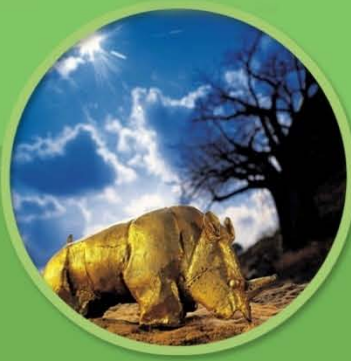




Greater Mapungubwe TFCA



Integrated Development Plan First Edition



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Greater Mapungubwe Transfrontier Conservation Area

Integrated Development Plan

First Edition

September 2010



*Copies of this Report can be obtained from the **National Coordinators**:*

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ABBREVIATIONS/ACRONYMS

AUDI	Access, Use, Development and Infrastructure
BBRDC	Beit Bridge Rural District Council
CDP	Concept Development Plan
CEC	Current Environmental Character
CHM	Cultural Heritage Management
EXCO	Executive Committee
FEC	Future Environmental Character
FMD	Foot and Mouth Disease
GMTFCA	Greater Mapungubwe Transfrontier Conservation Area
GMTFP	Greater Mapungubwe Transfrontier Park
IDP	Integrated Development Plan
IUCN	International Union for the Conservation of Nature
JMB	Joint Management Board
KPA	Key Performance Area
KPI	Key Performance Indicator
MCL	Mapungubwe Cultural Landscape
MPNP	Mapungubwe National Park
MOU	Memorandum of Understanding
NGO	Non-governmental Organisation
NOTUGRE	Northern Tuli Game Reserve
PA	Protected Area
SADC	Southern African Development Community
SANHU	Southern African Natural History Unit
SANParks	South African National Parks
TCSA	Tuli Circle Safari Area
TFCA	Transfrontier Conservation Area
TTC	Trilateral Technical Committee
TWG	Tourism Working Group
UNESCO	United Nations Education, Scientific and Cultural Organisation
WHS	World Heritage Site
WMA	Wildlife Management Area

EXECUTIVE SUMMARY

As part of the Greater Mapungubwe Transfrontier Conservation Area's (GMTFCA) preparation of an Integrated Development Plan was deemed necessary and critical by the Trilateral Technical Committee (TTC) to provide strategic direction for attaining the objectives of the TFCA. The process regarding the preparation of this IDP was initiated in September 2009 at a TTC meeting held at Dongola Ranch, South Africa.

An overview of the IDP shows four main Sections: *Introduction*; *The Place*; *The People*; and *The Plan*.

The first section addresses the reasons for compiling the IDP, provides a description of the study area and a description of the procedure to compile the IDP. The motivation for the GMTFCA is based on the Memorandum of Understanding that was signed in 2006 between the three partner countries, Botswana, South Africa and Zimbabwe, aimed at effectively conserving the natural and cultural resources of the area transcending the international boundaries between the three countries.

Specific aspects of significance within the GMTFCA include the scenic beauty and biodiversity of the area associated with the Shashe and Limpopo River Basin and specifically the confluence area.

Additional motivation for the GMTFCA includes the significant role that this conservation initiative can play in conserving and protecting the cultural heritage of the region based on the recognition that South Africa has been able to attain with the listing of Mapungubwe National Park (MPNP) as a UNESCO World Heritage Site (WHS). Sites of major cultural significance linked to the Mapungubwe Cultural Landscape (MCL) occur within both Botswana and Zimbabwe necessitating an expansion of the WHS to include these sites as well.

Recognising the important role that tourism development plays in lobbying support for and unlocking the economic potential of the GMTFCA, and the inherent potential within the GMTFCA, this was identified as a significant component that could lead to regional growth and development, in a region that has limited options.

The GMTFCA IDP serves as a strategic document, providing direction and context for the development and governance of the TFCA, and is based on the needs and expectations of relevant stakeholders. By clarifying appropriate development through considering environmental, social and political dynamics unique to the area, the IDP can align national issues within a regional context agreed to by the three partner countries.

Through the provision of a structured description of the various environments within which the TFCA is planned it is possible to set objectives based on clear guidelines regarding the governance of the TFCA.

Once approved by the TTC and partner countries, the IDP will be operationalised through an implementation business plan and supporting detailed operational plans, programmes and procedures which will periodically undergo performance review to ensure relevance.

The GMTFCA IDP is located in the western extremity of the low-lying areas along the east coast of Africa, at the confluence of the Shashe and Limpopo Rivers. It includes the Northern Tuli Game Reserve (NOTUGRE), in Botswana, the MPNP and the Venetia Limpopo Nature Reserve in South Africa, and the Tuli Circle Safari Area, several Wildlife Management Areas and Game Ranches in Zimbabwe.

Zimbabwe constitutes approximately 75% of the surface area, Botswana 15% and South Africa 10%.

For the first phase of planning, the study area comprises a planning domain largely based on ecological and cultural heritage parameters, yet in places cadastral boundaries were used, rather than catchment or cultural landscape boundaries.

The IDP was prepared through the perusal of TTC reports and studies, as well as deliberations within and between the TTC Working Groups, country delegations and other stakeholders. As part of the consultation process a "Consultative and Review Report" was compiled, serving as a record of the stakeholders that reviewed the draft IDP and the comments received and incorporated into the first edition of the GMTFCA IDP.

The second section of the GMTFCA IDP (*The Place*) provides insight into the four environments within which the planning of the TFCA takes place – Biophysical, Cultural and Historical, Economic and Governance – as well as how the sensitivities of these individual environments are combined into a combined sensitivity for the TFCA. The most sensitive areas are identified as the Shashe and Limpopo river valleys and sandstone ridges through the area. Utilising these areas for ecotourism development requires attention to the given ensuring that the unique character of these areas is not negatively impacted upon.

The third section (*The People*) provides a description of the role-players and stakeholders as well as their needs and expectations. This includes a description of the individual country components, the TTC, and the existing Working Groups – Conservation, Community Development, Safety and Security, and Tourism.

The broad needs and expectations of the stakeholders include joint TFCA management and operations aimed at the conservation of the region's unique natural and cultural resources; guidelines regarding the sustainable and equitable development inclusive of tourism; the establishment of safety and security protocols; and the provision of benefits to the region and its people.

The fourth section consists of the strategic plan for the GMTFCA, and entails four subsections – the first being the identification of challenges and threats associated with aspects such as habitat fragmentation, mining and agriculture within the area surrounding the TFCA. The second sub-section addresses the strategic guidelines inclusive of the vision and mission for the GMTFA.

The vision as set by the TTC is that the GMTFCA will be *“a world-renowned Transfrontier Conservation Area linking the Mapungubwe cultural landscape as well as the ecosystems of the Limpopo Valley across the international borders between Botswana, South Africa and Zimbabwe”*.

To attain this vision, the mission is *“to establish a world renowned eco-tourism destination by-*

- *Promoting and fostering international cooperation;*
- *Conserving biodiversity across international boundaries;*
- *Protecting the cultural heritage and geographic landscape of the area; and*
- *Facilitating socio-economic benefits”.*

The strategic objectives underlying the governance of the TFCA are:

- Establishing appropriate institutional arrangements and structures and harmonising policy to ensure effective governance of the TFCA;
- Re-establishing wildlife movement and corridors by managing and protecting the landscapes, ecosystems, biodiversity and cultural heritage elements of the Limpopo Valley;
- Facilitating social development by establishing ecotourism as a key economic activity;
- Ensuring a healthy and safe environment; and
- Managing benefits from conservation and ecotourism to the region and its people.

Recognising that the development of the GMTFCA is now moving from the initial concept, political support and planning phases into implementation and operationalisation, the third sub-section, a strategic business plan, provides detail on eight (8) Key Performance Areas (KPA) identified as essential for successful development of this TFCA. These include:

- KPA 1 ~ Joint Planning;
- KPA 2 ~ Legal status and institutional arrangements;
- KPA 3 ~ Sustainable Financing;
- KPA 4 ~ Policy Harmonisation;
- KPA 5 ~ Sustaining and Restoring Landscape Dynamics;
- KPA 6 ~ Integrated Management;
- KPA 7 ~ Integrated Development Strategies; and
- KPA 8 ~ Benefit Flow Management.

Key Performance Indicators (KPI) are identified for each KPA, with associated strategies and action projects per KPI.

In the fourth sub-section, the concept development plan, the proposal regarding the establishment of the GMTFCA includes the consolidation of an initial core area – Transfrontier Park – surrounded by a TFCA. It is believed that over time, and based on either the natural or cultural conservation objectives, the Transfrontier Park can expand to collaboratively incorporate additional key areas.

Initially the Transfrontier Park will consist of the following country contributions: Botswana – 75,000ha (29%); South Africa – 55,000ha (21%) and Zimbabwe – 130,000ha (50%), an approximate total area of 260,000ha.

A strategy regarding possible expansion is provided, based on ecological blocks, administrative units and the sensitivity analyses that were done.

As part of the planning process, stakeholders provided guidance regarding aspects pertaining to access, use, development and infrastructure required to effectively unlock the potential of the GMTFCA.

Access to the TFCA is discussed according to country based controls, formal and informal international crossings as well as transit routes through the Park.

Within Botswana access to the Transfrontier Park is via the NOTUGRE West and South checkpoints, as well as Pontdrift, while in South Africa access is controlled at the MPNP main gate, as well as two Venetia checkpoints.

Zimbabwe has six access points, two of which serve as administrative gates and four as checkpoints.

Undertaken in this way visitors can be welcomed to the TFCA, while transit traffic can still be accommodated, albeit in a controlled manner.

The use zonation shows that the majority of the core area will be used for wildlife based tourism aimed at conserving the environmental character of the area with some proposals being made for Zimbabwe regarding hunting block as well as tourism concession and general tourism use areas. Cognisance is taken of the sovereignty of Botswana and South Africa regarding the individual zonation regarding their respective protected areas.

Recommendations are also made regarding development nodes such as TFCA management nodes, agricultural support nodes within Zimbabwe along the Shashe River, and tourism development nodes at Fort Tuli and Musimani.

Requisite infrastructure such as the Limpopo Valley Airfield Port of Entry, the Mmamadaka and Homba Ports of Entry, entrance gates and various checkpoints, as well as park boundary (fence) delineation is discussed and mapped.

These proposals are captured in a master or concept development plan, spatially illustrating the placement of each of these aspects.

The impact of these proposals on the current environmental character of the area shows that the establishment of the Transfrontier Park will significantly contribute to improving the environmental character of the core area of the TFCA.

Detail proposals are also made for specific areas of the TFCA regarding the Ports of Entry and informal crossings, the various gates and checkpoints, TFCA Tourism Camps, and agricultural support nodes and enclaves.

The TFCA Tourism Products, inclusive of three 4x4 trails of various lengths, an African Foot Safari, a Mountain Bike Trail and arrangements for visitors from NOTUGRE to visit the WHS Interpretative Center, are discussed in detail.

The Mapungubwe Iron Age Trail (6 days, 5 nights) includes all three countries, linking the various sites of significance within the MCL. The Pioneer Trail (4days, 3 nights) incorporates South Africa and Zimbabwe, and focuses on the early settler history within the area. The two main development sites are located within Zimbabwe at Musimani and Forty Tuli while the South African component comprises the Mapungubwe WHS Interpretative Center, Mapungubwe Hill, the Confluence Viewpoint and the aerial walkways as well as road and trail network.

The Mapungubwe Eco Trail (4 days, 3 nights) incorporates South Africa and Zimbabwe and focuses on all aspects unique to the GMTFCA both from a natural and cultural perceive. This eco trail is based out of the Musimani 4x4 Camp in Zimbabwe, a proposed community owned camp, operated through a Community Public Private Partnership PPP arrangement.

The other two trails – the African Foot Safari and Mountain Bike Trail – are both based out of the Musimani Trail Camp, and focuses on the contact zone between South Africa and Zimbabwe, incorporating aspects such as the Mapungubwe WHS Interpretative Centre, Mapungubwe Hill, Confluence Viewpoint, sandstone ridges in Zimbabwe, wildlife areas within the core area of Zimbabwe and the living cultural resources in the Maramani Area.

1 INTRODUCTION

1.1 BACKGROUND AND STUDY AREA

In the late 1990s a transfrontier conservation initiative for the area situated at the confluence of the Limpopo and Shashe Rivers straddling Botswana, South Africa and Zimbabwe was mooted culminating in the formal establishment of the Greater Mapungubwe Transfrontier Conservation Area (GMTFCA) in June 2006 with the signing of a Memorandum of Understanding (MOU) by the Governments of the three partner countries.

Initially the Transfrontier Conservation Area (TFCA) was known as the Limpopo/Shashe TFCA but was renamed in 2009 after a proposal submitted by the Trilateral Technical Committee (TTC) was approved by a Ministerial Committee of the 3 countries, the TFCA is now known as GMTFCA. The TTC with supporting Working Groups was created in terms of the MOU to fulfil the coordination function between the countries until a Treaty is signed and a joint management structure formalised. Since the signing of the MOU, a vast amount of deliberation and discussion has taken place within the partner countries regarding the areas to be incorporated as part of the core and expansion area of the TFCA. This includes communal, private and State land components.

The planning domain for the TFCA is based on a combination of catchment, cadastral and cultural boundaries and aims to provide insight into the ecological, environmental and economic parameters within which the TFCA development will take place. Map 1 illustrates the properties that were initially included into the TFCA at the time of signing the MOU, and Map 3 shows the Phase 1 planning domain. Certain of the properties lie outside the Phase 1 planning domain and will be subject to a separate planning exercise aimed at providing clarity regarding this specific component.

A contiguous area within the TFCA consisting of the Mapungubwe National Park, Venetia Limpopo Game Reserve, the Northern Tuli Game Reserve (NOTUGRE), the Tuli Circle Safari Area (TCSA), portions of wildlife management areas in Zimbabwe, as well as Sentinel Ranch; Nottingham Estate and River Ranch, comprise the Transfrontier Park, while the surrounding area makes up the TFCA. The GMTFCA represents the western extremity of the lowveld, an area of low lying land along the east coast of Africa, extending from the contact zone between Mozambique, South Africa and Zimbabwe, along the Limpopo Valley to the confluence with the Shashe River (refer Map 2).

1.2 SIGNIFICANCE

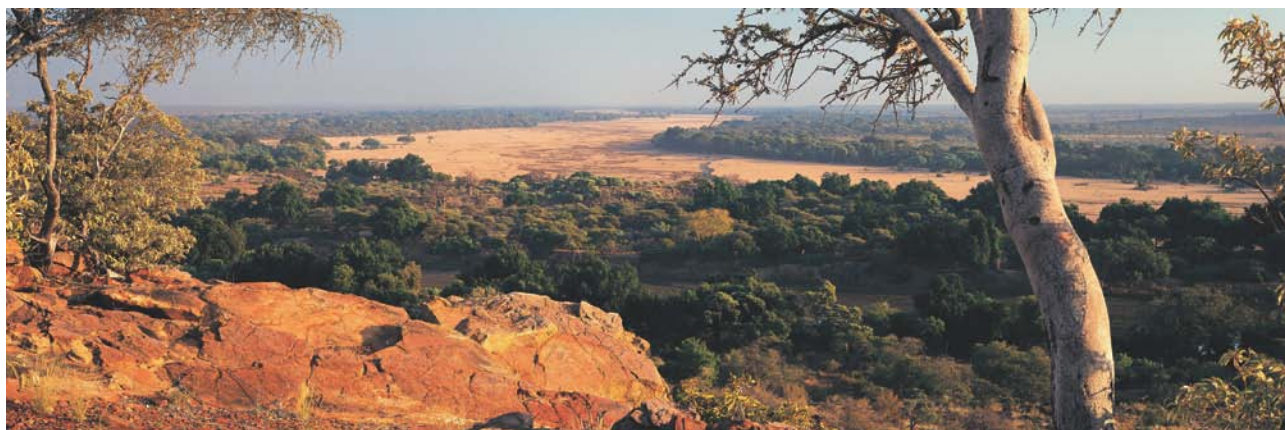
A transfrontier conservation area was identified already in the early 1900s when the first farms were proclaimed in South Africa on the Limpopo River just east of the present site of Mapungubwe. Then referred to as the Dongola Botanical Reserve, it was proposed at the time that the Reserve should eventually straddle international borders to ensure that the flora and fauna in the three countries was protected and secured.

The present day significance of the TFCA extends past flora and fauna. The selection of the Limpopo/Shashe area is based on the **rich biodiversity** of the area, its **scenic beauty** and the **cultural importance** of the archaeological treasures of Mapungubwe. The area supports populations of big game, including the famous Tuli elephant, all major predators, and offers potential for the development of a viable, consumptive and non-consumptive **tourism industry** (refer Plate 1).

The Mapungubwe World Heritage Site (WHS), listed as such by UNESCO in July 2003, is a major attraction and was home to the famous Golden Rhino - a symbol of the power of the King of the Mapungubwe people who inhabited the Limpopo River Valley between 900AD and 1300AD. At that time Mapungubwe had developed into the largest kingdom on the subcontinent. It is believed that a highly sophisticated civilisation, which traded with Arabia, Egypt, India and China, existed at Mapungubwe.

GMTFCA is thus generally regarded as the cultural TFCA. Visitors are attracted to the area not only to see the magnificent sandstone formations, the wide variety of trees - notably the enormous baobab - and game and birdlife, but also to experience a kinship with past generations. The cultural resources of the Limpopo/Shashe basin are generally associated with Iron Age settlements of around 1200AD. The similarity of ivory objects, pottery remains and imported glass beads excavated at different sites spread across the modern international borders of Botswana, South Africa and Zimbabwe, attests to the cultural affinity of the people that lived in the Limpopo/Shashe basin during the Iron Age.

It is believed that the tourism within Botswana and South Africa will assist in unlocking the ecotourism potential within the Zimbabwe component, and allow for a diversification of the tourism products on offer.



Biodiversity and Scenic Beauty

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Cultural Importance

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Tourism

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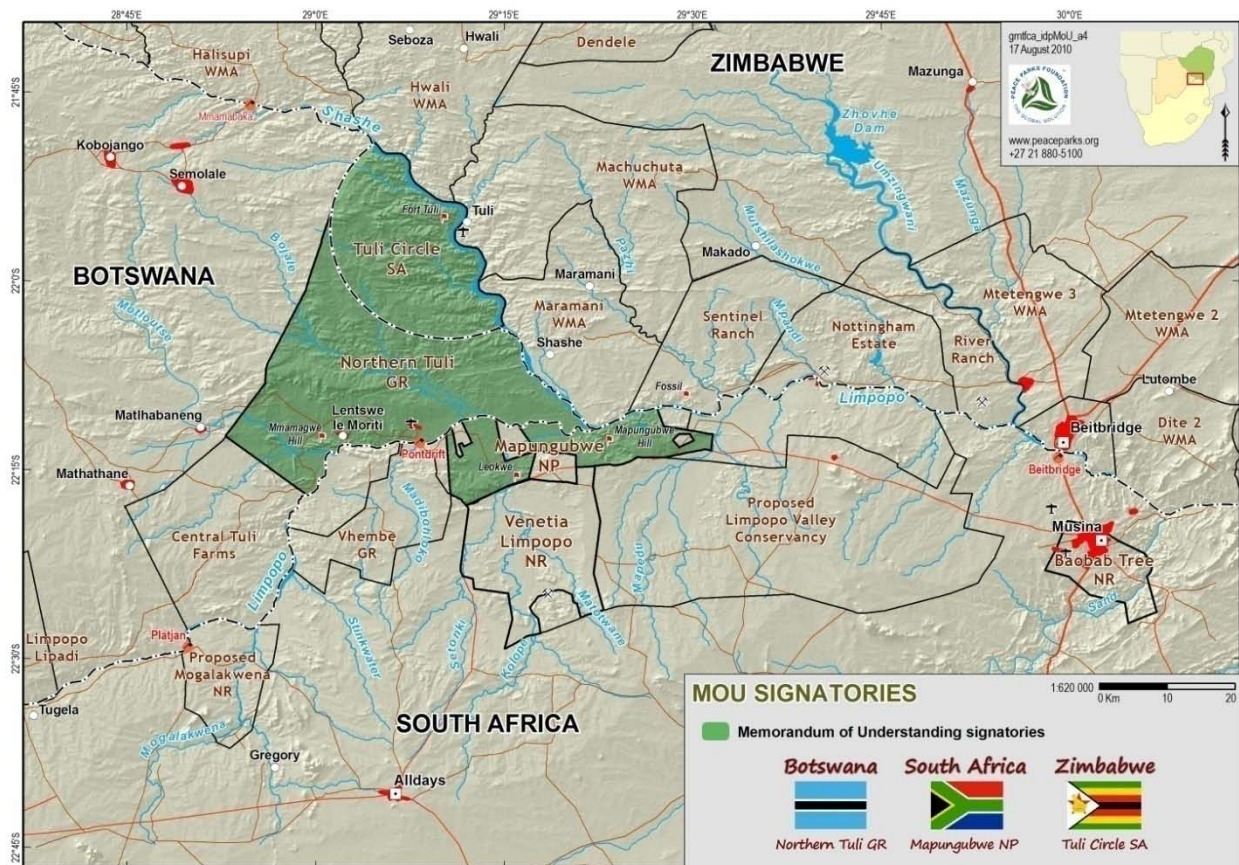
Plate 1: Significance of GMTFCA

An overriding principle to be applied is the unique selling feature principle, based on the existing land use activities and attractions within the TFCA. Three themes that underlie the TFCA refer to the living culture, archaeology and nature found in the region. These themes, apparent in all of the partner countries, should be focused as follows:

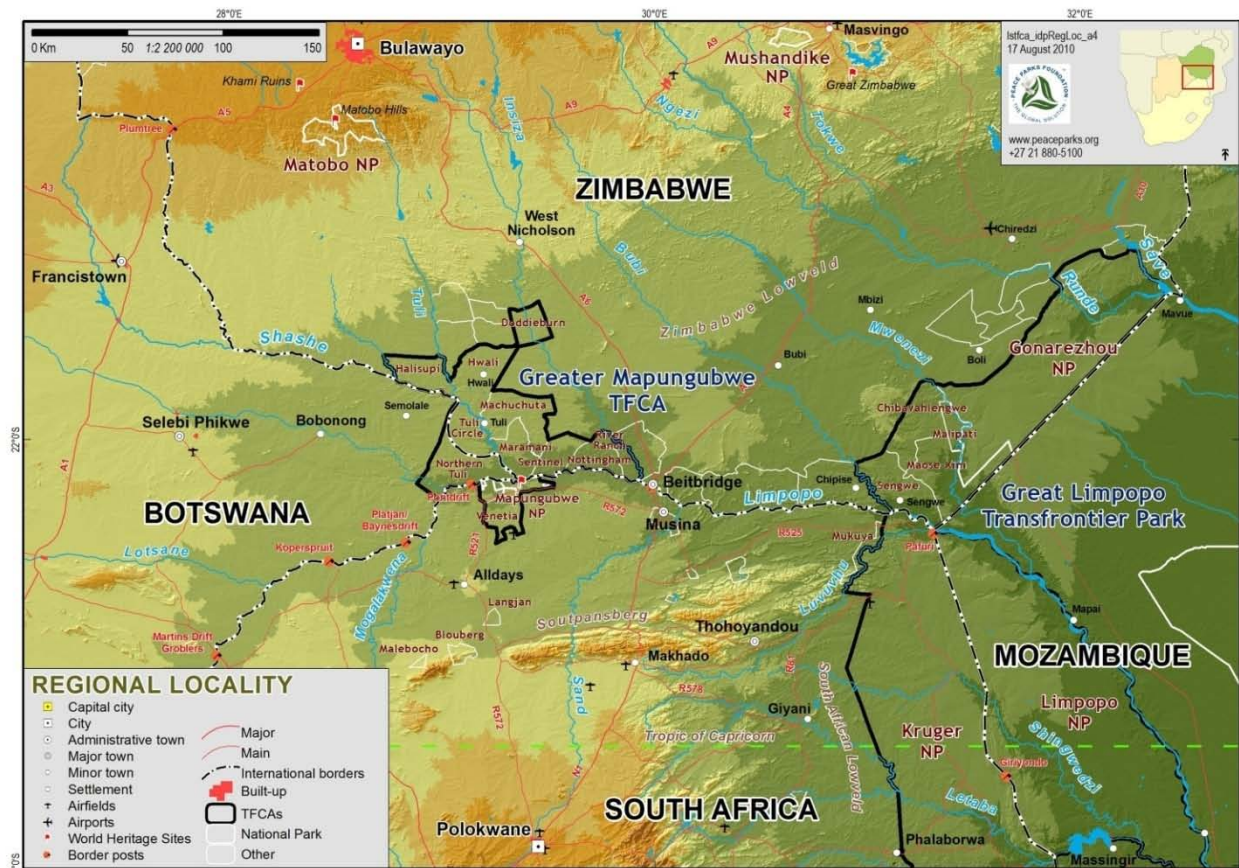
Living culture: A cultural experience - a celebration of similarities and differences – showing linkages of the Venda, Maramani/Shona and the Tswana. Because living culture is expressed in this part of the TFCA, while the actual archaeological site of Mapungubwe is on the South African side, cross-promotion of where people can experience a unique aura at the hilltop of Mapungubwe would elevate the sense of historical significance. Zimbabwe, while well endowed with wildlife, rock art and archaeological sites, has the potential to be developed as a living culture destination with the communities in Maramani, Machachuta, Hwali and Halisupi. The complexities of moving these communities out of the TFCA are not conducive to the development of the TFCA which aims to incorporate and benefit local communities.

