic benefits through collaborative management of community conservation areas and national parks. The Complex covers an area of approximately 4,900km² and a population of approximately 4,000 people.
- WWF works closely with the Namibian government and other partners to support conservation in this WDA. This includes support to communal conservancy programmes, support to wildlife conservation, and support in tracking elephant movements and recording the effect of fences, roads and other barriers.
- In Botswana's Ngamiland, the Council of NGOs supports over 50 Civil Society Organisations involved a wide variety of activities, including CBNRM and environmental conservation.
- Community projects in Botswana include photographic safari camps for Qcae-qcae Community Trust, the Tsodilo hills community campsites and cultural heritage site (a World Heritage Site), the Okavango Pan-handle Community trust, and Okavango Community Trust, both of which conduct photographic safaris.

3.8.3 Project Approach

Project objectives

Given the range of challenges facing this WDA, there are several high level objectives, as follows:

- Map land use and present options for management of fence, diseases and wildlife dispersal.
- Facilitate dispersal of wildlife through removal or realignment of veterinary fence.
- Reduce incidence of wildfires through support for community based wildfire management.
- Reduce Human-Wildlife Conflict and provide greater socio-economic opportunities via introduction of CBNRM.

- Improve socio-economic and tourism opportunities through investment in infrastructure. Specific proposals have been drawn up to address this through introduction of new border posts between Bwabwata NP and Angola, and between Bwabwata NP and Botswana.

Critical enabling conditions

In order to achieve the project objectives, the following will be required:

- Availability of financial and human resources to undertake detailed land use mapping.
- Legal agreement and practical collaboration between Governments of Botswana and Namibia to manage developments in infrastructure, tourism and agriculture alongside existing wildlife dispersal routes, with particular focus on veterinary fence.
- Availability of financial resources to undertake or modify infrastructural and agricultural developments.
- Availability of financial and human resources to invest in Human-Wildlife Conflict mitigation strategies, and CBNRM.

3.8.4 Activities

The following table summarises activities that are required to help achieve the project objectives outlined above.

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Land use planning</i>			
Develop, review and implement management and development plans for National Parks, conservancies and Wildlife Management Areas.	100,000		High
Detailed land use mapping at 1:25,000 scale.	250,000	Duplication of national mapping initiatives Inefficient use of resources if significant map overlap Limited value of maps and plans if different methodologies used	
Detailed land use zoning.	80,000	As per land use mapping	
Joint aerial and ground counts of wildlife – establishment of baseline in first year for immediate use in wider land use planning exercise. Tie baseline into biennial wildlife counts featured in Natural Resources Management section below.	250,000	Double counting and limited value of counts if different methodologies and dates	
<i>Subtotal land use mapping</i>	<i>680,000</i>		
<i>Tourism development</i>			
Development and use of WDA marketing materials (e.g. signage and local advertising)	75,000	Style and management of materials inconsistent with approach used by KAZA Secretariat	Medium
<i>Subtotal tourism development</i>	<i>75,000</i>		
<i>Infrastructure development</i>			
Support to national and transboundary discussions regarding the future of veterinary fences.	150,000		High
Upgrading of border post at Dobe.	1,500,000		Medium
Clearing and construction of gravel road to Dobe – 5km section of road.	60,000		High
Upgrading ports of entry and tourism access routes.	2,000,000		Medium
<i>Subtotal infrastructure development</i>	<i>3,710,000</i>		
<i>Community livelihood enhancement</i>			
Support to mitigation measures, including: human-wildlife conflict and climate change	1,000,000	Limited adoption by communities if livelihood enhancement schemes do not offer viable alternatives	Medium
Development of community livelihood schemes, including: joint ventures between communities and private investors, conservation agriculture, fish ranching, creation of fish reserves, horticulture, community owned tourism and accommodation facilities, commercialisation of NTFPs, etc. Use of the UN WTO's Sustainable Tourism – Eliminating Poverty initiative.	5,000,000	Community dissatisfaction due to unequal distribution of resources Limited success of schemes due to lack of community consultation and involvement	Medium
Capacity building schemes based on local needs analysis, including continuous organisational development (finance, governance, legal compliance, etc.)	1,000,000		Medium
<i>Subtotal infrastructure development</i>	<i>7,000,000</i>		