Archaeology and History: Due to the fact that there are numerous archaeological sites in South Africa, as well as the existing World Heritage Site the marketing thrust should differentiate it by emphasising the uniqueness of the area. Mapungubwe in South Africa has been the epicentre of archaeological research in the TFCA since the beginning of the last century. The ancient capitals of Schroda, K2 and Mapungubwe as well as other archaeological sites such as Leokwe Hill are concentrated in South Africa. Additionally, the area has a vast array of pioneer and colonial history embedded within all three countries, inclusive of the Tuli Farms history, the Ruins at Fort Tuli, several battlefields and cemeteries and the long history of conservation in the area. Collectively this history can be incorporated into a unique feature of the area.

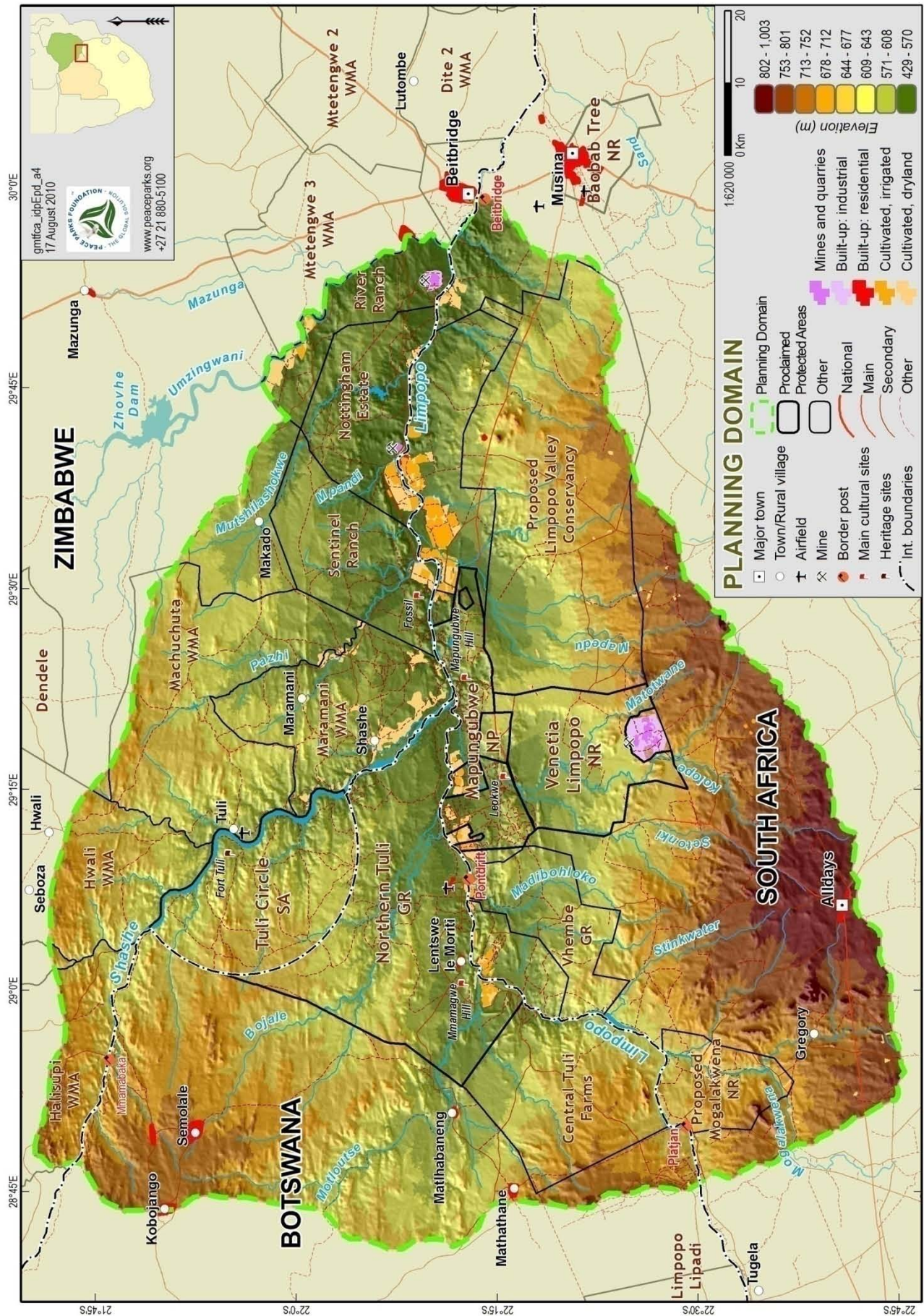
Nature: Leading in wildlife and tourism development, Botswana, which has archaeological remains and living culture in the Tuli Block, is most well known for its wildlife and tourism development supporting this theme. Linking the actions of NOTUGRE with the wildlife in the TCSA, the wildlife corridor and the areas along the Limpopo, will establish a relatively large wildlife tourism area. These themes are not exclusive to each country, but rather serve as a guide to focus tourism development trends in the respective countries. These themes would form the core of the marketing thrust for the area as a whole.



Map 1: MOU Study Area



Map 2: Regional Locality



Map 3: Planning Domain

1.3 PURPOSE AND CONTENT OF THE DOCUMENT

An Integrated Development Plan (IDP) is a strategic document that captures the needs and expectations of stakeholders affected by the TFCA and provides clarity regarding the appropriate management and development of the TFCA based on the environmental, social and political dynamics of the area and by aligning national issues within a regional context.

The content of the IDP for the GMTFCA (refer Figure 1) is based on three sections, preceded by an introduction that provides background to the location of the GMTFCA, its significance and the process to prepare the plan, each portion addressing different aspects, namely:

- *The Place* – provides background information necessary for the reader to understand the planning context and covers the natural, cultural, land use, social and governance environments as well as the sensitivities of these environments;
- *The People* – provides insight into the specific institutional arrangements regarding the various sector groups – resource managers; business; benefit flow managers; and government – as well as the relationships between these; and
- *The Plan* – providing details regarding the planning and operational framework including the strategic guidelines for implementation as well as a Concept Development Plan reflecting the Access, Use, Development, and Infrastructure requirements for both the Park and the TFCA.

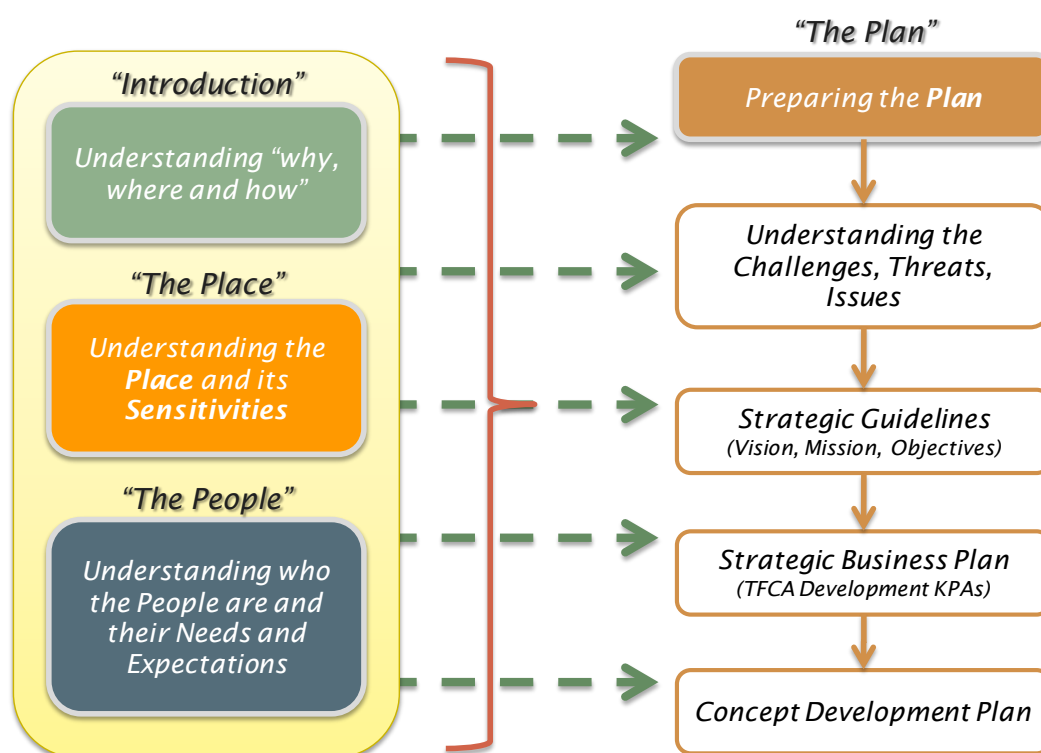


Figure 1: How the Document Works

The GMTFCA IDP has both an integrated planning and operational component (refer Figure 2).

Integrated Planning Component

The IDP is the primary overarching planning document that forms the framework for operations and implementation. It provides the Strategic Guidelines, Strategic Business Plan and Concept Development Plan for the management, utilisation and development of the TFCA within the constraints of the receiving environment. The Concept Development Plan constitutes the spatial component of the IDP and provides clarity of the location and placement of developmental programmes.

Operational Component

The IDP is operationalised through the following:

- A medium term Implementation/Business Plan, based on the Strategic Business Plan of the IDP, that actions the TFCA institution's management objectives and any projects identified in the IDP – this plan identifies the activities and tasks that need to be undertaken in the achievement of the IDP's objectives and attaches responsibilities, timeframes, budgets and resources to each activity. It informs the TFCA Annual Budgeting Estimates and provides information for Annual Reports.
- Operational plans, programmes and procedures that support the Implementation Plan.

The IDP should be reviewed both annually and on a 5-yearly cycle to ensure that management objectives remain relevant and management actions are continually improved.

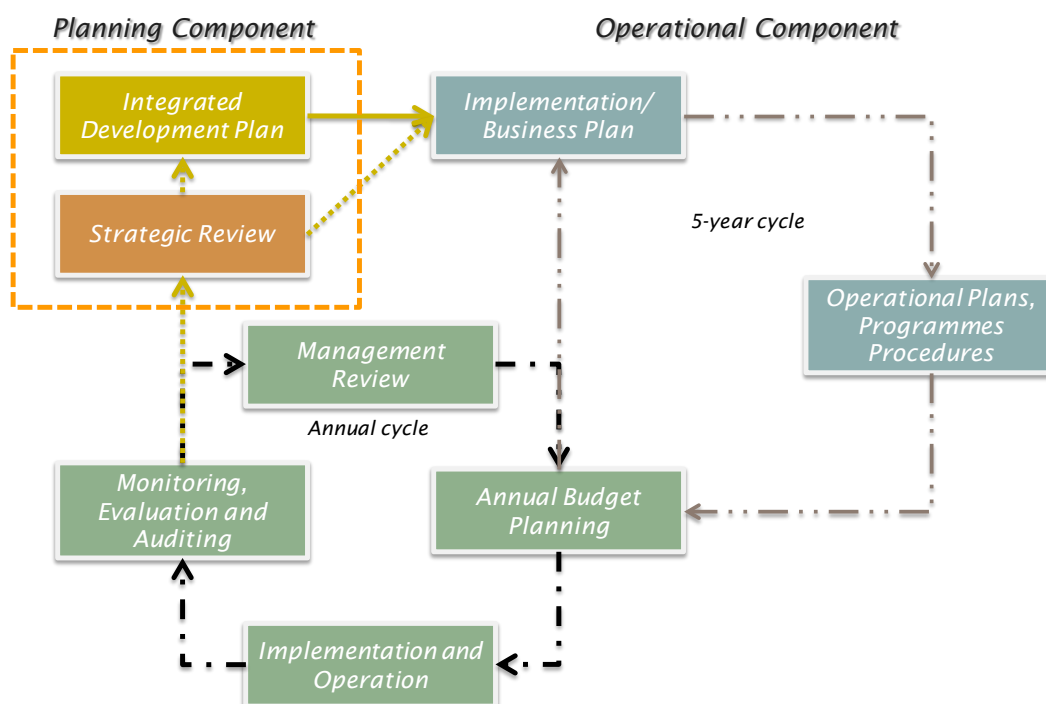


Figure 2: Planning and Implementation Framework

1.4 THE TFCA IDP PLANNING FRAMEWORK

The IDP for the GMTFCA has been prepared based on the various stakeholder and TTC Working Group deliberations that have taken place (refer to Greater Mapungubwe Transfrontier Conservation Area Integrated Development Plan Consultation and Review Report, July 2010), as well as perusal of numerous reports prepared for and by the TTC (refer Reading List). These actions have effectively replaced the need for an Inter-Governmental Forum and national experts workshops, as well as the broad stakeholder and technical task team meetings that normally form part of a TFCA Planning Framework and IDP process (refer Figure 3).

The recommendations and inputs from the Working Groups have been aligned with the technical process which includes a sensitivity analysis that was prepared as part of the land use planning exercise that was undertaken for the TFCA. This included mapping of the present, i.e. the impacts and the current environmental character, and designing the concepts and detailed development plans required to attain the objectives of the GMTFCA. This approach was deemed necessary to accommodate the outcomes of the TTC and its Working Group meetings, while allowing for the compilation of an IDP for the GMTFCA.

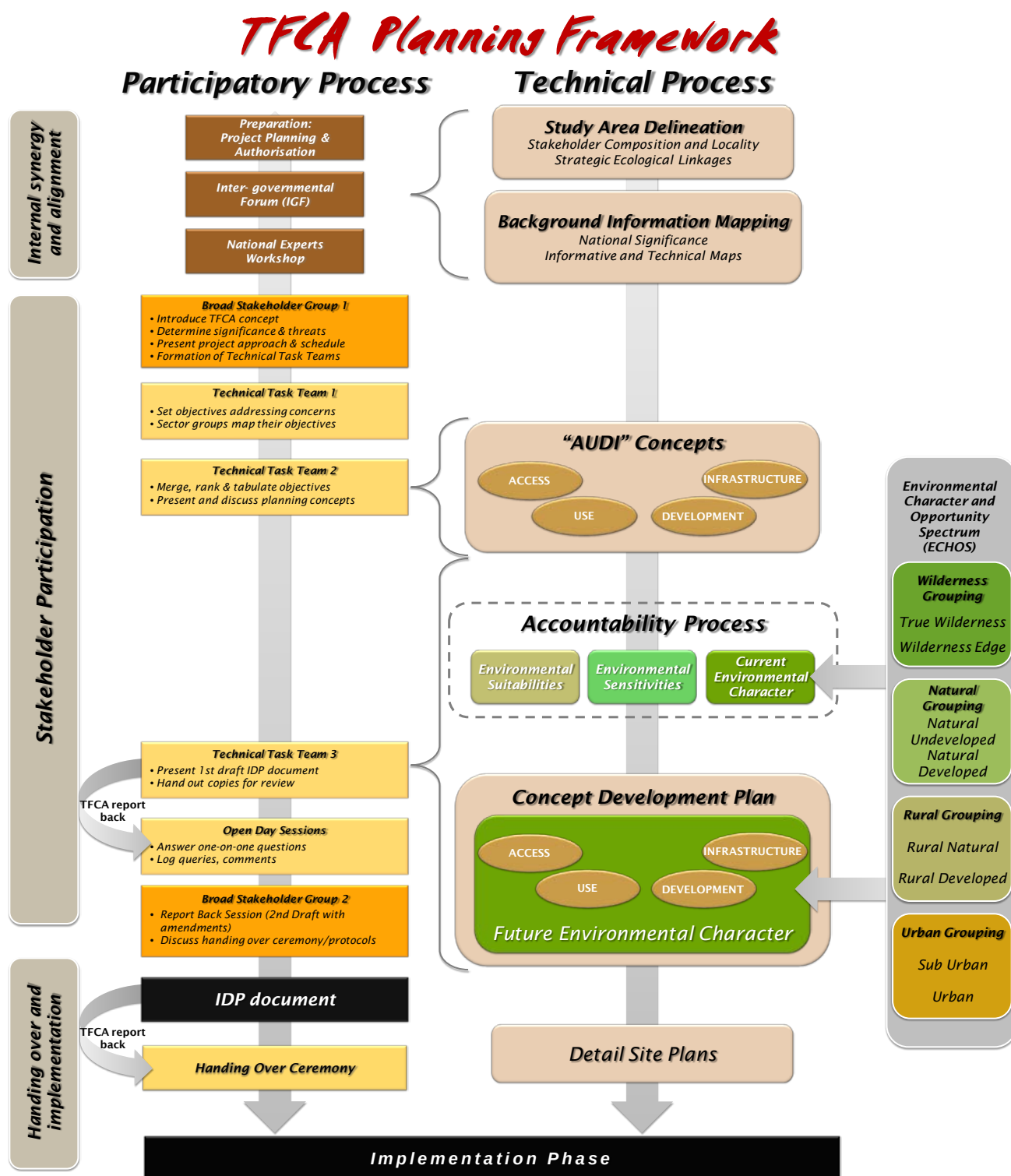


Figure 3: Planning Diagram

2 THE PLACE

The GMTFCA is described in terms of the following environments:

- Biophysical;
- Cultural and Historical;
- Economic; and
- Governance.

Subsequent to providing information on these environments, sensitivities are highlighted that would guide preparation of the Strategic Business and Concept Development Plans.

2.1 BIOPHYSICAL ENVIRONMENT

Within this section on the biophysical environment (refer Plate 2) of the GMTFCA the following characteristics are discussed:

- Geology and Geomorphology;
- Elevation;
- Slope;
- Soils;
- Climate;
- Hydrology; and
- Vegetation.

2.1.1 Geology and Geomorphology

GMTFCA comprises an attractive semi-arid landscape with varied geology including extremely old archaean rocks, metamorphic rocks of intermediate age, karoo sandstone/conglomerate uplands that are about 200 million years old, and recent alluvium and sands.

All 3 major geological rock types are thus present in the GMTFCA - Igneous rocks in the northern section (mainly Basalt), Sedimentary in the middle (Siliciclastic rock or Sandstone) and Metamorphic rocks in the southern section (primarily Granulites interspersed by Granite Gneiss) (refer Maps 4-7).

The main geological feature is the Siliciclastic Rock or Sandstone belt and ridges running from east to west across the study area and which is also the source of coal and diamonds in the region. Fossils also occur in these areas.

2.1.2 Elevation

Within the study area, altitudinal variation ranges from approximately 389 to 1,053masl with the highest areas lying to the north and south of the study area and the lower areas along the middle section, mainly the Limpopo and Shashe river valleys (refer Map 8 and Figure 4).

Besides the steeper slopes found along the Limpopo and Shashe river valleys, the study area is relatively flat with most of the area not exceeding 2 degrees (refer Map 49, Appendix 2).

2.1.3 Soils

A variety of soils are present, with large areas characterised by sandy, lime-rich soils generally deeper than 750mm. Soils generally have low agricultural potential, with irrigated alluvium tending to become brackish.

The dominant soil types of the study area are *Leptosols* found in the north of the study area. Luvisols occur along the Limpopo and Shashe river valleys and *Cambisols* to the south, interspersed with *Arenosols* and *Regosols*. Virtually all of the intensive agriculture (dry-land and irrigated) are located on the fertile and wet *Luvisols* (refer Maps 9-12)-

- Leptosols are well drained, shallow to moderately deep, ranging from friable, rocky, stony and gravely to fine loamy and clayey soils;
- The Luvisols are deposited by flood water and are characterised by a rich organic and nutrient content. These soils are fertile and porous yet very high in moisture retention;

- Cambisols are well drained, very deep brown coarse loamy soils;
- Arenosols, commonly known as Kalahari sands, extend at least 1m deep with high sand and low nutrient content. These soils are porous and thus have low water retention capability; and
- Regosols are moderately well drained, very deep, brown to very pale brown, friable, fine loamy to clayey soils with very weak profile development in places and are imperfectly drained.

Soil characteristics such as colour – important for analysing visual sensitivity – and drainage – important for infrastructure development – are presented in Map 13.



Limpopo-Shashe Confluence (Upstream)
Johan Verhoef



Limpopo-Shashe Confluence (Downstream)
Johan Verhoef



Sandstone Cliffs along Limpopo
Copyright Johan Verhoef



Sandy Riverbed
Copyright Johan Verhoef



Mapungubwe Hill
Copyright Johan Verhoef



Sandstone Outcrops
Copyright Johan Verhoef



Baobab Tree

Copyright Ecotourism Afrika



Hyphaene Shrubland

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Mopane Woodland and Dry Tributaries

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Riparian Woodland

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Kolope/Maloutswa Wetland

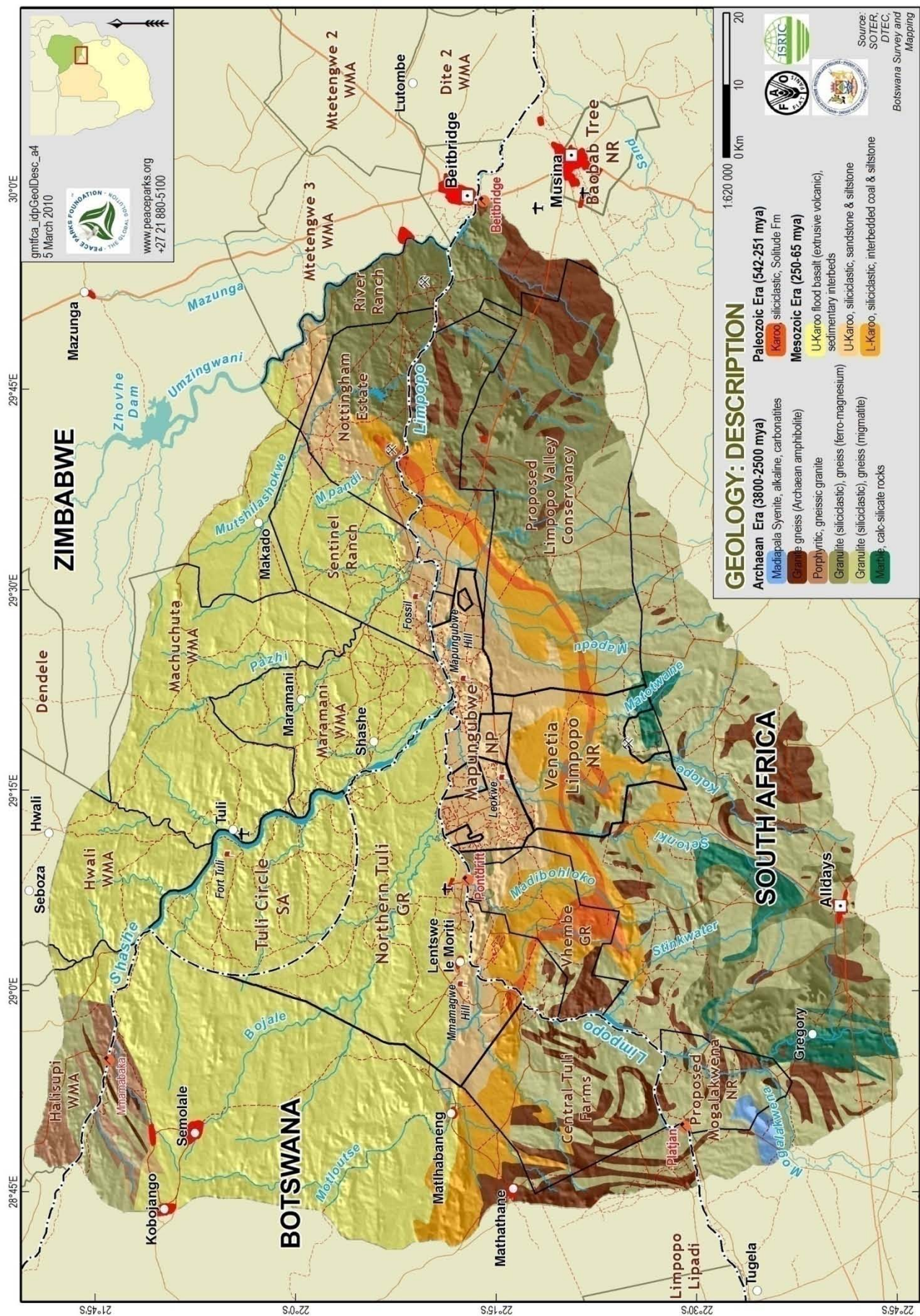
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Riparian Fringe with Acacia Shrubland

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Plate 2: Biophysical Environment



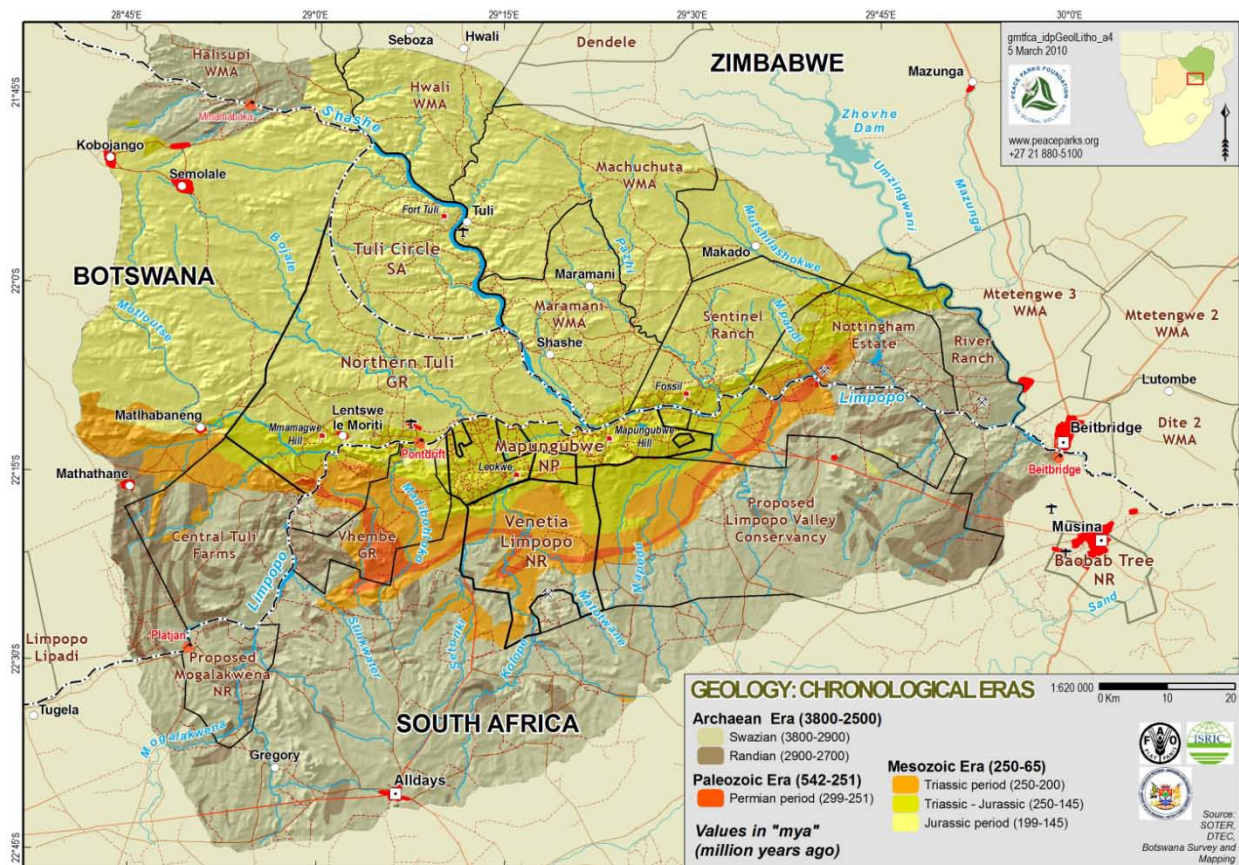
Map 4: Geology - Description



Map 5: Geology - Rock Type



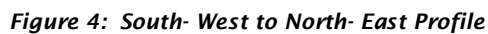
Map 6: Geology - Lithology

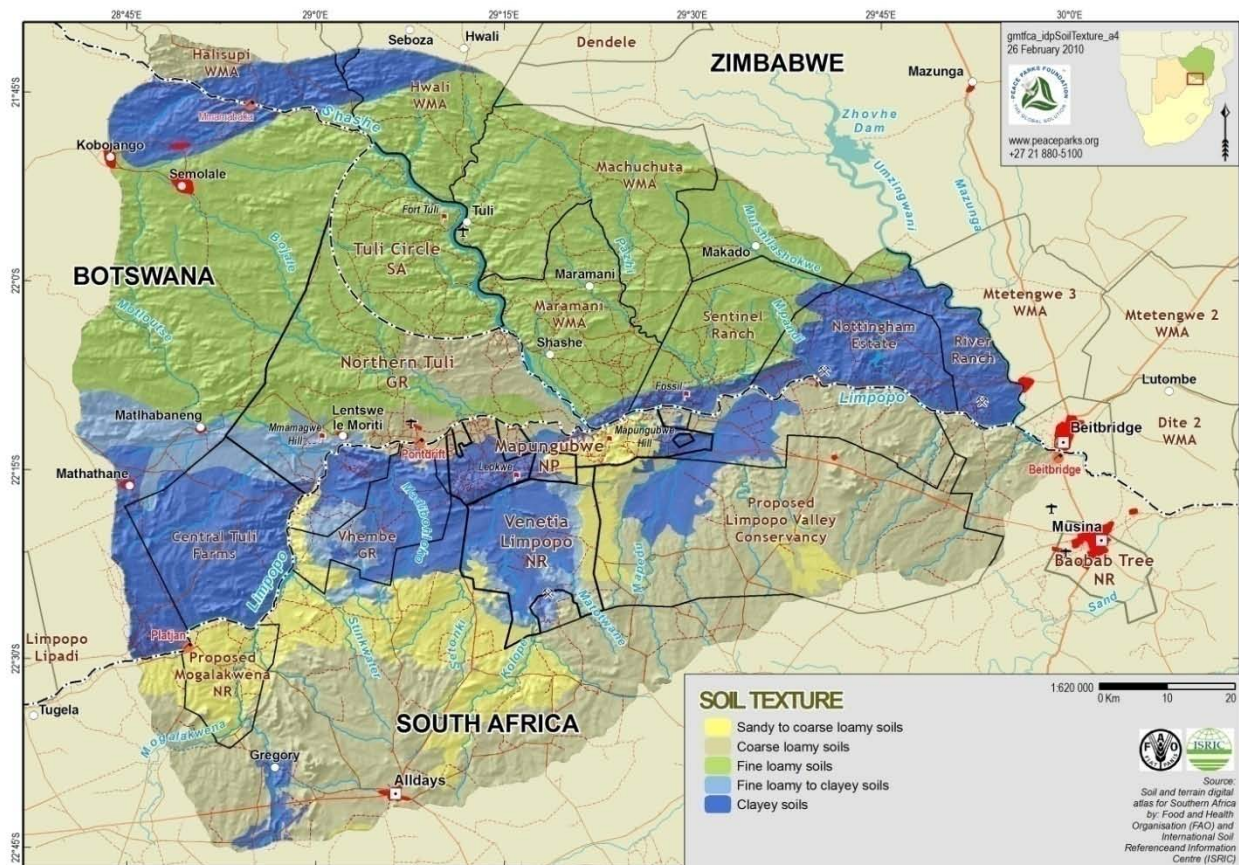


Map 7: Geology - Eras



Map 8: Elevation

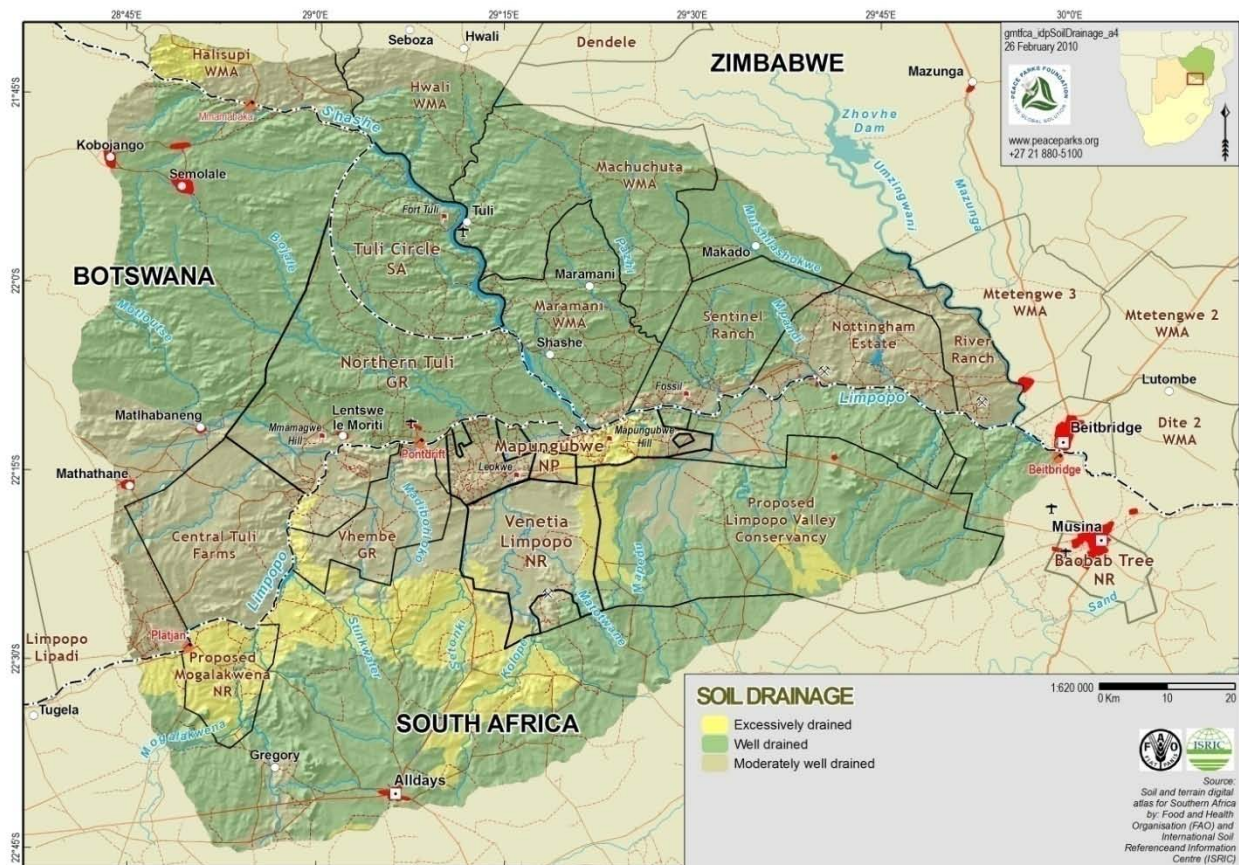




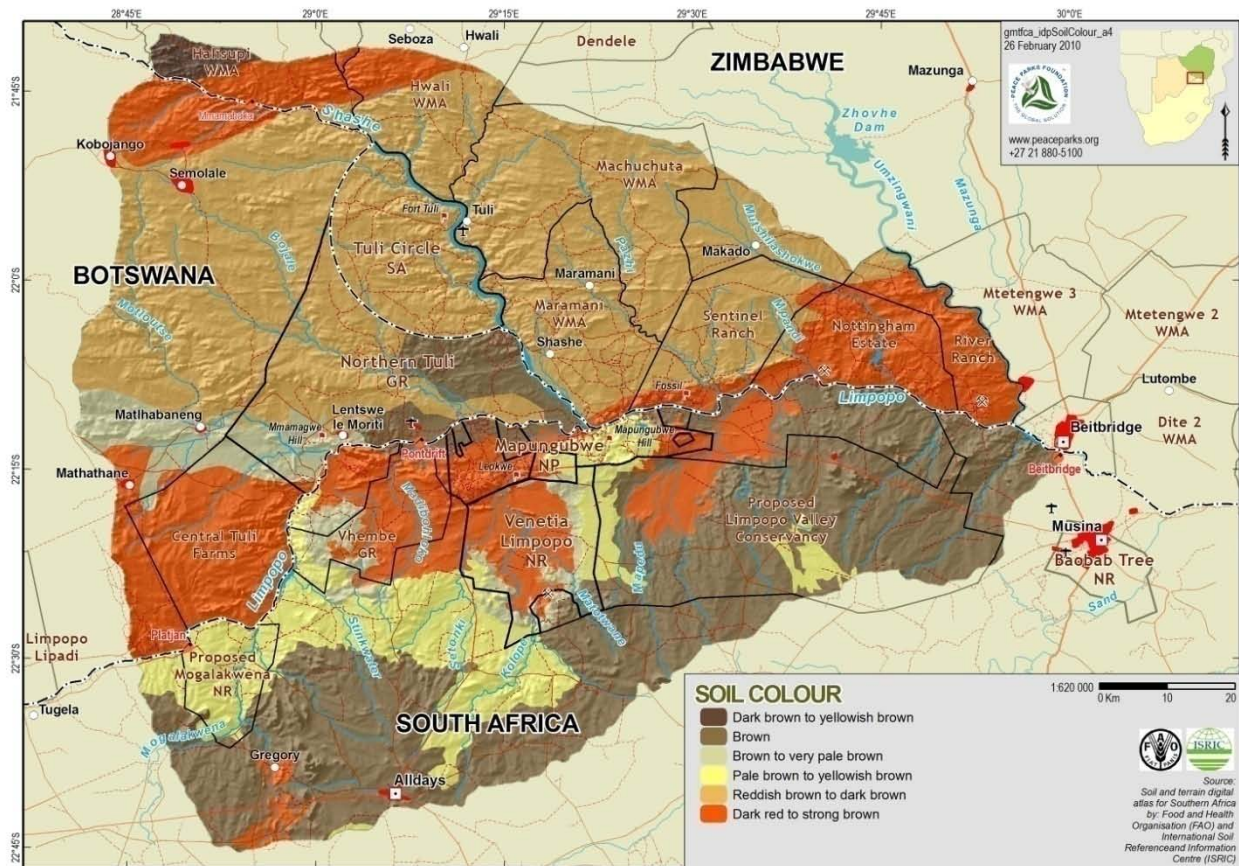
Map 10: Soil Texture



Map 11: Soil Depth



Map 12: Soil Drainage



Map 13: Soil Colour

2.1.4 Climate

Mean annual rainfall ranges from 350–400mm, variable but usually falling during the summer months. Extended periods of below average rainfall can occur. Evaporation from free water surfaces is in excess of 2 500mm per year, and summer temperatures sometimes rise to 45°C.

The winters are generally mild, although frost may occur (refer Maps 14-17).

2.1.5 Hydrology

The primary rivers of the study area are the Limpopo and Shashe. Secondary rivers in Botswana are the Motloutse, Bojale (Matali), and Lower Limpopo; in South Africa the Kolopi, Mapedu, Upper Sand and Mogalakwena, and in Zimbabwe the Pazhi and Mutshilashokwe.

The catchment context at various scales is illustrated in Maps 18-19 clearly indicating the motivation for the change in the original to the revised GMTFCA planning domain.

The confluence of the seasonally-flowing Shashe and Limpopo rivers is a dominant hydrological feature, as is the large ephemeral Kolohe/Maloutswa wetland upstream of the confluence (refer Map 20).

2.1.6 Vegetation and Wildlife

The vegetation in the study area can broadly be categorised into woodland and shrubland.

In the south a belt of *Mopani Woodland* dominates, with a large area covered by *Jubernardia Woodland* to the east between the Limpopo and Umzingwani Rivers. *Guibourtia Mixed Woodland* is found on the Basalt to the north and tall *Riparian Woodland* and *Acacia/Hyphaene Shrubland* along the river valleys (refer Map 21) – a unique feature of the GMTFCA. Alien plant threats are generally low but need to be monitored.

Most of the large game species occur in the GMTFCA. There is a lot of movement of game between the 3 countries and game numbers fluctuate, yet it is expected that through the establishment of the TFCA more effective management of wildlife, especially elephant and predators, can be attained.

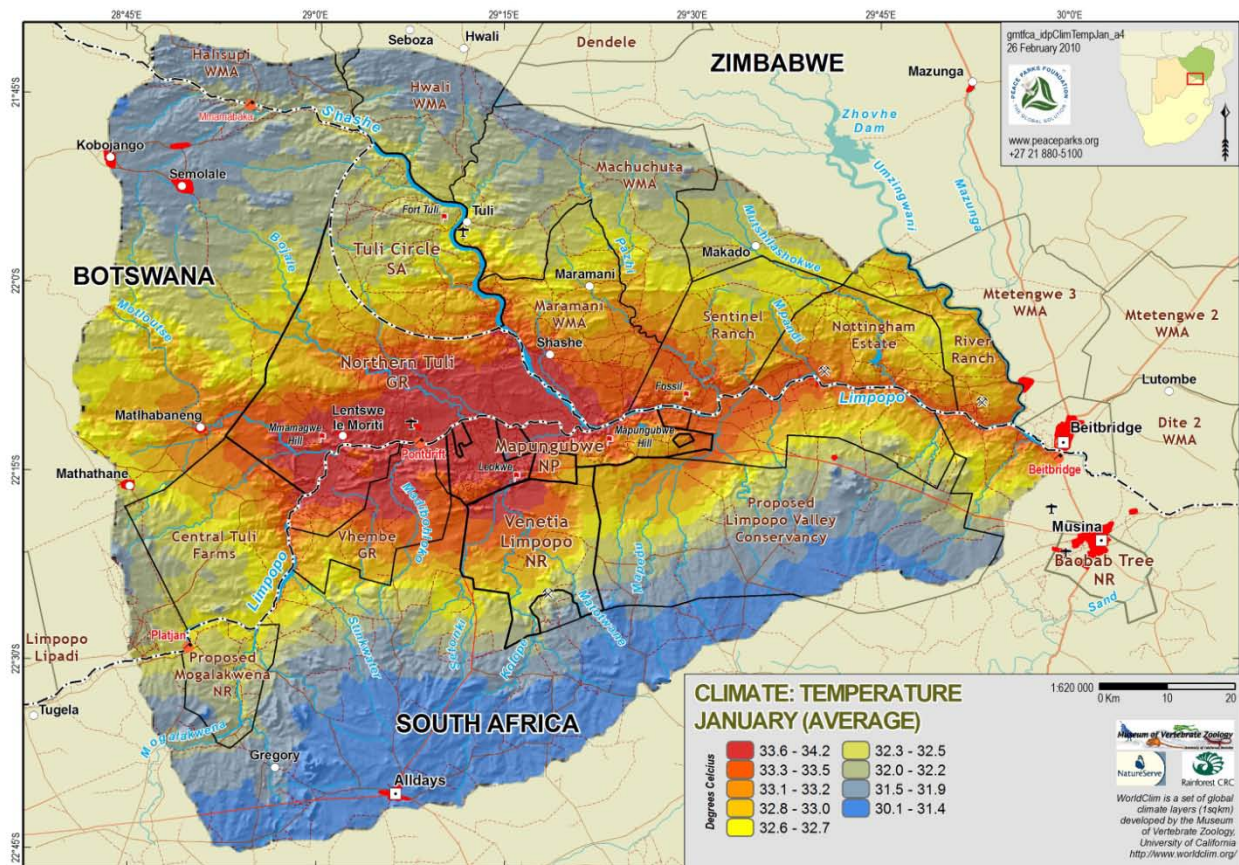
Current species include:

▪ Eland	▪ Kudu
▪ Blue Wildebeest	▪ Zebra
▪ Waterbuck	▪ Impala
▪ Bushbuck	▪ Klipspringer
▪ Duiker	▪ Steenbok
▪ Red Hartebeest	▪ Gemsbok
▪ Giraffe	▪ Bush pig
▪ Warthog	▪ Baboon
▪ Elephant	▪ White rhino
▪ Lion	▪ Leopard
▪ Cheetah	▪ Hyena, spotted and brown
▪ Wild dog	▪ Aardvark
▪ Buffalo	▪ Black Rhino (Venetia)

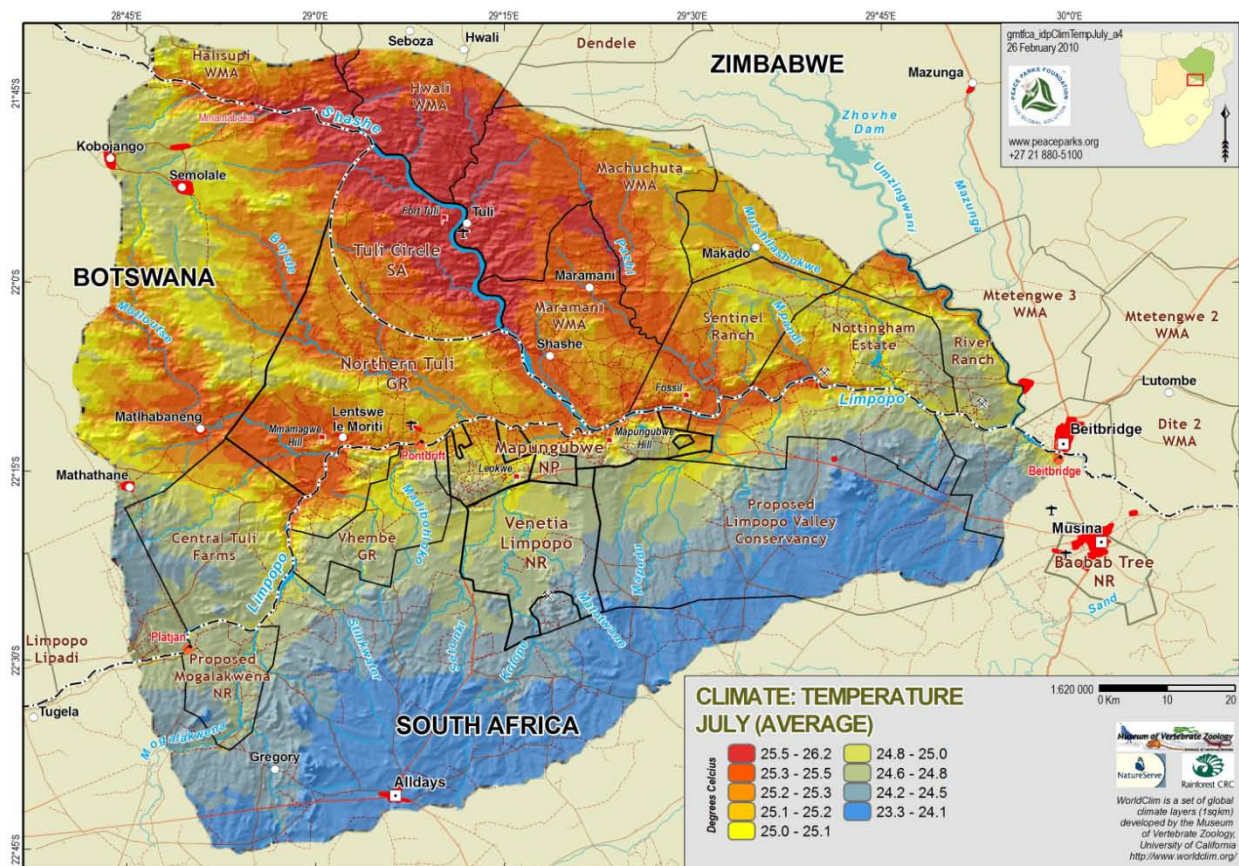
There are numerous smaller game species, including badgers, civets, porcupine, caracal, vervet monkey, and a host of smaller species.

There is a varied reptile fauna. Pythons and Black mambas are common. Insect and other arthropod life is diverse. From November to March the beautiful Mopane Moth can be seen flying around. At least nine scorpion species have been identified.

The Kolohe/Maloutswa ephemeral wetland, when inundated, attracts large numbers of birds and has become an established bird watching spot.