Activity	Budget (USD)	Potential unforeseen consequences of activity	Priority
<i>Natural Resources Management</i>			
Establishment and development of community based organisations with Constitutions, By-laws, Benefit Distribution Plans, Management Plans, Zonation Plans, etc.	140,000		Medium
Standardisation of data collection for participatory monitoring of wildlife dispersal area resources and community training. Development of protocol for data management sharing and of systems for common reporting.	80,000	Data collection ceases due to lack of community incentives to collect Data analysis limited by quality of data and resources to analyse	Medium
Joint aerial and ground counts of wildlife, including development of protocols on counting methodology and sharing of data. To be tied in to baseline that is established for land use planning in first year of activities.	500,000	Double counting and limited value of counts if different methodologies and dates used.	Medium
Harmonisation of policies for sustainable use of shared natural resources – in keeping with the KAZA TFCA Treaty.	20,000	Non adherence to quotas by communities if none were previously set and traditional ways are challenged	High
Development of fire management plans where non-existent and updating of fire management plans that do exist. Further support provided to existing fire management teams or the creation of new fire management teams as necessary. This will include provision of training, awareness raising, and equipment.	500,000	Incidence and control of fires does not improve due to inconsistent application of fire management practices across boundaries and between fire management teams	High
<i>Subtotal natural resource management</i>	<i>1,240,000</i>		
Total budget for Khaudum - Ngamiland WDA	12,705,000		

Sections 3.9 to 3.10 describe the two Support projects identified as being applicable throughout the entirety of the KAZA TFCA.

3.9 Tourism investment facilitation project

3.9.1 Description

This is a KAZA TFCA-wide community based tourism project based upon product diversification and commercialization. It applies to the entirety of the KAZA TFCA and is applicable in each of the Wildlife Dispersal Areas, as well as other areas where tourism presents an opportunity.

3.9.2 Motivation

The overall aim is to maximise use of KAZA TFCA's tourism potential by providing mechanisms for investors to explore and catalyse commercially viable opportunities.

3.9.3 Situational Analysis

There are indications of tourism growth trends within the KAZA TFCA but the distribution of visitors is patchy. There are concentrations of visitors at iconic wildlife and adventure destinations that are easily accessible and which have decent facilities (Figure 8) and branding (e.g. Victoria Falls, Okavango Delta, Zambezi River). However, as shown below in Figure 17 and Figure 18, the KAZA TFCA is endowed with a considerable number and diversity of other natural attractions and cultural heritage resources that are yet to be commercialised.