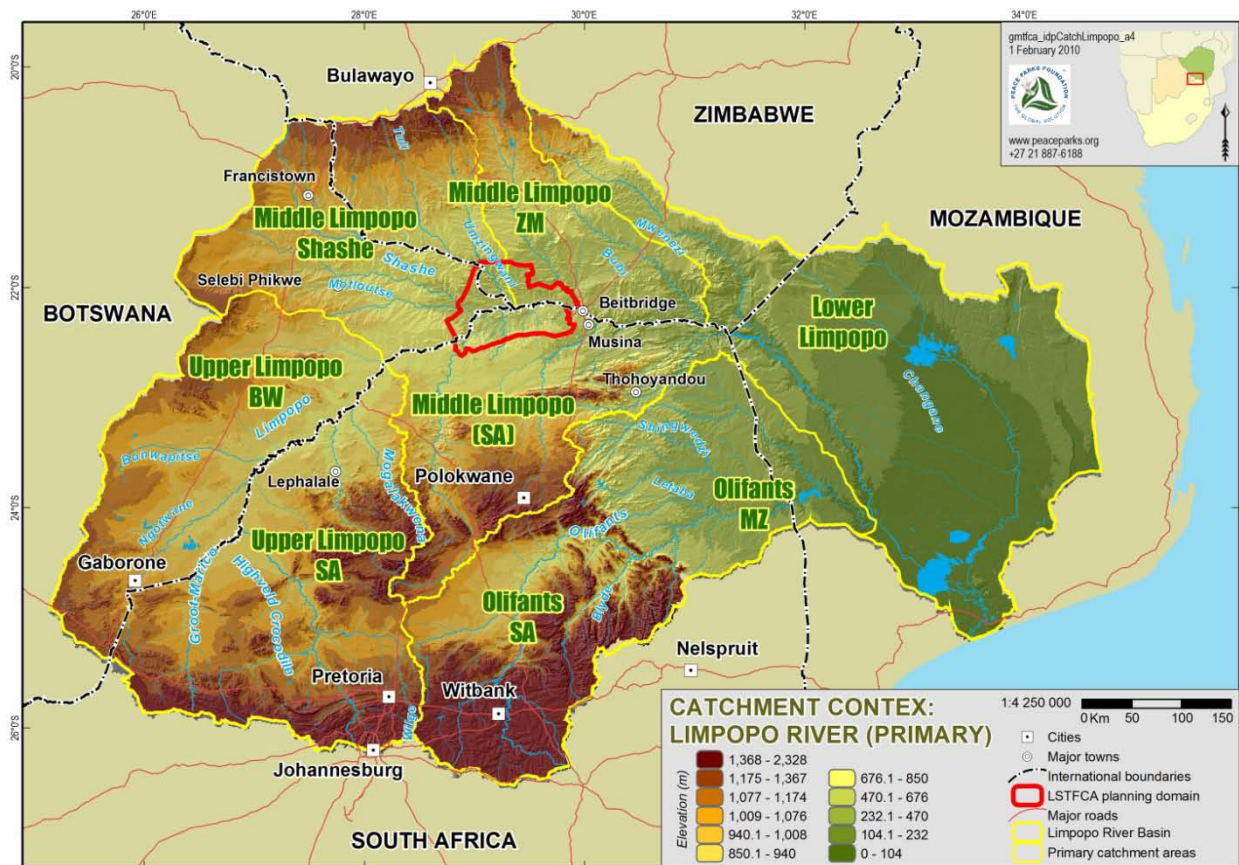


Map 14: Summer Temperatures



Map 15: Winter Temperatures

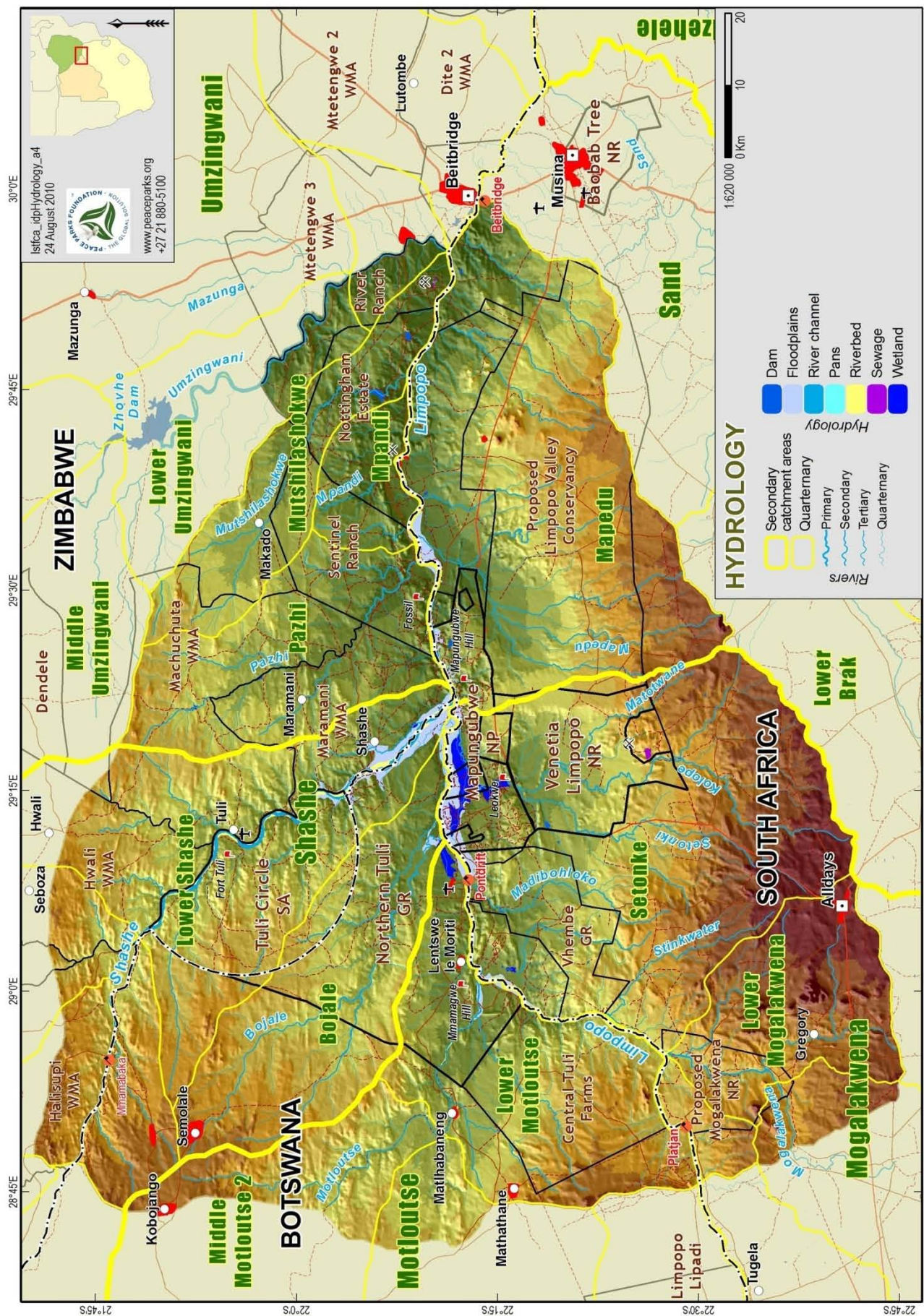


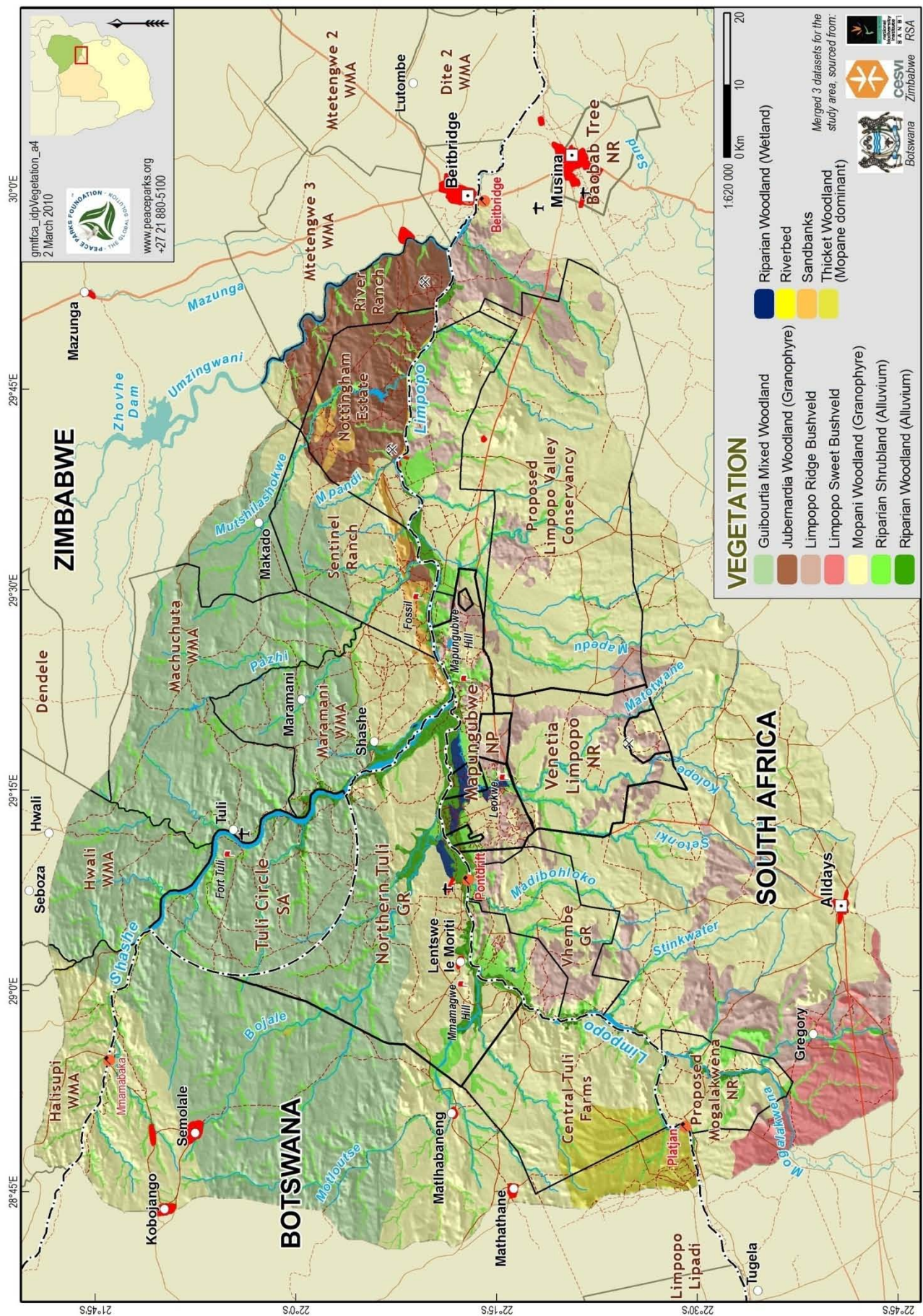


Map 18: Catchment Context - Limpopo



Map 19: Catchment Context - Middle Limpopo





Map 21: Vegetation

2.2 CULTURAL AND HISTORICAL ENVIRONMENT

The GMTFCA has a long human legacy of which nine (9) cultural spheres overlap and dominate, namely:

- Late Stone Age;
- Mapungubwe;
- Great Zimbabwe;
- Khami;
- Rosvi;
- Thovela;
- Refugee;
- Colonial and Anglo Boer War; and
- Conservation History (1918 onwards).

The GMTFCA is an area rich in cultural and historical resources, the anchor of which is the Mapungubwe Cultural Landscape (MCL), a landscape that consists of several layers ranging from the Stone Age to recent conservation history. Inextricably linked to the region is the pioneer history, as well as the history of conservation within the Limpopo Valley (refer Maps 22-23 and Plate 3).

Human settlement in the MCL has a long history - the earliest archaeological sites date back more than a million years with evidence of Earlier Stone Age tools made by ancestors of modern humans. In addition, there are sites dating to the Middle Stone Age and Later Stone Age.

Archaeological research between the 1930s and the present has provided much evidence for the most significant period of human settlement in the MCL when it was the centre of the first known powerful indigenous kingdom in southern Africa. However, very limited oral history exists to understand the social and historical relationship of the people occupying the areas before colonial occupation began.

The main archaeological sites within in the TFCA include K2, Mapungubwe and Schroda and other sites such as Mmamagwe, Mapela Ruins, Motloutse River, Leokwe Hill and Fort Tuli.

Artefacts of animal origin such as beads made from ostrich eggshell, large land snails, bone and ivory as well as bracelets made of ivory have been found throughout the region. These beads as well as large garden roller beads are still collected from old burial sites in Botswana, South Africa and Zimbabwe confirming the research of the existence of a large cultural landscape.

Rock art is found along the sandstone ridges, particularly the South African Heritage site on Machete and the panels on Nottingham Estate.

A variety of dinosaur remains have been located in South Africa and Zimbabwe (Nottingham Estate, Sentinel Ranch and the Maramani Wildlife Management Area) – these have however not been extensively researched.

Colonial and Boer War history is represented at Rhodes Drift and Poacher's Corner. More recent military history is illustrated in the extensive border fences erected by Apartheid Government of South Africa, as well as remnants of military camps in the area.





Mapungubwe Rhino

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum



Gold Bangles

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum



San Painting

Copyright Koos van der Lende



Clay Figurines

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum



Gold Sceptre

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum



Mapungubwe Ceramics

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum



Trade Glass Beads

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum



Stone Game Board

Copyright University of Pretoria Department of UP Arts Mapungubwe Museum

Plate 3: Cultural Heritage Resources

2.3 ECONOMIC ENVIRONMENT – LAND USE

The area within which the GMTFCA is located is characterised by sparse populations of people, and long distances for infrastructural lines of support. The nature of land use and ownership within the core area of the TFCA and the surrounding area is unusually diverse and includes contractual partners, private and communal land owners, land claimants, private tourism operations, game farms, commercial and subsistence farmers.

Much hope is centred on recent developments in nature-based tourism (including ecotourism and hunting lodges) particularly with Mapungubwe as a hub, and on the likely regional benefits of a greater TFCA straddling the three countries. Plans such as the 2002 Development Bank of Southern Africa funded *Mapungubwe Tourism Initiative Conceptual Tourism Destination Plan* detail these aspirations.

If this can be achieved, the socio-economy of the region will be transformed from what was a partly subsidised agricultural and security-dominated environment, to one based on more sustainable nature-based tourism.

This process is already underway, and Mapungubwe National Park itself has attracted an encouraging level of tourism since being opened to the public in 2004. Within Botswana NOTUGRE has proven that wildlife tourism has the potential to sustain regional growth and development and has been successful in securing investment resulting in significant regional benefit. Numerous lodges have been established either as commercial or private entities within a jointly managed conservation area and this conservation initiative serves as a microcosm of transboundary conservation albeit wholly within Botswana.

Zimbabwe's component of the GMTFCA is characterised by a broad spectrum of land use options including game farming, hunting, irrigation and dry land farming, mining as well as subsistence settlements. Vast portions utilise conservation either consumptively or non-consumptively as the major land use type yet where viable and feasible irrigation farming dominates.

Threats do exist within the GMTFCA mainly as a result of conflicting land use practices such as large-scale irrigation and mining competing with wildlife and tourism for riparian habitat.

Land use within the GMTFCA includes development on State land, private land and communal land (refer Map 24-25). Land uses within the GMTFCA mainly focus on conservation and tourism, yet mining and agriculture are also practiced and do have an impact on the area (refer Map 26).

Pre-colonial land-use included usage of different landscape positions in the Earlier Stone Age (river terraces), Middle Stone Age (thallus slopes) and Later Stone Age (caves) by hunter-gatherers, and within the last 2000 years by Khoi herders. Early Bantu-speaking farmers kept livestock and grew crops on lower-lying ground with better soils, while hilltops were favoured by the elite and were considered important for rain-making.

White farmers in the 20th century tended to occupy land near the river for irrigation, or farm in the areas away from the river with cattle and/or game-based ventures on the extensive semi-arid range. Military, mining and conservation land usage has added to the mix over the past century. Much of the area along the Limpopo has a history of agriculture in the last few decades, with much riparian woodland having been cleared for this purpose. Groundwater supplies are generally poor except along fault lines, and irrigation withdrawals along the Limpopo are large relative to surface water supplies.

Built-up and cultivated land thus occur mainly along watercourses in the study area, predominantly the Limpopo and Shashe Rivers, with opencast mining taking place at Venetia, River Ranch and Nottingham Estate.

Degraded woodland areas are generally associated with farmsteads and agricultural activities. Artificial water bodies refer to the many farm dams including the large dam on the Mutishilashokwe River. Remaining wetlands are associated with the various river courses. The majority of the study area is, however, classified as either Thicket and Bushland (along the riparian areas) or Woodland.

Veterinary fences occur along the western boundary of NOTUGRE, as well as around portions of the MPNP. Some game fences exist within Sentinel Ranch and Nottingham Estate, yet these are not accepted as veterinary control measures. Map 26 shows the location of fences within the GMTFCA.

2.3.1 Tourism

The TFCA is easily accessible by road from all major centres in Botswana, South Africa and Zimbabwe and well maintained gravel roads provide access to most parts of the TFCA with a myriad of smaller tracks and 4x4 routes providing access to remote areas.

The Limpopo Valley Airfield in southern NOTUGRE is an international airfield on a proposed scheduled route between Johannesburg and Kasane. Numerous other private airstrips and aerodromes are however found in and around the TFCA.

Currently only one entrance gate/interpretative and education facility to the GMTFCA exists and is situated along the R572 within the MPNP. Ports of entry are located at Beitbridge (between South Africa and Zimbabwe) and Pontdrift and Platjan/Baines Drift (between Botswana and South Africa).

Available tourist accommodation and related amenities and facilities are listed in Table 40 (refer Appendix 1). This does; however exclude the Wilderness Camps offered by Mashatu and other operators.

Although the TFCA offers a wide assortment of accommodation and related infrastructure, most of these are situated in the NOTUGRE area and Mapungubwe National Park (MPNP). Few amenities are available in the Zimbabwean component and are limited to hunting camps and some lodges.

Approximately 500 tourist beds are available in the study area of which most are high spend facilities.

Tourism flow is mainly by road from South Africa, with some aerial access mainly to the Botswana component via the Limpopo Valley Airfield. Access to the Zimbabwe component is limited and mainly emanates from the Beit Bridge – Bulawayo road via a network of secondary roads.

2.3.2 Mining

Two diamond mines occur within the area – Venetia and River Ranch – while a small coal mine is located on Nottingham Ranch, and a large mine on the banks of the Limpopo in South Africa. Plans are being investigated to establish additional open cast coal mines as well as a power station in the Limpopo Valley, yet these initiatives are being opposed by many stakeholders, due to the threat that industrialisation will have on both the character of the valley, planned migration corridors as well as the Mapungubwe WHS.

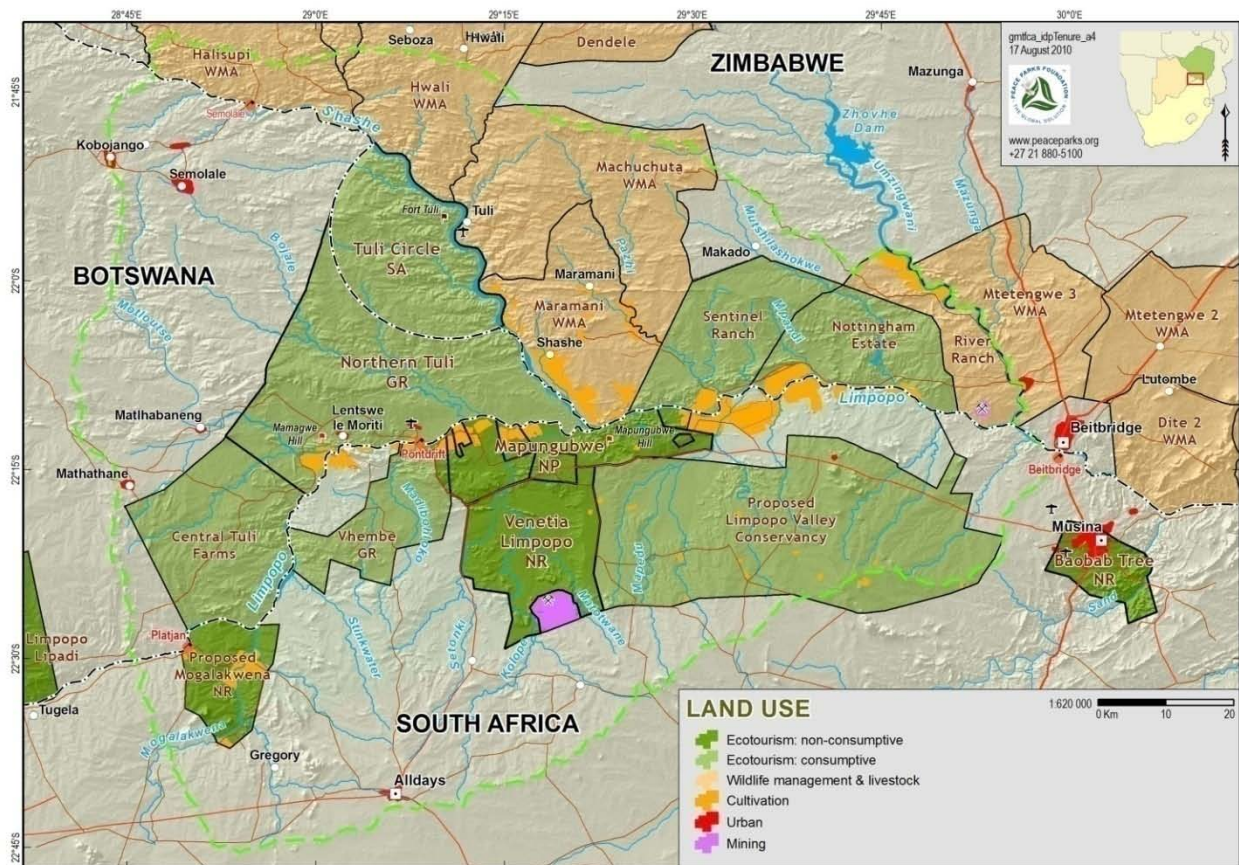
Prospecting is and also has been undertaken throughout large portions of the area, as have applications for prospecting and mining (refer Map 27).

2.3.3 Agriculture

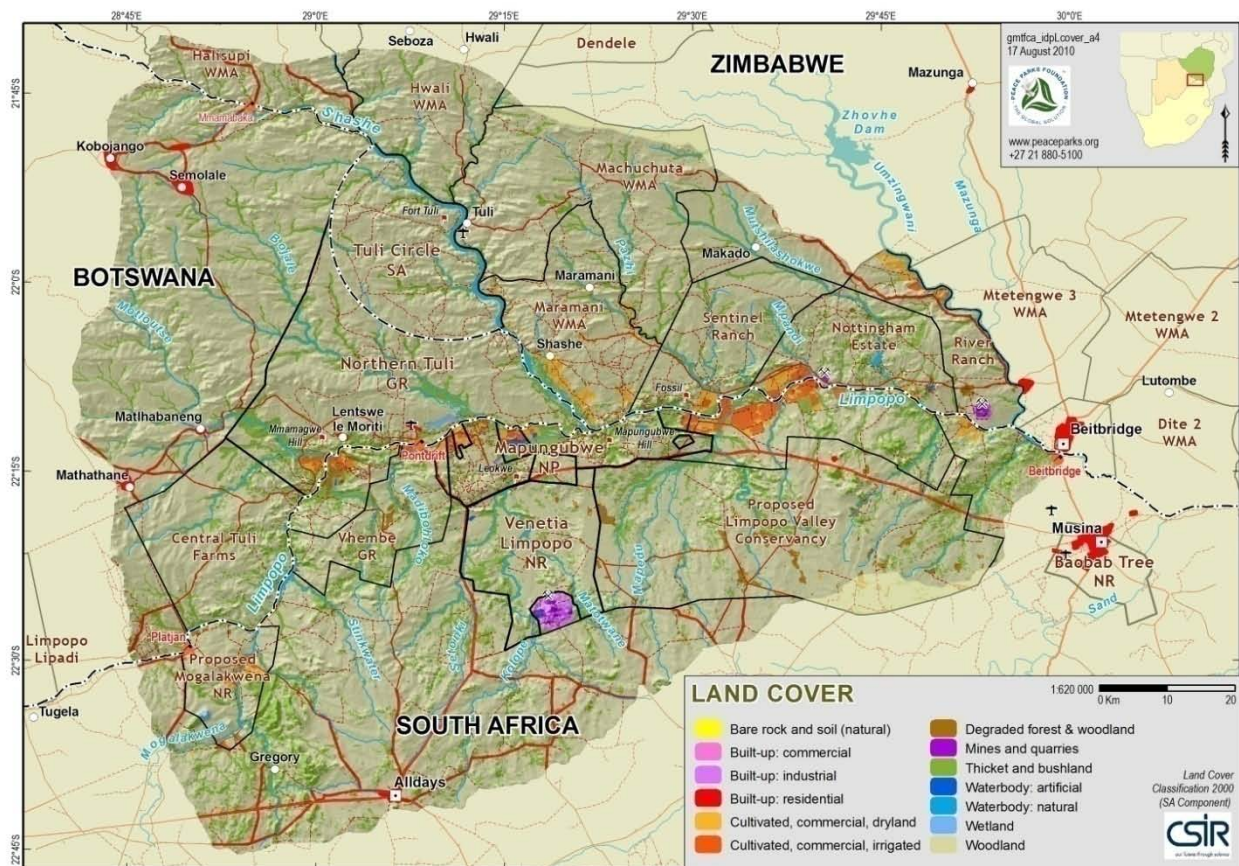
Within a region dominated by wildlife and tourism, a limited amount of labour intensive agriculture takes place along the Limpopo, targeting the alluvial deposits. Despite the high impacts of these farms, visually and environmentally, these farms currently employ high numbers of local people to service the citrus, vegetable and other crop industries.

Most of these agricultural developments are dependent on the provision of electricity to the region since both the pumping of water and irrigation is reliant on the electrical grids for viability. Regional price increases regarding electricity could severely impact on operations.

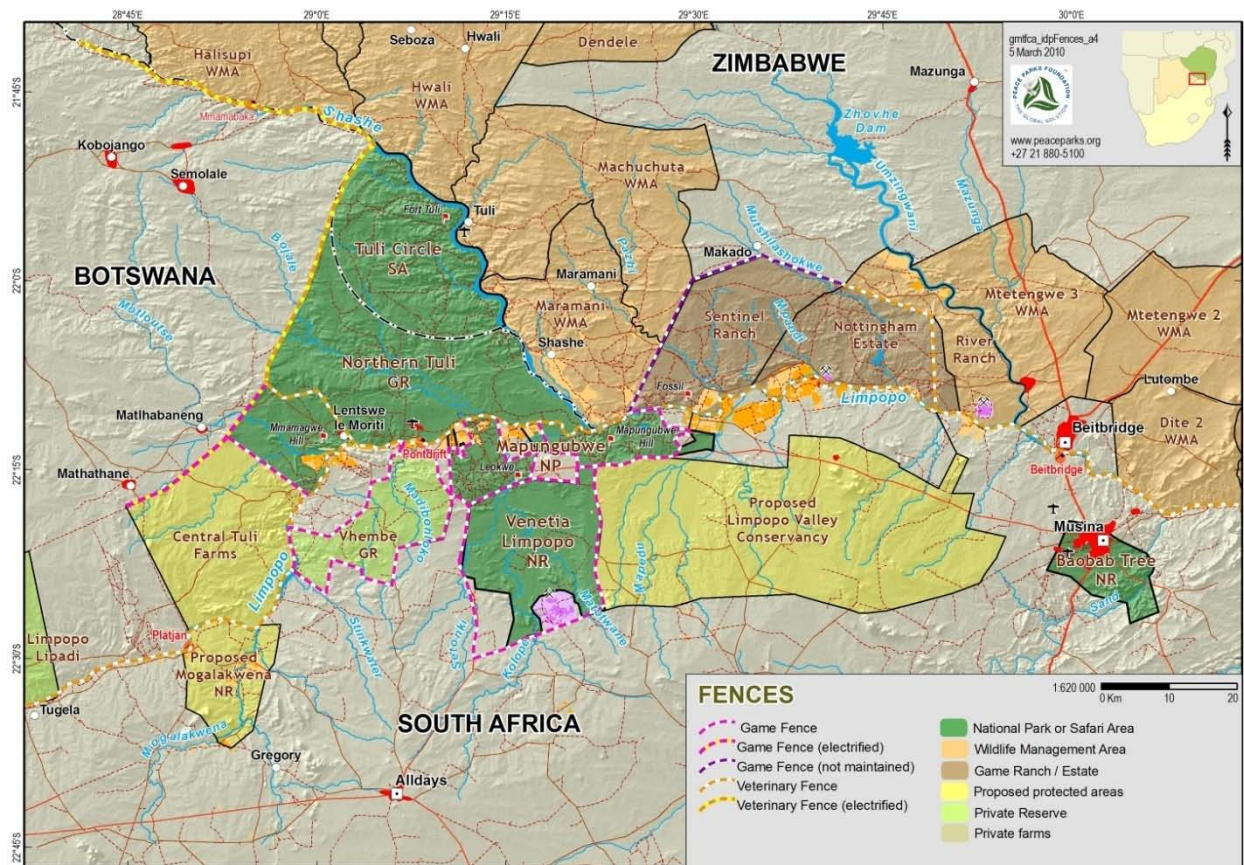
Due to extremely harsh environmental conditions, limited livestock farming is practiced in the core area mainly occurring in the communal areas of Botswana and Zimbabwe.



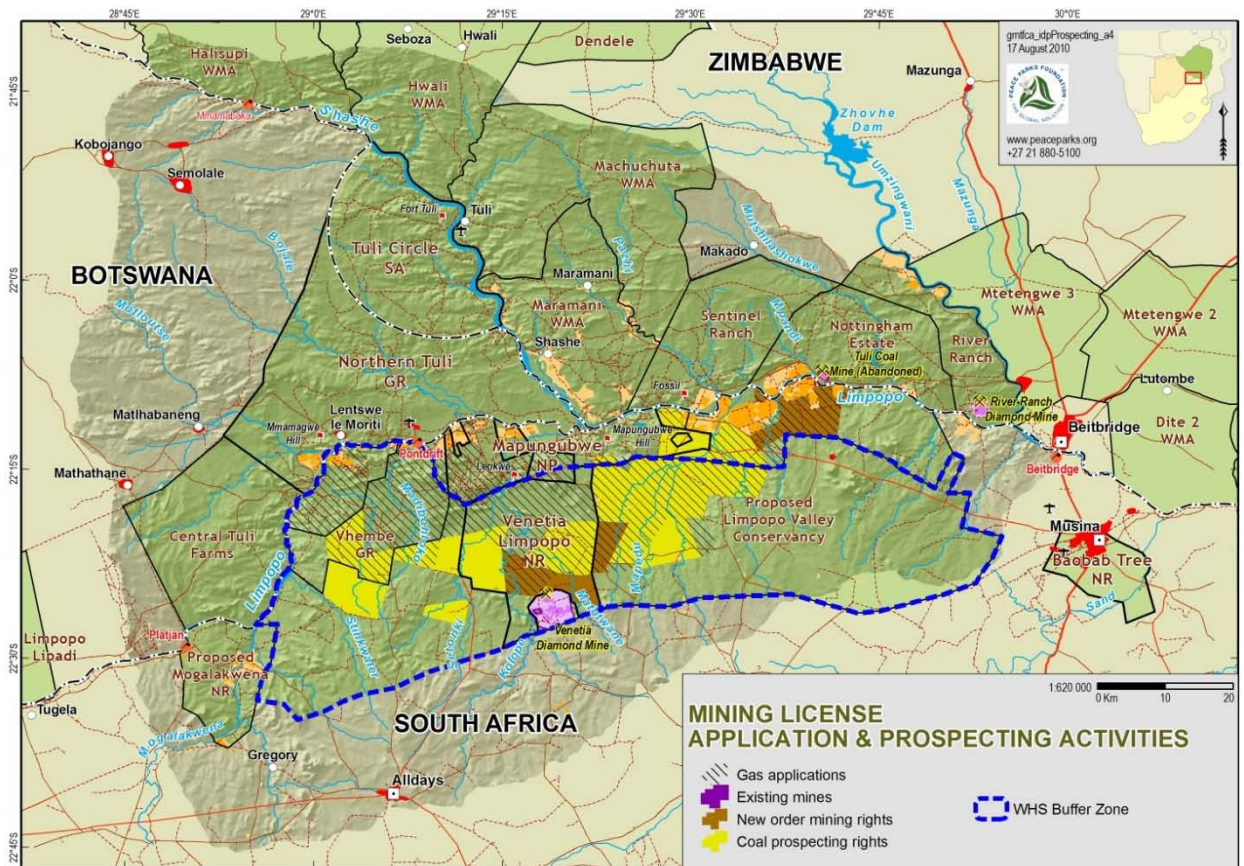
Map 24: Land Use



Map 25: Land Cover



Map 26: Fences within the GMTFCA



Map 27: Mining Applications and Activities

2.4 GOVERNANCE ENVIRONMENT

2.4.1 Spheres of Government

The Governments of the three partner countries at all spheres are involved within the Government structures within the GMTFCA. This includes the Beit Bridge and Gwanda Rural District Councils in Zimbabwe, the provincial and national Government departments in South Africa, and relevant structures within Botswana (refer Map 28).

2.4.2 Population Distribution

From a population distribution perspective the main concentrations of people occur around Musina and Beit Bridge, with a large secondary concentration along the main road to Bulawayo, directly east of River Ranch. Other areas with relatively high concentrations of people are the Maramani Wildlife Management Area (WMA), the area around Alldays, Lentswe le Moriti, Mathathane, Semolale, and Kobojango. Areas with widely dispersed rural settlements are scattered throughout the study area, as are concentrations of people at the agricultural enclaves (refer Map 29).

2.4.3 Legal Framework

The relevant legal framework pertaining to the GMTFCA are listed at international, African, Southern African Development Community (SADC), Country and TFCA specific levels.

Key *international* policies and conventions include:

- Agenda 21;
- IUCN Convention on Biodiversity 1992;
- Bonn Convention on Migratory Species of Wildlife Animals 183;
- Convention to Combat Desertification;
- Convention on International Trade in Endangered Species of Wildlife Fauna and Flora (CITES) 1975;
- World Cultural and Natural Heritage Convention 1972 (along with UNESCO and the World Heritage Commission guidelines);
- Ramsar Convention on Wetlands 1971; and
- 1997 Watercourses Convention.

Important *African* regional legislation includes:

- African (Banjul) Charter on Human and People's Rights;
- 2001 New Partnership for Africa's Development (NEPAD);
- 1968 African Nature Convention;
- Revised 2003 African Convention on the Conservation of Nature and Natural Resources; and
- 1991 Treaty establishing the African Economic Community.

SADC level relevant legislation and policy include:

- 1992 Treaty of the Southern African Development Community;
- 2003 (Revised) Protocol on Shared Watercourses;
- 1999 SADC Protocol on Wildlife Conservation and Law Enforcement;
- 2002 Protocol on Forestry; and
- Protocol on Tourism.

Country specific legislation regarding biodiversity and protected area management is set out below.

Botswana relevant legislation includes:

- Wildlife Conservation and National Parks Act, 1992 (Act No. 28 of 1992);
- National Water Act, 1998 (Act No. 36 of 1998);
- National Monuments and Relics Act; and
- Environmental Impact Assessment Act, 2005 (Act No. 6 of 2005).

South African relevant legislation includes:

- National Environmental Management Act, 1998 (Act No. 107 of 1998);
- Protected Areas Act, 2003 (Act No. 57 of 2003);
- World Heritage Convention Act, 1999 (Act No. 49 of 1999);
- South African Heritage Resources Act, 1999 (Act No. 25 of 1999);
- Biodiversity Act, 2004 (Act No. 10 of 2004);
- A Framework for Development and Implementing Management Plans for South African national Parks, 2008; and
- Agreement for the Establishment of the Vhembe/Dongola National Park, 1996.

Zimbabwe relevant legislation includes:

- Policy on Wildlife (1999/09/22);
- Policy on Wildlife-based Land Reform (2002/07);
- Amended Constitution of Zimbabwe of 2005;
- Amended Parks and Wildlife Act of 1996;
- Environmental Management Act of 2002;
- Water Act;
- Rural District Councils Act of 1988;
- Forest Act of 1948; and
- Communal Land Forest Produce Act of 1928.

TFCA specific policy and legal framework include:

- Commitment to regional cooperation, SANParks, Limpopo Province and DEAT (signed 1996);
- Memorandum of Understanding, Botswana, South Africa, Zimbabwe: NOTUGRE, Mapungubwe National Park, Tuli Circle Safari Area and South Africa, 2006; and
- Draft Treaty, July 2009.

2.4.4 Protected Areas

Within the area the following formally proclaimed protected areas (refer Map 30) occur ranging from international through to community conservation status:

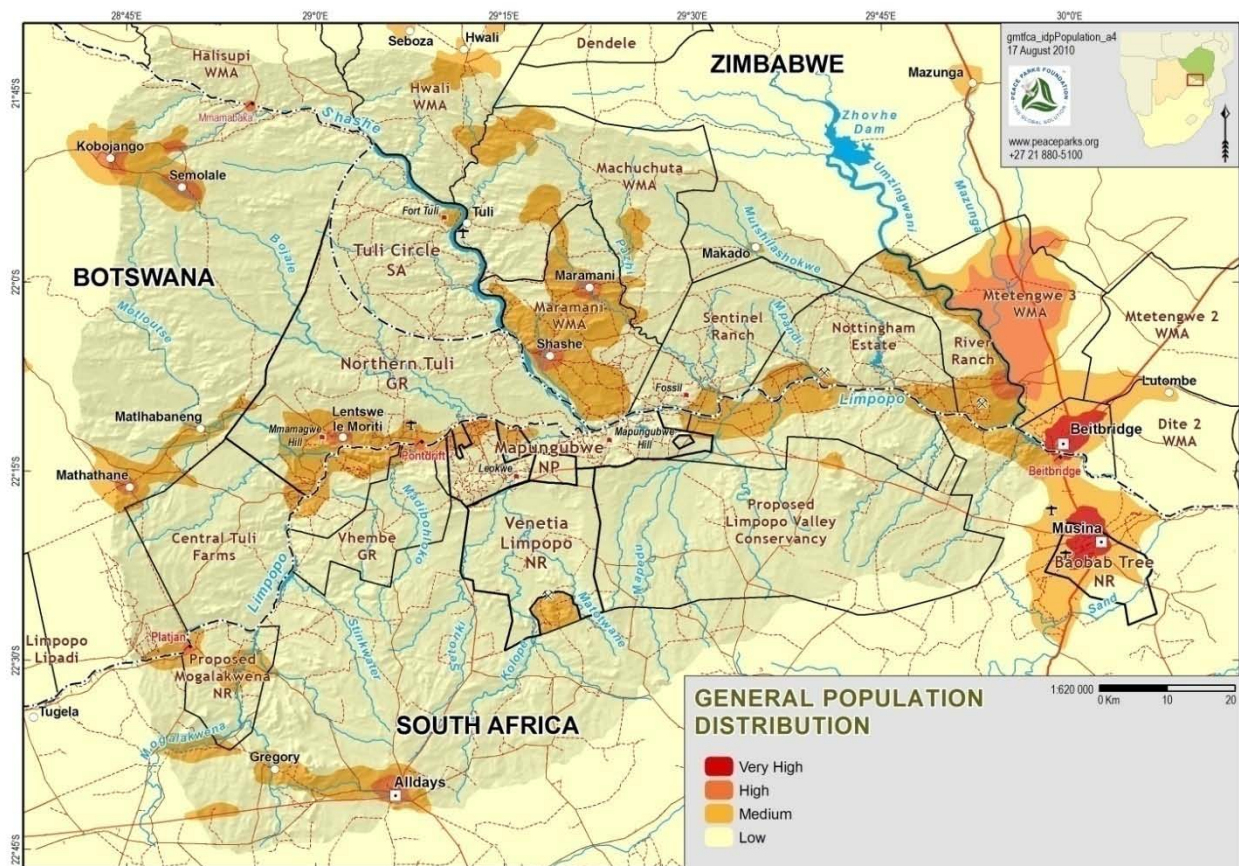
- Tuli Circle Safari Area;
- Maramani WMA;
- Machuchuta WMA
- Halisupi WMA;
- Hwali WMA (Gwanda Rural District Council);
- NOTUGRE;
- Mapungubwe National Park; and
- Venetia Limpopo Nature Reserve.

Several other potential areas could become part of the formally proclaimed protected area network subject to the relevant legislation of the partner country within which the area is located.

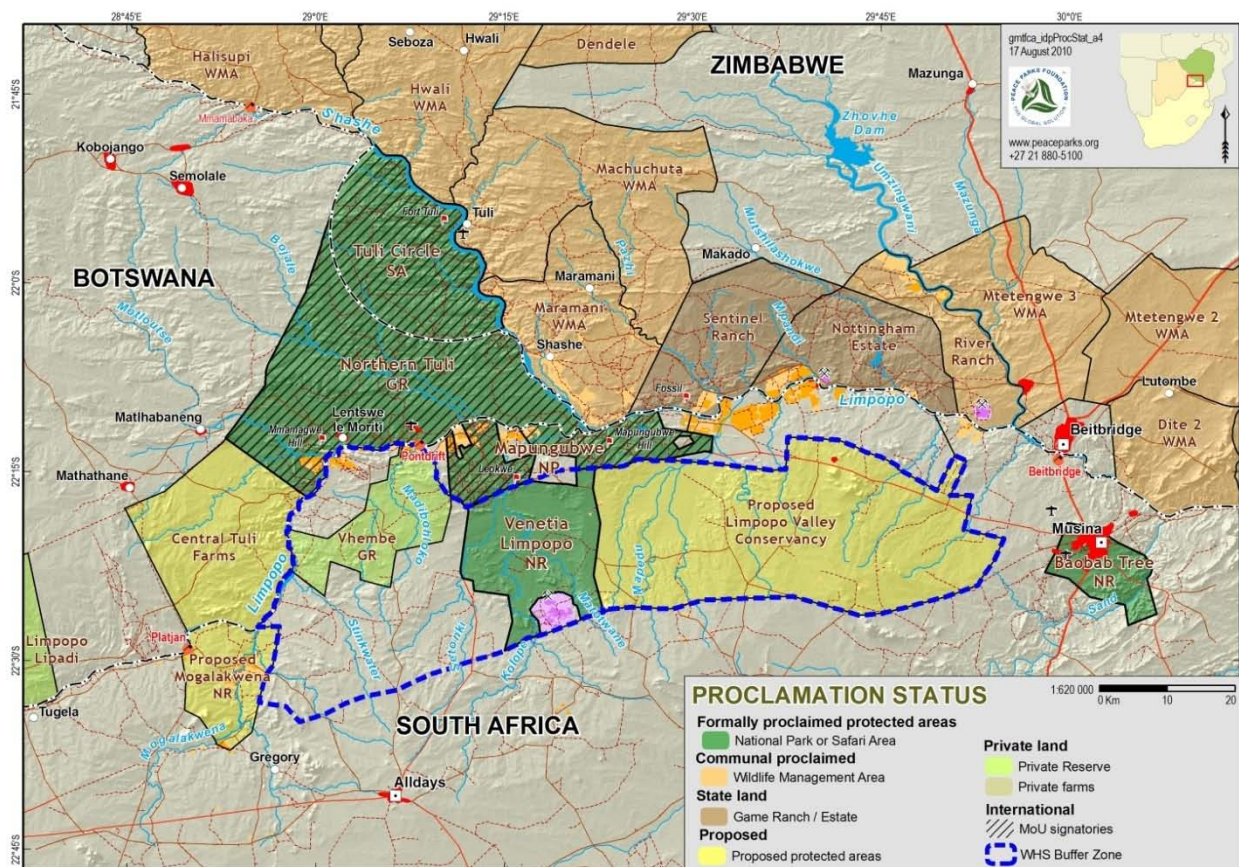
The current proclamation status of each individual property will be clarified through the Policy Harmonisation process (refer Section 4.5.3.4) and appropriate status afforded to properties in order to attain the conservation objectives of the TFCA.



Map 28: Government Boundaries



Map 29: Population Distribution



Map 30: Proclamation Status

2.4.5 Current TFCA Conservation Administrative Arrangements

The current TFCA institutional arrangements consist of the following and are illustrated in Figure 5:

- Trilateral Ministerial Committee;
- Trilateral Technical Committee (TTC);
- National Technical Committees;
- Joint Working Groups;
- International Coordinator.

The day to day business of TTC and its Working Groups is prescribed by a TTC approved *Procedural Guidelines* directive as well as various business, work and relevant plans.

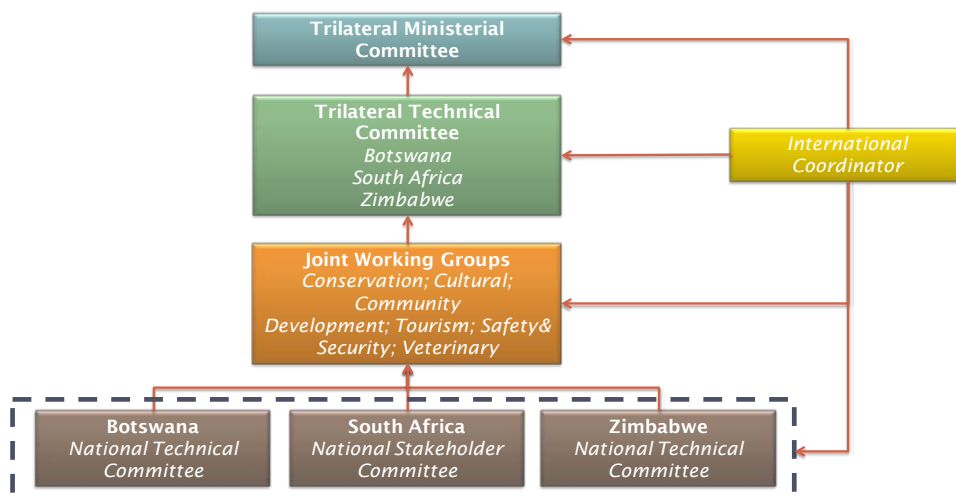


Figure 5: TFCA Administrative Arrangements, 2010

2.5 SENSITIVITIES: UNDERSTANDING THE PLANNING ENVIRONMENT

To ensure accountability regarding decisions relating to the acceptability and appropriate placement of the interventions within the GMTFCA pertaining to the access, use, development, and infrastructure planning parameters, the planning environment and its sensitivities and land use propensities must be understood (refer Figure 6).

Combined Sensitivity is determined by examining:

- Habitat Value;
- Landscape Sensitivity;
- Cultural Sensitivity; and
- Aesthetic Sensitivity.

Agricultural Suitability combined with the Combined Sensitivity establishes *Land Use Propensity*.

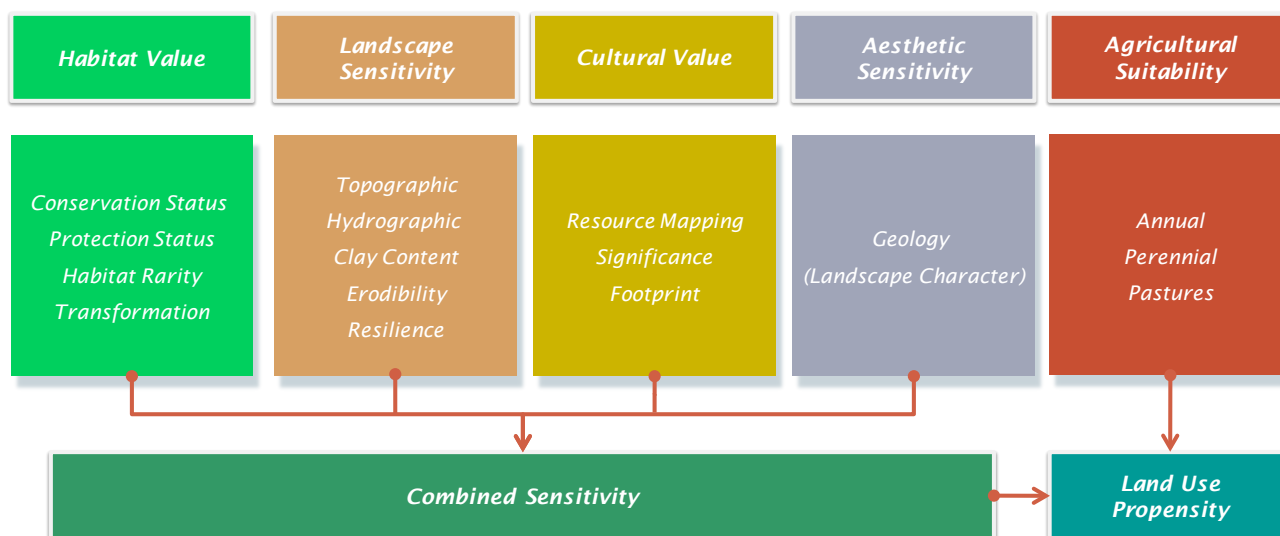


Figure 6: Sensitivity Analysis

Appendix 2 sets out the methodology for examining and combining the various criteria for assessing the individual sensitivities and suitabilities of the study area. Key findings are as follows:

Habitat Value:

Based on the assessment of Habitat Value the critical areas are associated with the riparian vegetation both woodland and shrubland and the sandy vegetation belt along the Limpopo and Shashe Rivers as well as the numerous tributaries draining into the two rivers.