Figure 17: Tourism attractions in KAZA TFCA

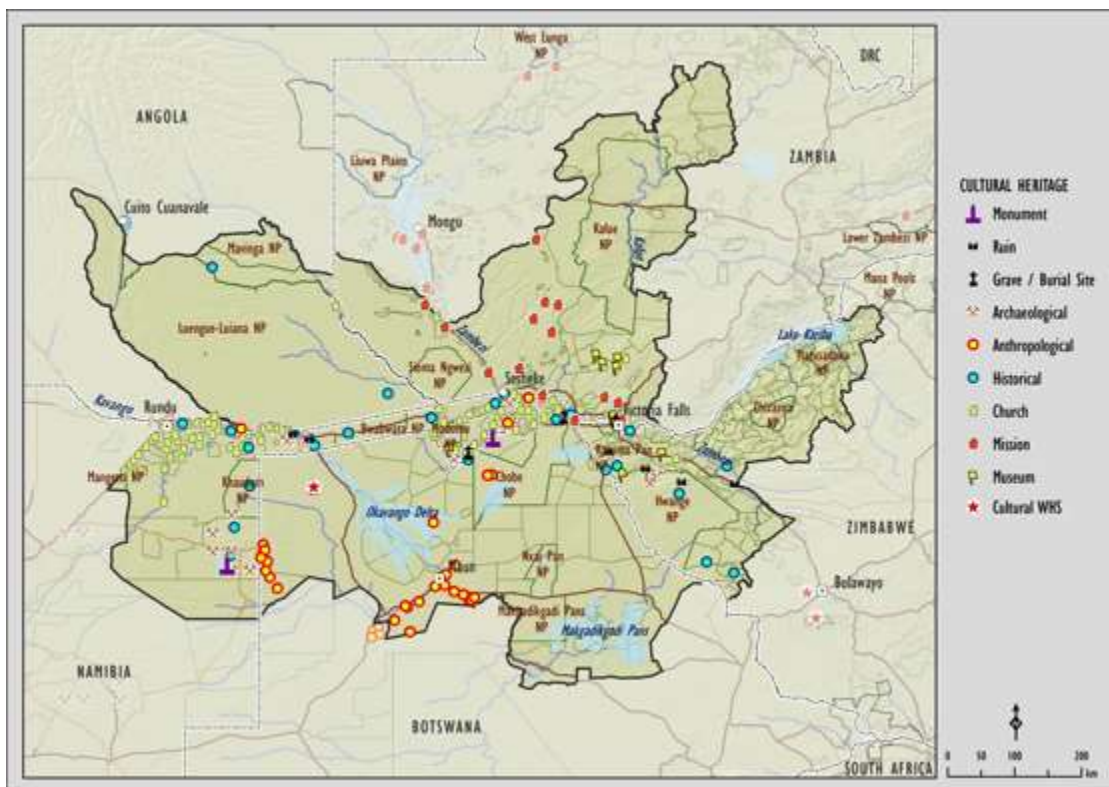


Figure 18: Cultural heritage sites in KAZA TFCA

Diversifying the tourism product base – in space, in time, by type, and by price – will be necessary if KAZA TFCA is to attract more visitors, who stay

longer, visit a greater variety of destinations and spend more in the local economy.

In addition to the relatively undiversified tourism product base, national contracting and tendering procedures vary between KAZA TFCA partner countries. This makes the investment climate very complex and deters potential investors. For the private sector to be able to design, finance, and develop transboundary tourism products, they require an enabling environment that addresses fundamental issues including: taxes and incentives; visas; labour and permits; vehicle registration; foreign operator's licenses and fees; and, repatriation of profits.

3.9.4 Project Approach

In order to address these challenges, the project will develop a practical guide that:

- Documents the different technical and legal requirements for tourism investment within each KAZA TFCA member country;
- Lists and prioritises product options (based on commercial viability);
- Provides investment portfolios supported by feasibility studies, and;
- Provides guidance to KAZA TFCA teams on investment facilitation and contract negotiation and concession processes for KAZA TFCA and investors.

Activities will include:

- Analysis of good practice investment concession programmes in KAZA TFCA member countries and globally.
- Practical 'how to' manuals based on good practices that have been identified. These manuals will provide guidance on: concession processes, template contracts/calls for proposals; sample operational manuals; M&E tools including for the direct and indirect impact of concessions on neighbouring communities; guidance on how to develop Community Based Tourism and joint-ventures.
- Investment portfolios with accompanying business plans for prioritised development opportunities.
- Awareness raising for investment opportunities.
- Investment brokerage.

3.9.5 Critical enabling conditions

These include:

- Willingness of KAZA TFCA governments to be open and transparent about national contracting and tendering procedures, taxes, etc.
- Community interest in tourism ventures.
- Private sector willingness to share profits.
- Financial, technical and human resources to enable the KAZA TFCA team to seek investors and secure equitable investment.