Additional areas of high habitat value are the Jubernardia Woodland on Nottingham and River Ranch in Zimbabwe, and the vegetation in the south-western portion of the planning domain mainly found in the Central Tuli and Limpopo-Lipadi areas.

The region's geology and hydrology are the major contributing factors in determining habitat value (refer Map 31).

Landscape Sensitivity:

Similar to Habitat Value, geology and hydrology are the main determining factors regarding Landscape Sensitivity (refer Map 32). The riparian vegetation and associated river floodplains are most sensitive as are the tributaries to the main rivers. The Mmamabaka area along the Shashe River seems to be a local area of sensitivity worthy of increased management effort.

The Sandstone ridges are sensitive to change and feature prominently in the landscape sensitivity analysis.

Cultural Value:

Four main cultural clusters of influence characterise the GMTFCA, the first being the area surrounding Mapungubwe Hill, stretching eastward to Sentinel and Nottingham. The second area is to the west of Mapungubwe including Leokwe Hill and the area immediately west of Pontdrift, inclusive of several tributaries draining into the Limpopo. The third area is associated with Mmamagwe Hill along the Matloutse River extending to Mathathane and Mathlabaneng, while the fourth sphere is associated with Fort Tuli and includes numerous sites within the Maramani (refer Map 33). Collectively these four main clusters constitute the core of the cultural landscape associated with the GMTFCA and could form the basis for the expansion of the WHS.

Aesthetic Sensitivity:

The unique sense of place experienced by visitors to the GMTFCA is as a result of the character of the landscape associated with the Sandstone ridges and wide sandy river beds, fringed by forests (refer Map 34). These specific features created environments that were attractive to early settlers and were used for stone tool manufacturing, shelter and as a canvas for rock art. Besides the cultural usage of the area, the inselbergs, rocky outcrops and calcrete hill tops create unique microclimates which in turn have given rise to the plant and animal diversity as does the variations in soil characteristics.

Combined Sensitivity:

Regarding the key findings of the combined sensitivity analysis three main aspects necessitate clarification (refer Maps 35). The first is the critical importance, both from a natural and cultural perspective, of the riparian zones along the Limpopo and Shashe Rivers, as well as the main tributaries in all three countries. The importance of these drainage lines is critical to the functioning of the ecosystem and provide some resilience in a dry and brittle environment.

The second area of importance is a band along the Limpopo Valley stretching from the Central Tuli Region to River Ranch and is associated with the contact between the Sandstone ridges and sandy river beds, and area that is also host to the main sites of cultural heritage significance.

The third area is the proposed Mmamabaka Community Conservation Area and Halisupi WMA along the Shashe River, sensitive from a hydrological and landscape perspective.

Agricultural Suitability:

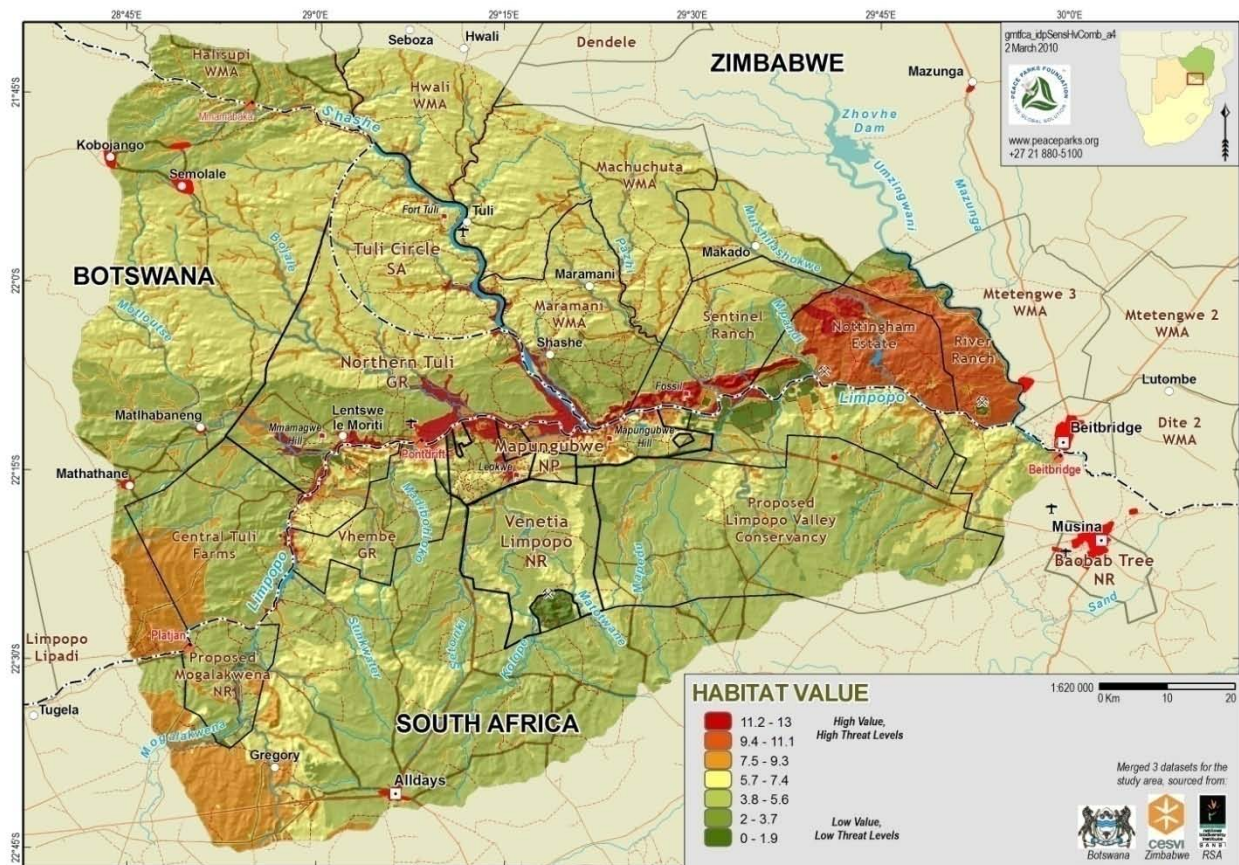
The agricultural suitability of the GMTFCA is limited due to the low annual rainfall experienced in the area. However the alluvial deposits along the river have higher potential based on the availability of underground water. Grazing potential along the rivers is relatively high, albeit lower than other areas in Zimbabwe and South Africa, with a band of low potential stretching east to west across the northern portion of the study area. Perennial crops have limited potential with the highest potential for these being along the river and in the southern portion of the study area especially where the alluvial soils are utilised under irrigation (refer Maps 54-56, Appendix 2).

Land Use Propensity:

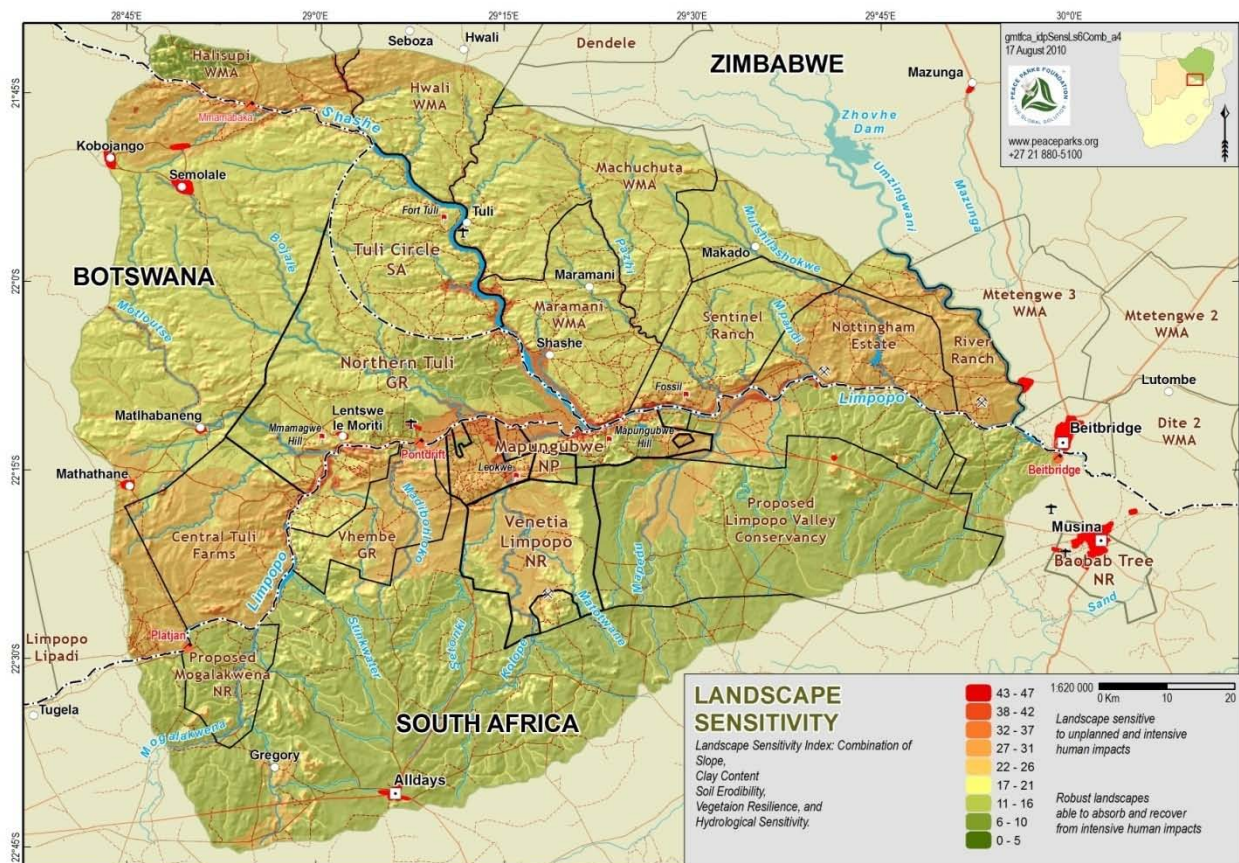
To bridge the gap between the analyses of sensitivities and preparing the Use Zonation and Future Environmental Character, a Land Use Propensity map is drawn up, proposing the most viable land use for each section of the study area, based on its inherent biodiversity value and sensitivity. If each landscape is managed according to the specific intensity that it is able to accommodate and absorb, it will be able to provide an ongoing resource base for those activities and the study area will have the best chance of attaining sustainability. Activities that are incompatible with each other, or have the potential to affect each other negatively, can also be holistically planned (refer Map 36).

The areas with the highest biodiversity value and sensitivity are identified as having the highest potential for being utilised for Ecotourism and Wildlife activities. These include the most scenic sandstone ridges, riparian vegetation, wetlands as well as areas of significant cultural importance and are grouped in the "Ecotourism - sensitive" propensity class. The next level of Biodiversity and cultural value is grouped into the "Ecotourism - resilient" propensity class as it still is able to provide a base for Ecotourism activities but is more able to handle higher volumes of traffic and development of support services.

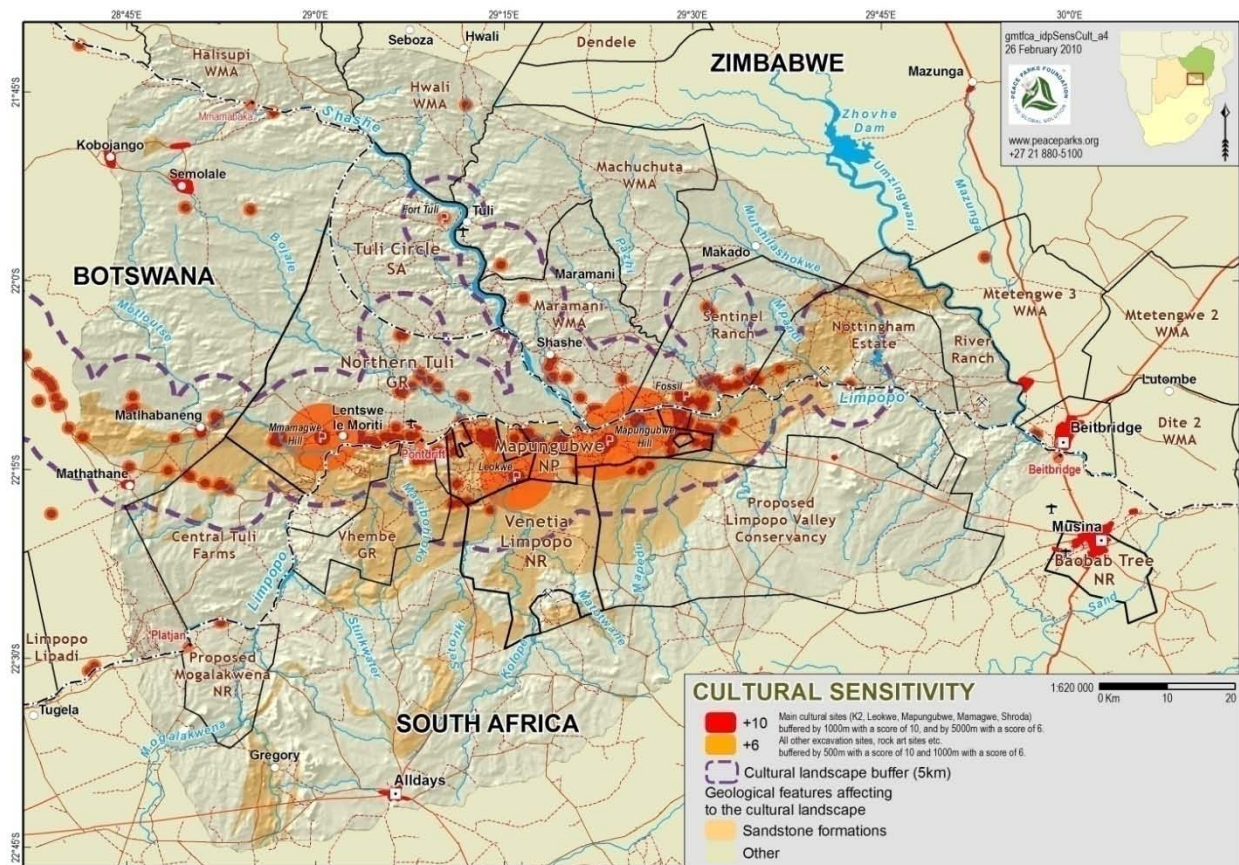
Areas most suited to intensive agriculture are indicated on the various alluvial floodplains along the major rivers. In most cases this will only be possible with irrigation due to the low rainfall of the study area. The propensity for mining is restricted to existing sites as such activities this close to the international boundary and core of the TFCA, will have negative consequences on the significant investments already made in support of the ecotourism industry in neighbouring countries by the public and private sector, in accordance with previous tri-lateral and regional agreements to this effect at a high level.



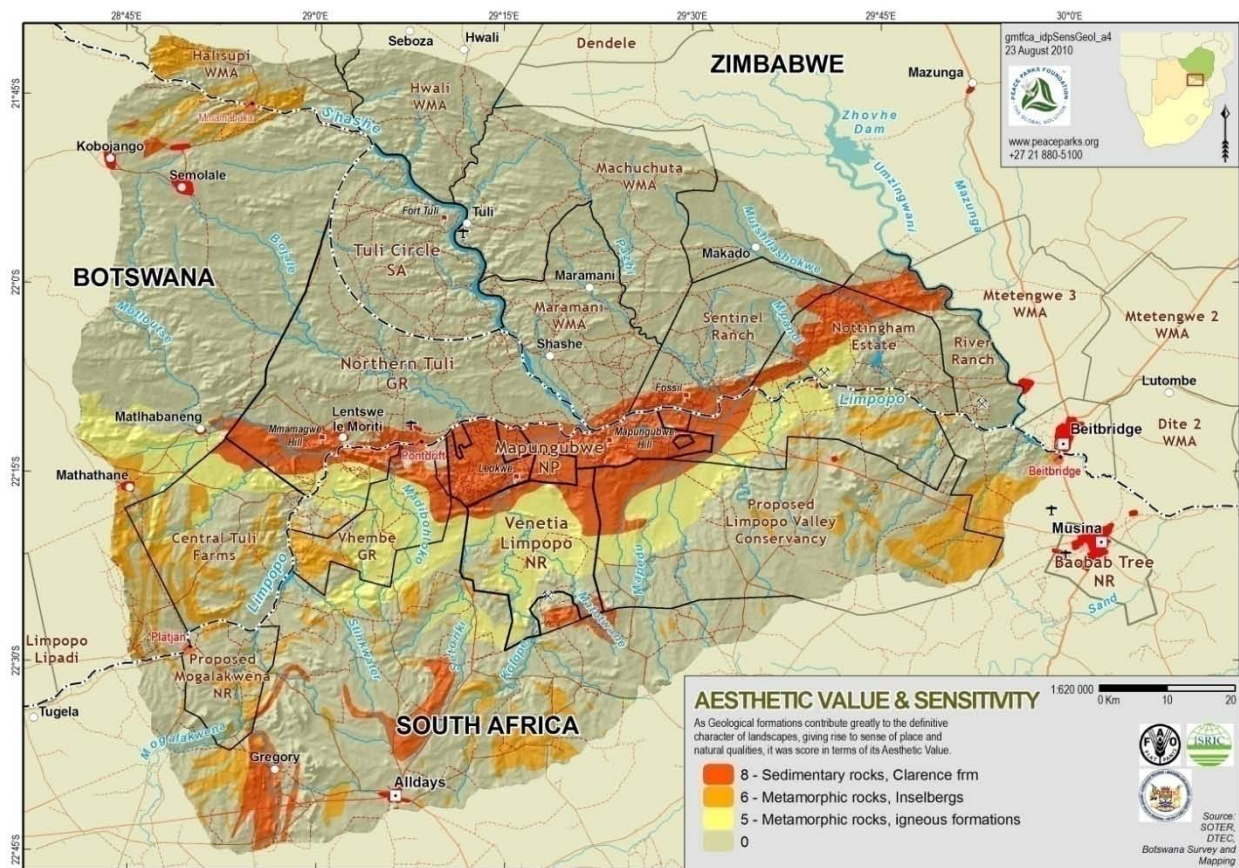
Map 31: Habitat Value



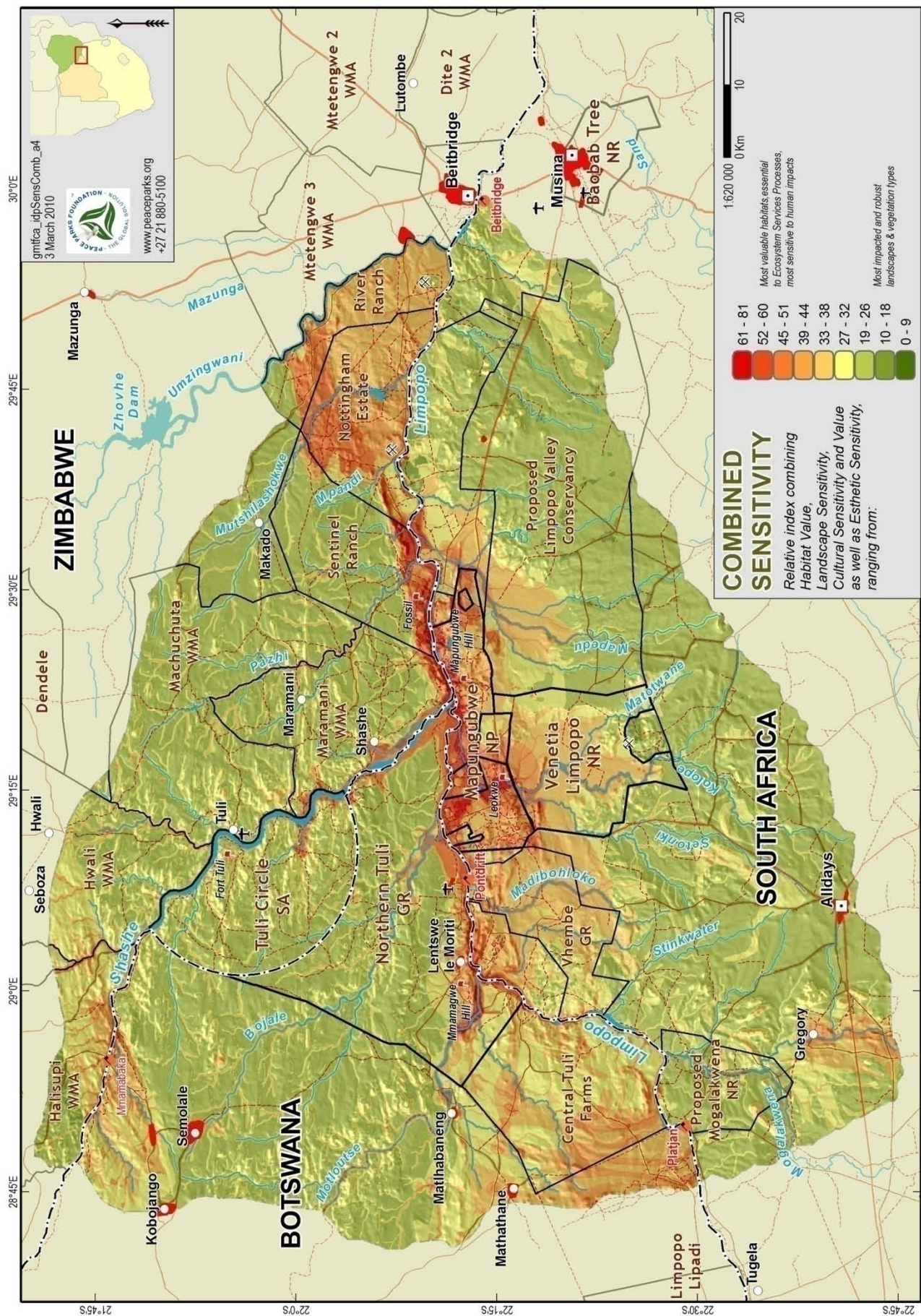
Map 32: Landscape Sensitivity



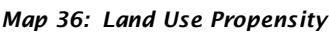
Map 33: Cultural Sensitivity



Map 34: Aesthetic Value and Sensitivity



Map 35: Combined Sensitivity



3 THE PEOPLE

3.1 STAKEHOLDERS AND ROLE PLAYERS

One of the important pillars of communication and stakeholder involvement across all sectors as stipulated in the MOU, is that the GMTFCA should have a strategy to promote public-private-community partnerships and establish and address the needs and expectations of the various stakeholders. This is implemented along three practical avenues:

- Utilising the TTC structures and its representation;
- Making use of existing stakeholder structures in each country; and
- Responding to the outcomes of a series of Needs and Expectations Assessment Workshops in each country with consolidated report back to the TTC.

The broad structure and composition of the membership of the TTC is set out in Figure 7. The membership of the TTC Working Groups is left to the discretion of the different countries, but at least one member for each of the working groups must be provided for in a specialist capacity. If the business of the day or the specific phase of planning may require so, countries may bring in advisors or specialists to assist as co-opted members. Figure 9 reflects the current composition of the Working Groups and their sub-groups.

It is important to note that the Conservation Working Group has recognised the importance of both the natural and cultural resources of the area and to accommodate this has established Veterinary and Cultural Heritage Conservation sub-working groups.

In **Botswana**, besides the Government representatives, the NOTUGRE Executive Committee (EXCO) serves as existing structure for stakeholder participation, and they are represented on the TTC level by the EXCO chairperson and an additional member as TFCA representative. NOTUGRE is a privately owned, registered conservation area.

An agreement between the Government of Botswana and NOTUGRE formalises the involvement of this structure on the TTC.

Additionally, the resident/land owning and neighbouring farming communities are represented directly on the TTC by one member.

In **South Africa** structures are in place to support this institutional structure, namely the SANParks Mapungubwe Park Forum, with representatives from the following communities/sectors:

- Organised farming;
- Land owners;
- Tourism;
- Local authority;
- Labour; and
- Communities with cultural/traditional links with Mapungubwe.

SANParks also maintains two other stakeholder structures namely the Joint Management Committees with De Beers (land owner, conservation business partner) and the Province respectively. SANParks has held additional national stakeholder meetings to provide for stakeholders not covered elsewhere, including *inter alia*, land claimants, non resident land owners, and universities or specialists with research interests, etc.

In **Zimbabwe** the Beit Bridge Rural District Council (BBRDC) (who is represented on the TTC) provides access to communities within the TFCA, i.e. the Maramani, and Gwanda districts or wards (also WMAs) as well as Sentinel Ranch, Nottingham Estate and River Ranch. Each of these has active TFCA Committees, represented on the TTC by the BBRDC or the national representative.

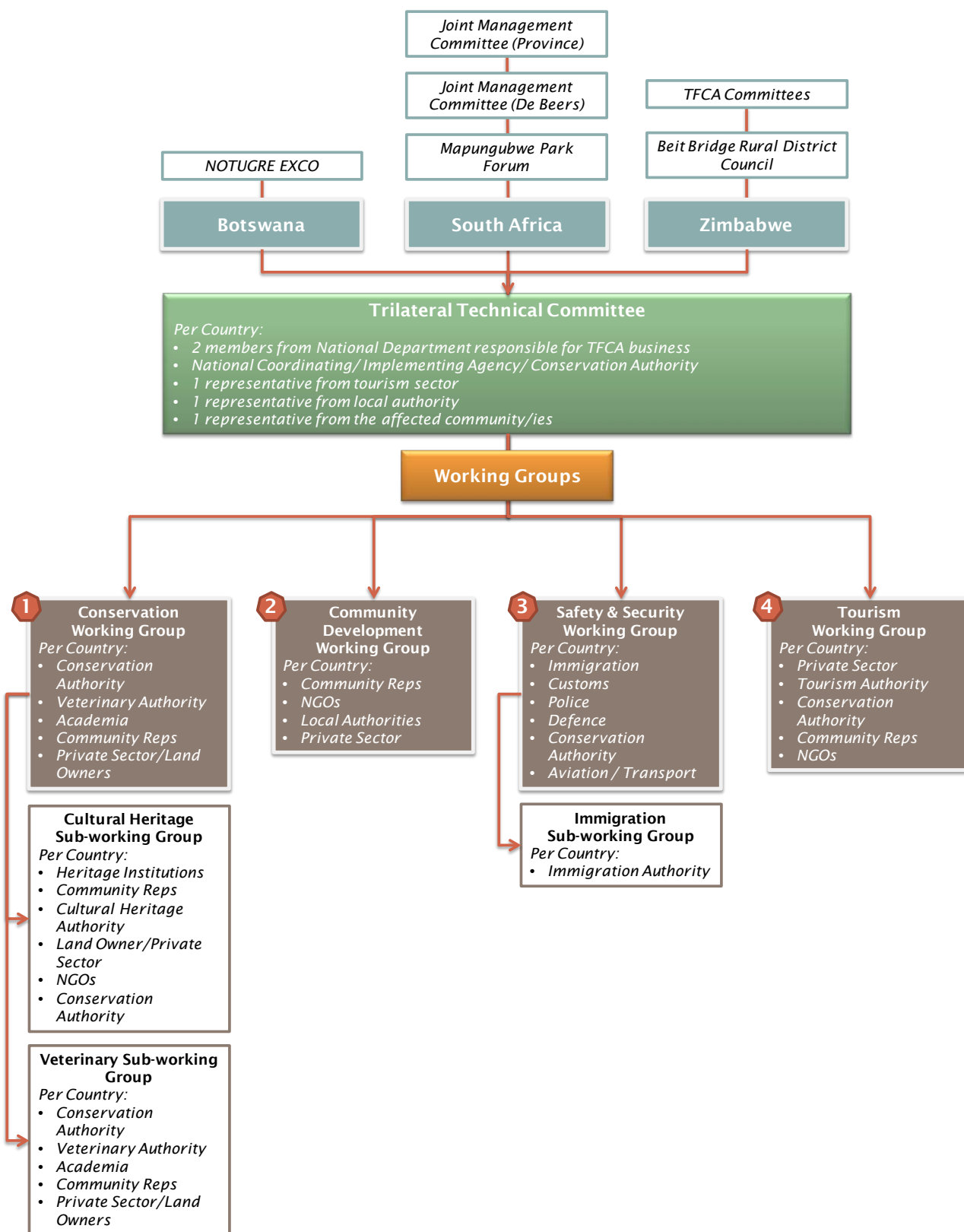


Figure 7: TTC Structures and Representation

3.2 NEEDS AND EXPECTATIONS

The needs and expectations of the various stakeholders were deliberated and discussed within the various Working Groups of the TTC, Mapungubwe Park Forum in South Africa and at various Needs and Expectations Workshops held in Botswana and Zimbabwe and can be summarised as follows:

- Collective:
 - ~ Joint TFCA management and business plan; and
 - ~ TFCA Joint Operational Manual.
- Conservation (Natural and Cultural Resources):
 - ~ Land use options assessment and joint TFCA zoning plan;
 - ~ River and river system management;
 - ~ Wetland rehabilitation and management framework;
 - ~ River and associated forest management framework;
 - ~ Elephant management;
 - ~ Predator management;
 - ~ Cross Border Cultural Resource Management Plan;
 - ~ World Heritage Site expansion;
 - ~ Integrated biodiversity and cultural heritage management linked tourism plan;
 - ~ Joint research;
 - ~ Fire Management; and
 - ~ Veterinary Control Plan (Veterinary Control Fences, Gates and Procedures).
- Tourism:
 - ~ Tourism Access (Border Posts and Limpopo Valley Airfield Operational Plan);
 - ~ Tourism Development Plan;
 - ~ Tourism protocols (e.g. entry fees, permits, levies);
 - ~ Promotion of cultural tourism and development of interpretive center/s or museum/s; and
 - ~ Marketing and promotion of the TFCA through initiatives such the Tour de Tuli, Boundless etc.
- Safety and Security:
 - ~ Safety and Security Plan;
 - ~ Clarity regarding standard operating procedures;
 - ~ Regional stability regarding cross border crime, movement of people (illegal immigrants); and
 - ~ Fence controls.
- Community Development:
 - ~ TFCA socio-economic study and community development framework (situational analyses);
 - ~ Human Wildlife Conflict;
 - ~ Alternative livelihood study;
 - ~ Representation on TFCA structures;
 - ~ Stakeholder participation;
 - ~ Information on existing community tourism initiatives;
 - ~ Cultural and natural resource use and access to these;
 - ~ Policy harmonisation regarding involvement of communities;
 - ~ Clarity regarding land tenure;
 - ~ Communication strategy to ground level;
 - ~ Beneficiation programme; and
 - ~ Capacity Building.

Section 4 of this IDP aims at providing clarity on how these needs and expectations are to be addressed within the sensitivities and constraints of the GMTFCA.

4 THE PLAN

4.1 INTRODUCTION

Within this section the challenges and threats are highlighted, after which the strategic guidelines to successfully address these threats are discussed. Based on these guidelines (i.e. vision, mission and broad objectives for the GMTFCA) a business plan has been prepared linked to indicators within 8 Key Performance Areas deemed critical to ensuring the success of the GMTFCA. Following this, access, use, development and infrastructure concepts are spatially represented, recognising the sensitivities and suitability of the receiving environment. These concepts are then combined into a Concept Development Plan for the GMTFCA.

4.2 CHALLENGES – THREATS AND ISSUES

Within the GMTFCA certain aspects are of a regional nature while others remain relevant at a national scale. This dichotomy of levels does influence the manner within which the specific aspect is addressed.

Besides *habitat fragmentation* as a result of colonial boundaries, several other threats challenge the region, the main aspects being agriculture and mining in a brittle environment (refer Plate 4).

Agricultural activities are mainly confined to alluvial areas which over time have become severely threatened and which are on a national and regional scale worthy of protection. Even though further expansion into intact riparian areas can be controlled through various legislative mechanisms such as the National Water Act in South Africa and the SADC Protocol on Shared Water Courses, the abstraction of ground water is having a significant impact on the habitat integrity of the region.

Mining, albeit already present, poses a significant threat to the region due to the visual and incremental impacts that these activities have in this area. Large areas are currently being targeted, and if implemented could significantly change the character of the area.



Habitat Fragmentation
Copyright Johan Verhoef



Mining
Copyright Johan Verhoef



Agriculture
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Plate 4: Challenges and Threats

4.3 PROGRAMME MANAGEMENT FRAMEWORK

A programme management framework is followed for the GMTFCA which is based on an agreed future desired state and strategies, plans and programmes aimed at attaining this desired state over time.

A common vision and mission for the TFCA as well as broad objectives for the biodiversity, business and benefit flow management of the TFCA will guide the governance interventions to be undertaken by the joint structures of the TFCA striving toward attaining these in a systematic and co-ordinated manner (refer Figure 8).

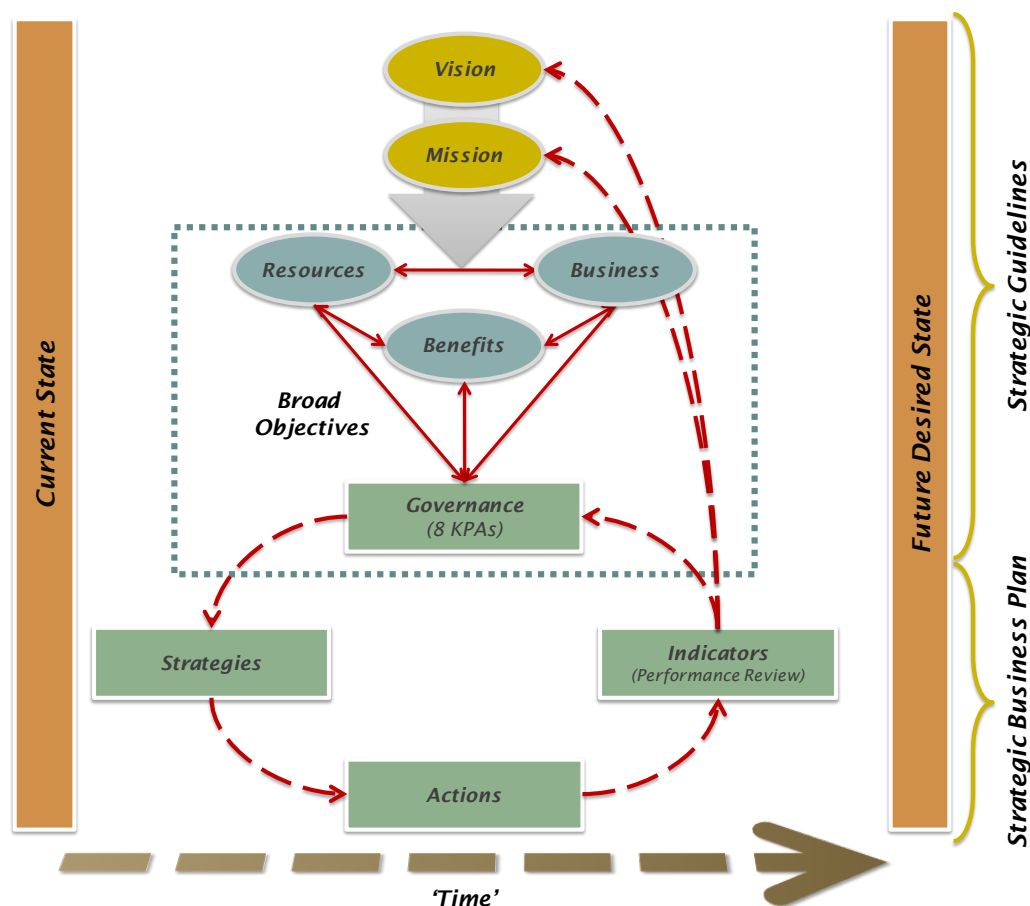


Figure 8: Process Based Management System

4.4 STRATEGIC GUIDELINES

The respective countries each held a TFCA Vision and Mission workshop at national level to stipulate country planning direction – not only in terms of geographic area, but debating and reaching consensus on the broad TFCA objectives which will take the GMTFCA forward into the operational phase.

The outcomes of these workshops have been aligned and incorporated in the following strategic guidelines.

4.4.1 Vision, Mission and Broad Objectives

It is envisaged that the Greater Mapungubwe TFCA will be “a world-renowned Transfrontier Conservation Area linking the Mapungubwe cultural landscape as well as the ecosystems of the Limpopo Valley across the international borders between Botswana, South Africa and Zimbabwe”.

To attain this vision the GMTFCA Management Structure acknowledges that its mission is “to establish a world renowned eco-tourism destination by

- Promoting and fostering international cooperation;
- Conserving biodiversity across international boundaries;
- Protecting the cultural heritage and geographic landscape of the area; and
- Facilitating socio-economic benefits”.

The strategic objectives with the GMTFCA are:

- Establishing appropriate institutional arrangements and structures and harmonising policy to ensure effective governance of the TFCA;
- Re-establishing wildlife movement and corridors by managing and protecting the landscapes, ecosystems, biodiversity and cultural heritage elements of the Limpopo Valley;
- Facilitating social development by establishing ecotourism as a key economic activity;
- Ensuring a healthy and safe environment; and
- Managing benefits from conservation and ecotourism to the region and its people.

These objectives are aligned with the generic TFCA objectives which are:

- To foster Transfrontier collaboration and cooperation among the TFCA partner countries, in implementing ecosystems and natural resources management programmes;
- To provide alliances in the conservation and management of biological and cultural resources;
- To encourage social, economic and other partnerships amongst and between the TFCA partner countries and relevant stakeholders;
- To develop mechanisms and strategies for alleviating poverty in the TFCA target area and ensure that stakeholders derive tangible and pragmatic socio-economic benefits from the conservation initiative;
- To engage important role players and key stakeholders in planning the establishment, development and management of the TFCA; and
- To promote and facilitate cross-border tourism and trade as a means of fostering regional economic integration.

4.5 STRATEGIC BUSINESS PLAN

4.5.1 TFCA Development

To address the broad objectives regarding resources-, business-, and benefit flow management as well as governance necessary to attain these objectives the following TFCA development Key Performance Areas (KPAs), based on the principle of triple bottom line sustainability (refer Figure 9), have been identified as essential:

- KPA 1 ~ Joint Planning;
- KPA 2 ~ Legal status and institutional arrangements;
- KPA 3 ~ Sustainable Financing;
- KPA 4 ~ Policy Harmonisation;
- KPA 5 ~ Sustaining and Restoring Landscape Dynamics;
- KPA 6 ~ Integrated Management;
- KPA 7 ~ Integrated Development Strategies; and
- KPA 8 ~ Benefit Flow Management.

The critical actions or Key Performance Indicators (KPIs) that are listed within the eight individual KPAs are aimed at highlighting the steps needed to establish a fully functional TFCA as an effective conservation tool protecting resources across international boundaries (refer Figure 10). Certain of the actions should be executed sequentially, while others can occur consequentially.

Critical to the success regarding the establishment of a TFCA is that the planning and political support take place before detailed actions pertaining to joint management and development take place. These aspects are interrelated and interdependent, often overlapping in execution and planning methodologies. All aspects must be addressed if the TFCA is to become fully operational and functional, and effectively address the broad objectives.

Despite being a complex conservation tool, TFCAs have a critical role to play in attaining the resource, business and benefit objectives inherently promised through these developments. Broken down into critical steps, the path to a successful, functional and operational TFCA, is simple, understandable, and implementable.

The path to a successful TFCA albeit simple, understandable and implementable, becomes inherently more difficult as it moves from a concept requiring political support into the planning and implementation phase, eventually leveling off as it enters an fully operational phase (refer Figure 11).

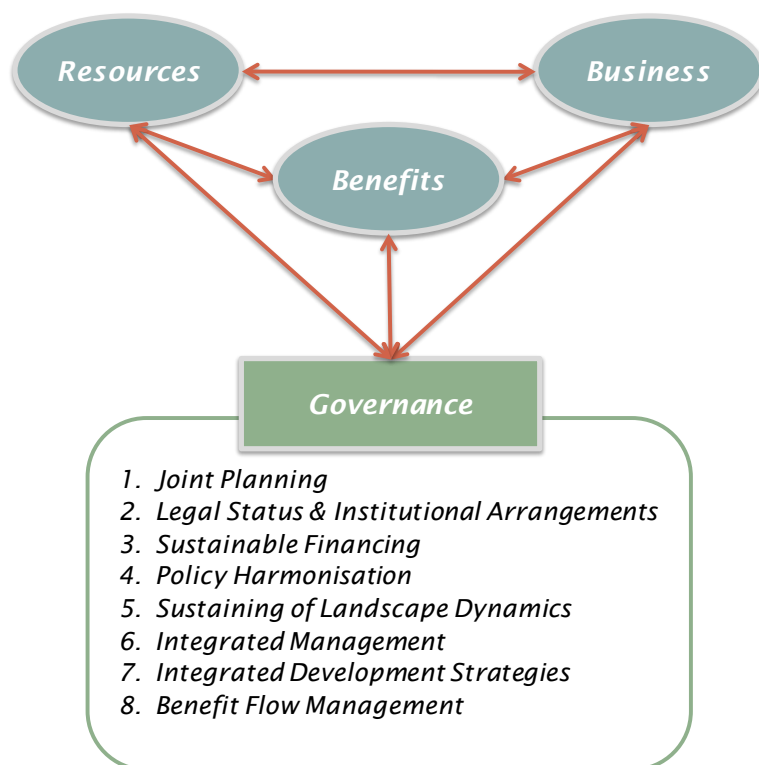


Figure 9: Governance KPAs

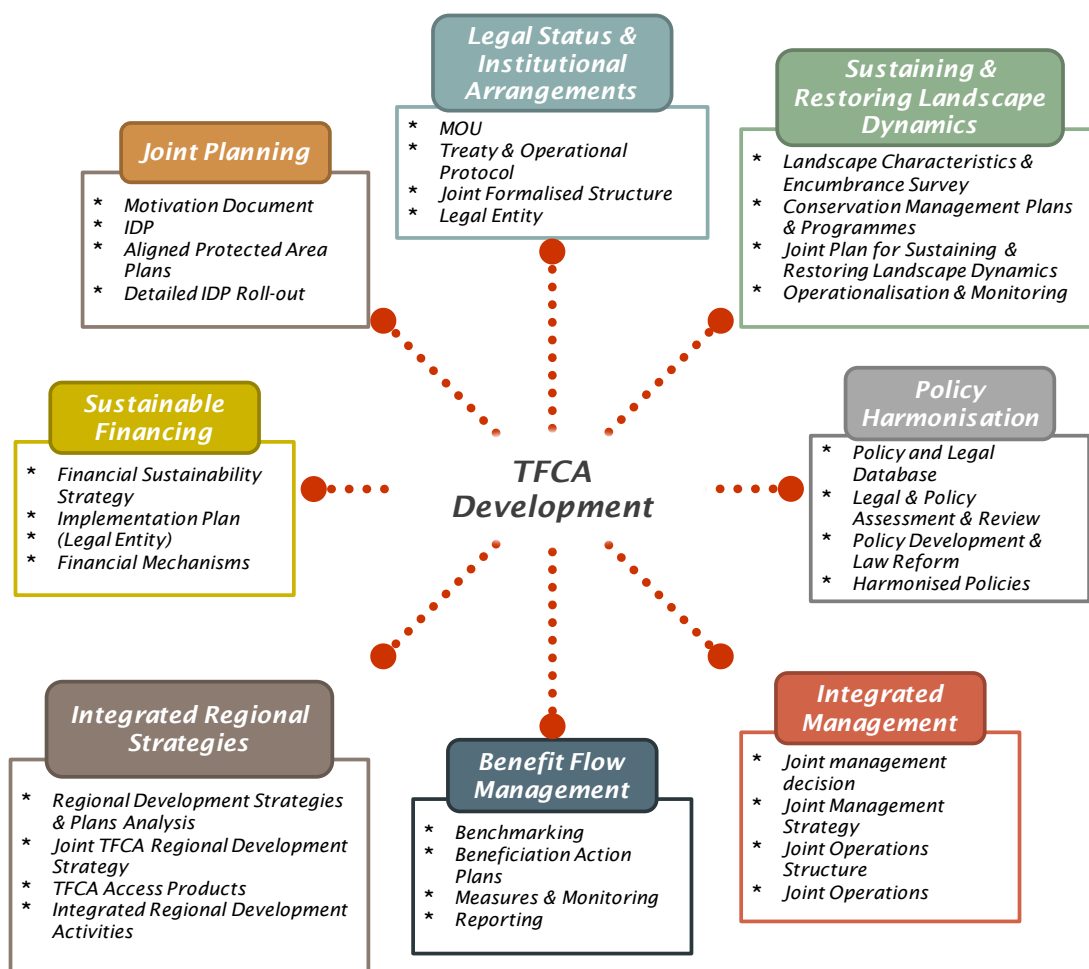


Figure 10: Key Performance Indicators

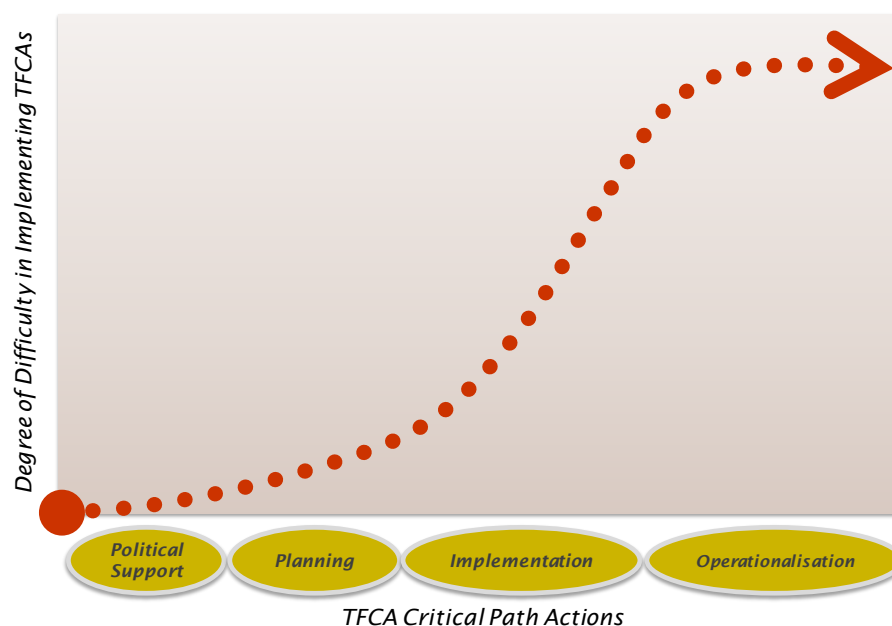


Figure 11: TFC Development Path

4.5.2 Performance Audit

For the GMTFCA the current TFC development performance (2010) has been evaluated by the various working groups and TTC members, and targets for 2014 have been set for the various KPIs within each KPA (refer Table 1).

To reach the targets set for the KPIs, operational strategies have been identified along with action projects (refer Figure 12). The Implementation Business Plan for the GMTFCA IDP that will be prepared once the IDP has been approved by the respective Ministers will detail time frames, responsibilities and resources.

Although the KPAs are addressed sequentially in the following sections, many of these KPAs are parallel actions addressed simultaneously and fall into broad, yet related fields as illustrated in Figure 13.