3.9.6 Budget

Activities	Budget (USD)	Risks	Priority
Assessment of good practice investment concession programmes in KAZA TFCA member countries, including structure of concession programmes, country investment priorities, structures for financial agreements, options for contractual requirements and tendering processes.	60,000	<ul style="list-style-type: none"> ○ Partner countries are unwilling to openly share information ○ Complexity and diversity of legal and financial considerations render harmonisation extremely difficult and lead to reluctance on part of private sector, or lead to private sector selecting certain partner countries with more favourable investment climate ○ Private sector is unwilling to share profits in open and transparent manner leading to mistrust between private sector, government and local communities ○ Poor consultation with communities leads to limited community buy-in ○ Lack of financial and entrepreneurial skills at community and government level leads to inability to properly negotiate share of benefits ○ 'How to' guidelines and investment portfolios are too basic, or financially unviable, leading to lack of private sector interest and/or failure of projects ○ Lack of marketing and promotion of initiatives leads to limited awareness or interest from private sector 	Medium
Practical 'how to' guide that incorporates best practice principles, and includes practical tools and templates.	50,000		
Gap analysis of good practice policies that encourage sustainable tourism.	50,000		
Development of common sustainable tourism protocol for KAZA TFCA, guidelines and 'how to' tools.	20,000		
Awareness raising workshops, including with tourism certification bodies	70,000		
Training workshops on implementation of the policy and guidelines with national KAZA TFCA teams.	75,000		
Printing and dissemination of policies, tools, guidelines and codes.	50,000		
Development of investment portfolios for the most commercially viable and prioritised products. Marketing and promotion of investment opportunities. Investment brokerage.	150,000		
Total	525,000		

3.10 Community based enterprise development facility

3.10.1 Motivation

Many of the communities living in KAZA TFCA suffer from lack of employment opportunities. Investment, infrastructure and the provision of basic services are also often limited. Faced with these constraints, communities are more likely to over-exploit their immediate environment, with deleterious effects on wildlife and ecosystems.

In addition, many rural communities have limited exposure to working in partnership, be this with the private sector, civil society organisations, or other institutions.

Considering these challenges, there is scope to develop a community based enterprise development facility to serve as a financing mechanism for community enterprise and socio-economic development opportunities in the KAZA TFCA. Such a facility could target community development opportunities that align with the strategic objectives of the KAZA TFCA and further support the development objectives of each of the partner country governments. The facility could be designed to:

- Benefit community based agriculture schemes, which address food production and food security through the introduction of appropriate agricultural schemes, improved agricultural practises and technologies.
- Benefit the tourism industry through the promotion of community based tourism enterprises or service providers.
- Benefit environmental conservation and the management thereof and include projects that give priority to community based natural resource management and promote the improved sustainable consumptive use of local natural resources.
- Benefit the local community through providing support for sustainable alternate livelihood initiatives where these are considered necessary due to the communities' loss of access to natural resources.
- Benefit community micro-enterprise development.

Further work is required in terms of designing, financing and administering this proposed facility, but a tentative budget has been included based on similar models in other TFCAs.

3.10.2 Budget

It is proposed that the facility be allocated US\$6 million, to run over 3 years, and to be equally divided between the five partner countries.

3.11 Total budget summary

The total budget required for the next phase in the proposed development of transboundary activities in the KAZA TFCA is summarised below. The KAZA TFCA Secretariat will lead the further development of each proposed activity.

Wildlife Dispersal Area Name or Project Description	Budget (US\$)
Kwando River WDA	21,225,000
Zambezi-Chobe WDA	15,220,000
Zambezi-Mosi oa Tunya WDA	14,240,000
Hwange-Kazuma-Chobe WDA	10,970,000
Hwange-Makgadikgadi-Nxai Pan WDA	11,745,000
Khaudum-Ngamiland WDA	12,705,000
Tourism investment facilitation project	595,000
Community Based Enterprise Development Facility	6,000,000
Total	92,700,000

4. CONCLUDING NOTES

This Master IDP is intended to be a strategic guiding document. The use of Wildlife Dispersal Areas provides a framework that should be applicable for many years and which can support developments across the KAZA TFCA. The KAZA TFCA Secretariat is the key facilitator and coordinator of the Master IDP. It will ensure that detailed projects are designed, that work is monitored and reviewed, and that the Master IDP is updated as the KAZA TFCA continues to develop.

5. REFERENCES

In preparing this Master Integrated Development Plan, reference was made to various reports, guidelines and plans. These are listed below:

KAZA TFCA Treaty, Signed, 2011

<http://www.kavangozambezi.org/kaza-tfca-treaty-signed>

KAZA TFCA Strategic Action Plan, 2011 – 2016

<http://www.kavangozambezi.org/strategic-action-plan>

KAZA TFCA Stakeholder Engagement Strategy, 2011

<http://www.kavangozambezi.org/kaza-stakeholder-engagement-strategy>

KAZA TFCA, Appendix IV, Secretariat's Operational Framework, 2012, available from the KAZA TFCA Secretariat

KAZA TFCA Prefeasibility Study, Volumes 1, 2 and 3

<http://www.kavangozambezi.org/prefeasibility-study-vol-1>

<http://www.kavangozambezi.org/prefeasibility-study-vol-2>

<http://www.kavangozambezi.org/prefeasibility-study-vol-3>

KAZA TFCA Financial Sustainability Strategy, 2013 – 2018, available from the KAZA Secretariat

KAZA TFCA Livelihood Baseline Survey Report, 2014, E.C.O. Institute of Ecology Jungmeier GmbH, University of Namibia, Twiza Associates, available from the KAZA Secretariat

KAZA TFCA Policy Harmonization Proposals, 2013, available from the KAZA TFCA Secretariat

Thematic Report on Natural Resources Management, Harrison Ochieng Kojwang, 2014, internal report

Thematic Report on Livelihoods Enhancement, Beauty Jiji, 2014, internal report

Thematic Report on Tourism, Dr. Anna Spenceley, 2014, internal report

Thematic Report on Land Use Planning, Susan Ringrose and Cornelis Vanderpost, 2014, internal report

Thematic Report on Infrastructure Development, Jere Dewey Mwila, 2014, internal report

IUCN, Sustainable Financing of Protected Areas, A global review of challenges and options, L. Emerton, J. Bishop and L. Thomas, 2006

http://www.iucn.org/about/work/programmes/gpap_home/gpap_capacity_2/gpap_bpg/?374/Sustainable-Financing-of-Protected-Areas

Functional connectivity within conservation networks: delineating corridors for African elephants, C. L. Roever, R.J. van Aarde, K. Leggett, 2013
[http://repository.up.ac.za/bitstream/handle/2263/21519/Roever_Functional\(2013\).pdf?sequence=1](http://repository.up.ac.za/bitstream/handle/2263/21519/Roever_Functional(2013).pdf?sequence=1)

SADC Protocol on Wildlife Conservation and Law Enforcement, 1999
<http://www.sadc.int/documents-publications/show/813>

SADC Wildlife Policy and Development Strategy, 1997

Kavango-Zambezi Transfrontier Conservation Area, Integrated Development Plan, Angola Component, 2011

Kavango-Zambezi Transfrontier Conservation Area, Integrated Development Plan, Botswana Component, 2011

Kavango-Zambezi Transfrontier Conservation Area, Integrated Development Plan, Namibia Component, 2012

Kavango-Zambezi Transfrontier Conservation Area, Integrated Development Plan, Zambia Component, 2008

Kavango-Zambezi Transfrontier Conservation Area, Integrated Development Plan, Zimbabwe Component, 2010