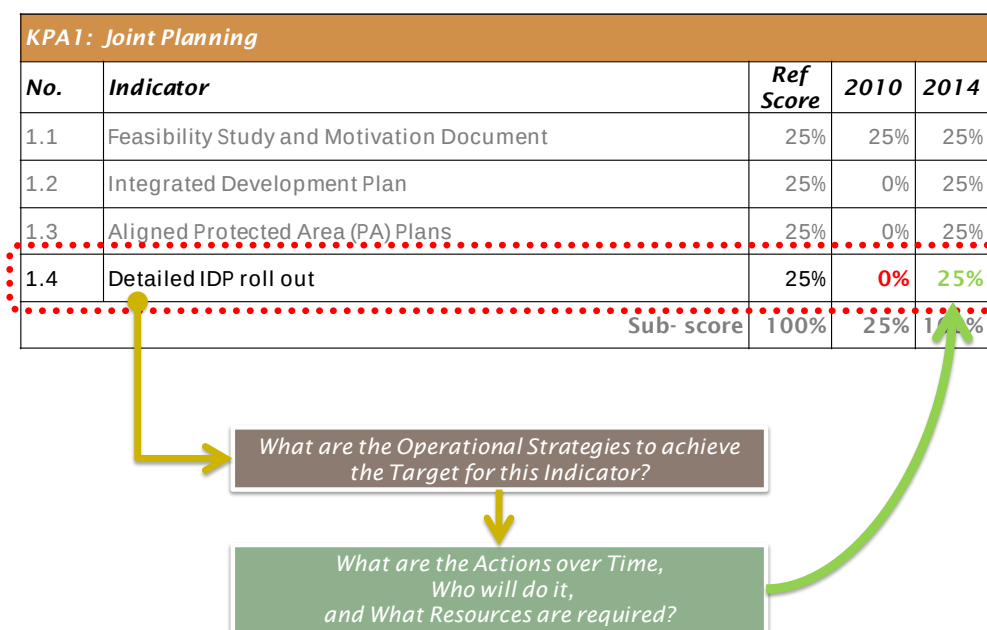


Figure 12: Approach to Addressing Audit Gaps

Table 1: Performance Audit

No	Indicator (Wording in brackets functions as indicative criteria for scoring)	Check	2010	2014
KPA1: Joint Planning				
1.1	Feasibility Study and Motivation Document	25%	25%	25%
1.2	Integrated Development Plan (landscape characteristics identified; policy database, legal and policy assessment, plans and programme, IDP, fund raising document)	25%	0%	25%
1.3	Aligned Protected Area (PA) Plans	25%	0%	25%
1.4	Detailed IDP roll out (Business, resource management, institutional)	25%	0%	25%
Sub-score		100%	25%	100%
KPA2: Institutional Arrangements and Legal Status				
2.1	Memorandum of Understanding (signed, IC appointed, interim structures, functional)	25%	25%	25%
2.2	Treaty/Political Endorsement and Operational Protocol (signed, ratified)	25%	0%	25%
2.3	Joint Formalised Structure (Ministerial Committee, JMB, Secretariat, working groups, functional)	25%	15%	25%
2.4	Legal Entity (concept document, constitution, operationalisation)	25%	0%	25%
Sub-score		100%	40%	100%
KPA3: Sustainable Financing				
3.1	Financial Sustainability Strategy	25%	0%	25%
3.2	Implementation Plan	25%	0%	25%
3.3	Legal Entity	25%	0%	25%
3.4	Mechanisms (endowments, levies, grants, country contributions)	25%	0%	15%
Sub-score		100%	0%	90%
KPA4: Policy Harmonisation				
4.1	Database	25%	0%	25%
4.2	Legal and Policy Assessment and Review	25%	0%	25%
4.3	Policy Development and Law Reform	25%	0%	25%
4.4	Harmonised Policies	25%	0%	5%
Sub-score		100%	0%	80%
KPA5: Sustaining Landscape Dynamics				
5.1	Landscape Characteristics and Encumbrance Survey	25%	20%	25%
5.2	Plans and Programmes (threats, opportunities, zoning, actions, costs)	25%	0%	25%
5.3	Joint Plan for Sustaining Landscape Dynamics	25%	0%	25%
5.4	Operationalisation and Monitoring	25%	0%	10%
Sub-score		100%	20%	85%
KPA6: Integrated Management				
6.1	Joint Management Decision/Intention	25%	0%	25%
6.2	Joint Management Strategy (standard operating procedures for border crossings and controls, facilities management, resource use, law enforcement, tourism, communication, monitoring, reporting)	25%	0%	25%
6.3	Joint Operations (law enforcement, communication, research, access, tourism)	25%	0%	5%
6.4	Joint Operations Structure (joint command, personnel, system, facilities, activities)	25%	0%	10%
Sub-score		100%	0%	65%
KPA7: Integrated Regional Development				
7.1	Regional Development Strategies and Plans Analysis	25%	15%	25%
7.2	Joint TFCA Regional Development Strategy	25%	0%	25%
7.3	TFCA Access Products (all border posts, access control facilities in place)	25%	0%	10%
7.4	Integrated Regional Development Activities (bilateral concession agreement, operators agreements, facilities)	25%	0%	25%
Sub-score		100%	15%	85%
KPA8: Beneficiation				
8.1	Benchmarking	25%	0%	25%
8.2	Beneficiation Action Plans	25%	0%	25%
8.3	Measures and Monitoring	25%	0%	15%
8.4	Reporting	25%	0%	15%
Sub-score		100%	0%	80%
TOTAL SCORE (unweighted scores /8)			13%	86%

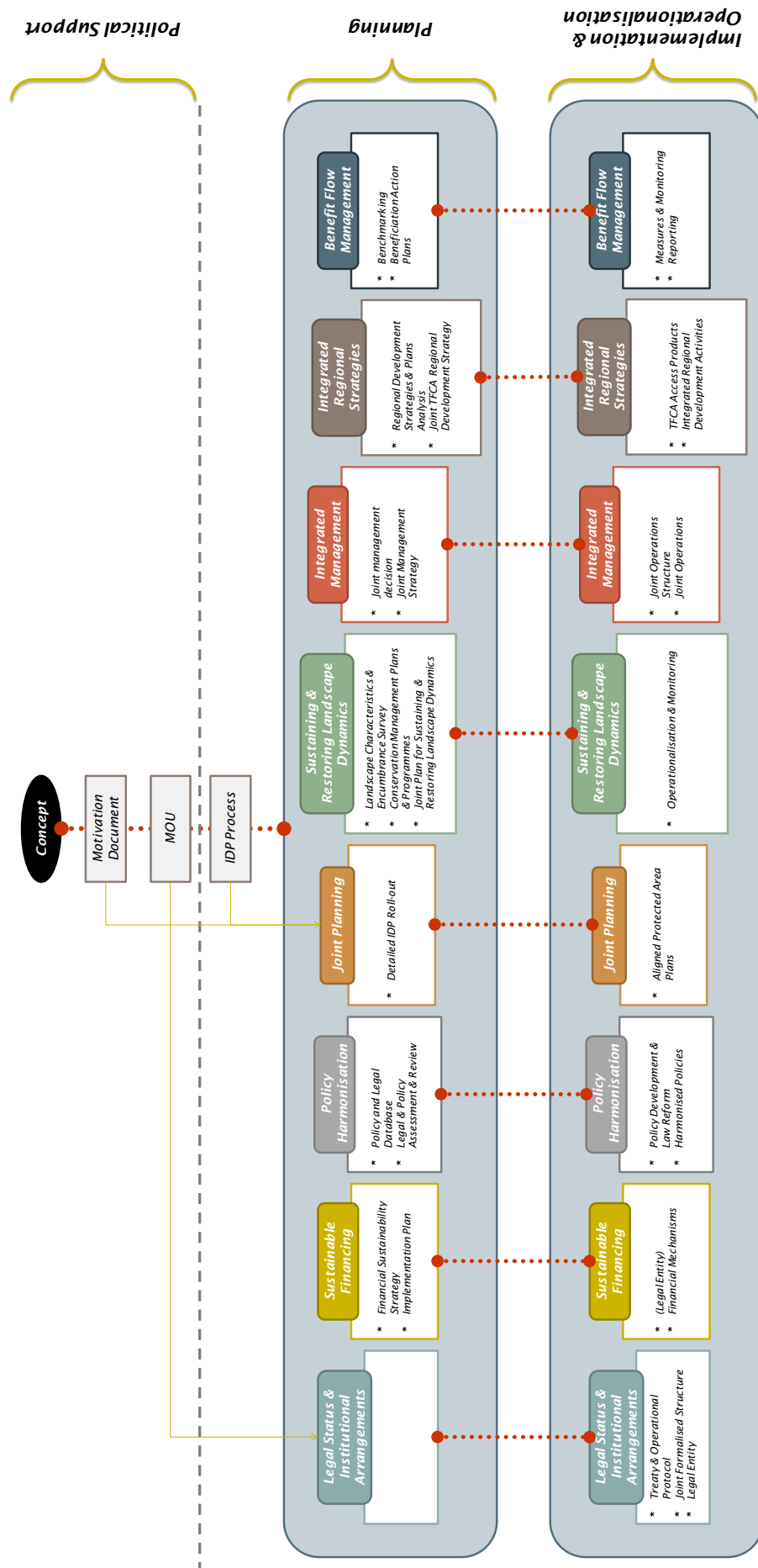


Figure 13: TFCA Critical Path

4.5.3 Key Performance Areas – Key Performance Indicators

4.5.3.1 Joint Planning (KPA 1)

Table 2: Joint Planning Audit Scores

KPA 1: Joint Planning				
No.	Indicator	Ref Score	2010	2014
1.1	Feasibility Study and Motivation Document	25%	25%	25%
1.2	Integrated Development Plan	25%	0%	25%
1.3	Aligned Protected Area (PA) Plans	25%	0%	25%
1.4	Detailed IDP roll out (Business, resource management, institutional)	25%	0%	25%
Sub-score		100%	25%	100%

The target for this KPA (refer Table 2) is to complete the IDP for the GMTFCA, ensure that the management plans of the individual protected areas constituting the core area of the Transfrontier Park are aligned according to the IDP, and that detailed roll out plans for specific projects identified within the IDP are prepared and implemented.

To protect the Mapungubwe Cultural Landscape as well as the ecosystems integral to the Limpopo and Shashe Valleys it is critical that the fragmented habitats be consolidated into a contiguous functioning system. Various methods exist through which this can be attained including the establishment of co-management units such as NOTUGRE and Mapungubwe National Park, consolidated units such as Vhembe Game Reserve, and conservancy style protected areas established as protected environments, as is possible within the South African legislation.

Expansion opportunities within the GMTFCA afford the opportunity to manage the catchment, enabling the re-establishment of ecosystem efficiency and effective provision of ecosystem services. The phasing of these expansion discussions and opportunities is graphically shown in Figures 15-26 (refer Section 4.6.2).

Once this IDP for the GMTFCA is completed, and in terms of the audit scores for the Joint Planning KPA, the following indicators require attention and if addressed will allow for the attainment of the target set for the KPA. Operational strategies are listed for these indicators along with action plans in Tables 3 and 4, and include:

- Aligned Protected Area Plans
- Detailed IDP roll out

Table 3: Aligned Protected Area Plans

KPI 1.3	Aligned Protected Area Plans by 2014
Rationale	To achieve harmonization between the contiguous protected areas within or adjacent to the core area of the TFCA it is imperative that the individual protected area management plans are aligned to the Integrated Development Plan for the TFCA, collectively and consultatively developed with all the stakeholders.
Strategy	An effective strategy is to base joint planning on the resources shared between the three partner countries developing and sharing cross border data sets, as well as collective agreement on conservation objectives, methodologies, plans and programmes.
Actions	1.3.1 Access all existing management plans and identify gaps
	1.3.2 Collectively agree on alignment methodology
	1.3.3 Assist areas without management plans to create and add spatial component where lacking

Table 4: Detailed IDP Roll Out

KPI 1.4	Detailed IDP Roll Out by 2014
Rationale	The possibility exists to continually expand the core area of the TFCA to create spatial continuity, yet this requires the involvement and consultation of the affected landowners and stakeholders. By consolidating the core area, clarity is also attained regarding the broader TFCA and its associated surrounding areas. Strategies, plans and programmes can then be aligned to address the specific objectives of each of the areas, albeit core or surrounding.
Strategy	The strategy is to base the approach on consultation with affected stakeholders, ensuring that they clearly understand the implications of being either in the core or surrounding area of the TFCA, and concluding these decisions through agreements. Assisting the affected areas with their conservation planning and involvement is essential in ensuring informed decision making.
Actions	1.4.1 Ensure institutional, policy and sustainable financing actions are addressed as per IDP
	1.4.2 Expand motivation & feasibility for additional areas in Zimbabwean component (Sentinel, Nottingham, Maramani, Hwali and Machuchuta, River Ranch) and Halisupi
	1.4.3 Further consultation and planning of Botswana Community Resource Area (West of NOTUGRE)
	1.4.4 Motivation and feasibility of areas surrounding MPNP – Venetia Limpopo; Vhembe; Limpopo Valley Conservancy, et al.
	1.4.5 Motivation and feasibility of Central Tuli Conservancy
	1.4.6 Detail planning of Zimbabwe WMA corridors
	1.4.7 Demarcation of short term perimeter fence
	1.4.8 Take final decision regarding river crossing points & detail planning of most viable option
	1.4.9 Develop joint law enforcement strategy for TFCA
	1.4.10 Implement Joint development actions as identified in the Concept Development Plan

4.5.3.2 Institutional Arrangements and Legal Status (KPA 2)

Table 5: Institutional Arrangements and Legal Status Audit Scores

KPA 2: Institutional Arrangements and Legal Status				
No.	Indicator	Ref Score	2010	2014
2.1	Memorandum of Understanding (signed, IC appointed, interim structures, functional)	25%	25%	25%
2.2	Treaty/Political Endorsement and Operational Protocol (signed, ratified)	25%	0%	25%
2.3	Joint Formalised Structure (Ministerial Committee, JMB, Secretariat, working groups, functional)	25%	15%	25%
2.4	Legal Entity (concept document, constitution, operationalisation)	25%	0%	25%
Sub-score		100%	40%	100%

In terms of the audit scores for the Institutionalisation KPA (refer Table 5), the following indicators require attention and operational strategies are listed for these along with action plans in Tables 6, 7 and 9:

- Treaty/Political Endorsement and Operational Protocol (signed, ratified);
- Joint Formalised Structure (Ministerial Committee, JMB, Secretariat, working groups, functional);
- Legal Entity (concept document, constitution, operationalisation).

Table 6: Treaty Finalisation

KPI 2.2	Treaty/Political Endorsement and Operational Protocol completed by 2014
Rationale	Formal establishment of the TFCA.
Strategy	Consultation with stakeholders in three member countries - since the signing of the original MOU several changes to the GMTFCA have occurred, such as the clarification of the core and surrounding areas through consultation with affected stakeholders and thus it is imperative that the legal status of the GMTFCA reflect these changes. The strategy is to ensure that the GMTFCA partner countries submit proposed components for both the core and surrounding areas of the TFCA, and that these are ratified within the context of the MOU en route to the signing of the Treaty (refer to Map 37 and Table 8).
Actions	2.2.1 Amend original MOU with additional components in Botswana, South Africa and Zimbabwe
	2.2.2 Adjust draft Treaty document with comments obtained from member countries

Table 7: Establishment of JMB

KPI 2.3	Joint Formalised Structure in place by 2014
Rationale	Having a permanent structure in place for coordinated management after the Treaty is essential for the effective governance of the GMTFCA.
Strategy	Upon signing of the Treaty, the GMTFCA should be able to establish a Joint Formalised Structure such as a JMB, staff structure and supporting structures to ensure the effective functioning of the governance arrangements of the GMTFCA. This should include all stakeholder groups inclusive of the conservation agencies, organised agricultural, and mining.
Actions	2.3.1 Define Terms of Reference for JMB
	2.3.2 Define operational structures of JMB
	2.3.3 Assessment of administrative support requirements
	2.3.4 Implementation of JMB and structures



Map 37: Treaty Map

Table 8: Treaty Land Contributions

Country	Name	Designation	Area (~ ha)	Percentage
Botswana	Northern Tuli	Game Reserve	74,500	
Subtotal			74,500	15%
South Africa	Venetia Limpopo	Nature Reserve	32,000	
	Mapungubwe	National Park	21,000	
Subtotal			53,000	10%
Zimbabwe	Nottingham Estate	Game Ranch	31,000	
	Sentinel Ranch	Game Ranch	33,000	
	Maramani	Wildlife Management Area	41,000	
	Tuli Circle	Safari Area	42,500	
	Machuchuta	Wildlife Management Area	71,000	
	Halisupi	Wildlife Management Area	46,000	
	Hwali	Wildlife Management Area	70,000	
	River Ranch	Wildlife Management Area	20,500	
	Doddieburn	Game Ranch	31,000	
Subtotal			386,000	75%
TOTAL			513,500	100%

Table 9: Establish Legal Entity

KPI 2.4	Legal Entity established and operational by 2014
Rationale	For the effective governance of the GMTFCA it is critical that the TFCA structure can enter into agreements and contracts as well as retain revenues to ensure that TFCA specific activities are not a burden to the individual partner countries.
Strategy	By identifying an appropriate depository for the GMTFCA Treaty, as well as registering the GMTFCA as a legal entity, it will be possible to ensure that the TFCA structures are enabled to attain the goals and objectives contained in the Treaty.
Actions	2.4.1 Identify depository (caretaker), SADC, UNESCO?
	2.4.2 Preparation of a concept document, constitution, and operationalisation strategy and plan

4.5.3.3 Sustainable Financing (KPA 3)

Table 10: Sustainable Financing Audit Scores

KPA 3: Sustainable Financing				
No.	Indicator	Ref Score	2010	2014
3.1	Financial Sustainability Strategy	25%	0%	25%
3.2	Implementation Plan	25%	0%	25%
3.3	Legal Entity	25%	0%	25%
3.4	Mechanisms (endowments, levies, grants, country contributions)	25%	0%	15%
Sub-score		100%	0%	90%

In terms of the audit scores for the Sustainable Financing KPA, the following indicators require attention – operational strategies are listed for these along with action plans in Tables 11-13:

- Financial Sustainability Strategy;
- Implementation Plan;
- Legal Entity (refer Table 9); and
- Mechanisms (endowments, levies, grants, country contributions).

Table 11: Financial Sustainability Strategy

KPI 3.1	Financial Sustainability Strategy
Rationale	To reduce the financial burden of TFCA activities on the individual partner countries it is critical that a financial sustainability strategy be developed for the TFCA aimed at generating sufficient revenue to support specific conservation initiatives within the TFCA outside the national budgets.
Strategy	The proposed strategy includes the identification of TFCA operations that are critical yet outside national budgets, develop budgets to address the initiatives over time, establish systems to generate revenue and distribute benefits emanating from the TFCA activities. Revenue should not only be for conservation projects but could include all aspects related to the effective development and management of the TFCA.
Actions	3.1.1 Identify all potential development and operational costs and cost centres in the GMTFCA on a tri-lateral basis (human resources, infrastructure, equipment, operational costs, vehicles, technology etc.)
	3.1.2 Develop proposed budgetary requirements across functions and cost centres
	3.1.3 Develop capacity to manage and administer funds and assets on a tri-lateral level (human resources; equipment; infrastructure; systems, procedures etc.)
	3.1.4 Identify work, tasks and functions to be performed to manage and achieve the Goals of the GMTFCA, and compile these into a Financial Sustainability Strategy

Table 12: Implementation Plan

KPI 3.2	Financial Sustainability Implementation Plan
Rationale	Implementing the Financial Sustainability Strategy is critical to ensure that the GMTFCA attains the goals inherent to the Transfrontier conservation initiative, as opposed to the conservation objectives of the individual country components.
Strategy	The strategy regarding implementation of the FSS is to develop funding proposals for the various activities, plans and programmes, securing access to funds, and the appointment of staff as well as preparation of Annual management plans based on the FSS.
Actions	3.2.1 Develop funding proposals for submission to donors and support agencies (e.g. USAID, World Bank, SADC etc.)
	3.2.2 Access initial working capital to cover the initial short-term operational needs of the GMTFCA Planning/Management Body as an organisation
	3.2.3 Access initial working capital to develop and acquire all necessary infrastructure, plant, equipment and technology to enable the emerging GMTFCA to undertake its management function effectively
	3.2.4 Recruit, remunerate and retain qualified, skilled and experienced people to fill the posts and positions identified necessary.
	3.2.5 Develop Annual Management Plans based upon this Strategic Plan

Table 13: Financial Mechanisms

KPI 3.4	Financial Mechanisms
Rationale	Developing and implementing the FSS effectively would require the establishment of financial mechanisms enabling the collection, retention and distribution of revenue generated within the GMTFCA for TFCA activities, plans and programmes.
Strategy	The strategy for the development of financial mechanisms includes the development of tri-lateral agreements which could include a suite of options such as contributions from the governments of the partner countries, mechanisms to collect gate entrance levies, and percentages from concessions within the GMTFCA. The establishment of a capital fund in which the revenues generated and funds received from donors, development agencies and governments can be held, would be critical as would a fundraising strategy and clarity regarding revenue and benefit sharing.
Actions	3.4.1 Develop tri-lateral funding mechanisms i.e. Contributions from each partner country; gate entrance levies; concession fees percentage;
	3.4.2 Development of Fundraising strategy
	3.4.3 Development of revenue and benefit sharing mechanisms
	3.4.4 Establish a Capital Fund/Endowment Fund

4.5.3.4 Policy Harmonisation (KPA 4)

Table 14: Policy Harmonisation

KPA 4: Policy Harmonisation				
No.	Indicator	Ref Score	2010	2014
4.1	Database	25%	0%	25%
4.2	Legal and Policy Assessment and Review	25%	0%	25%
4.3	Policy Development and Law Reform	25%	0%	25%
4.4	Harmonised Policies	25%	0%	5%
Sub-score		100%	0%	80%

In terms of the audit scores for the Policy Harmonisation KPA (refer Table 14), it is evident that this KPA requires a lot of attention, specifically the following indicators for which operational strategies are listed for these along with action plans in Tables 15-18:

- Database;
- Legal and Policy Assessment and Review;
- Policy Development and Law Reform; and
- Harmonised Policies.

Table 15: Legal and Policy Database

KPI 4.1	Legal and Policy Database
Rationale	Without a database of all relevant legislation and policies pertaining to the effective management of the GMTFCA it will not be possible to align policies and legislation within and between the three partner countries
Strategy	The strategy entails the identification, collection and collation of all relevant policies and legislation within the three partner countries. Aligning this action with the policy harmonisation project that is being undertaken for the Greater Limpopo Transfrontier Park would be advisable, since most of the relevant policies, legislation, strategies, plans and programmes for South Africa and Zimbabwe would have been done under this project, merely necessitating the incorporation of the Botswana component.
Actions	4.1.1 Identification, collection and collation of all sector based policies, legislation, strategies and national plans that relate to the GMTFCA across all three countries, including international conventions, protocols etc.

Table 16: Legal and Policy Assessment and Review

KPI 4.2	Legal and Policy Assessment and Review
Rationale	Once a database of all the relevant policies, legislation, strategies and plans has been compiled it would be possible to align the policies within and between the partner countries enabling the TFCA objectives to be attained.
Strategy	The strategy regarding the assessment and review of policies, legislation, strategies and plans would be to align the activity closely with the GLTP Policy Harmonisation Project. Critical to the success of the TFCA would be clarity regarding the development of aligned TFCA tourism products, as well as harmonisation of legislation regarding the proclamation of the protected areas within the TFCA.
Actions	4.2.1 Arrange a meeting with the GLTP JMB to discuss the alignment between the policy harmonisation initiatives
	4.2.2 Include Botswana component into aligned process

Table 17: Legal and Policy Law Reform

KPI 4.3	Legal and Policy Law Reform
Rationale	Once the policy and legal database has been assessed and reviewed it is important that a process be implemented whereby the policies and legislation within and between the partner countries be harmonised.
Strategy	The strategy will include alignment with the GLTP Policy Harmonisation project, aimed at ensuring that the necessary policy and law reform interventions are made within the partner countries.
Actions	4.3.1 Identify policy and legislative synergies and gaps between the three partner countries
	4.3.2 Facilitate discussions between the partner countries regarding the policy and law reform processes
	4.3.3 Facilitate country specific policy and law reform processes

Table 18: Harmonised Policies

KPI 4.4	Harmonised Policies
Rationale	Unaligned policies and legislation leads to difficulties regarding the effective management and operation of the TFCA, severely affecting the implementation of biodiversity, business and benefit flow interventions within the area affected by the GMTFCA. By harmonising policies across the international boundary it is envisaged that the objectives of the GMTFCA can be attained.
Strategy	Following the development and implementation of the law and policy reform processes the policies regarding conservation, biodiversity management, tourism and resource utilisation, as well as regional development, benefits flow management etc can be implemented in an aligned and harmonious manner.
Actions	4.4.1 Establish procedures to monitor efficacy of the harmonised policies and procedures

4.5.3.5 Sustaining and Restoring Landscape Dynamics (KPA 5)

Table 19: Sustaining Landscape Dynamics Audit Scores

KPA 5: Sustaining and Restoring Landscape Dynamics				
No.	Indicator	Ref Score	2010	2014
5.1	Landscape Characteristics and Encumbrance Survey	25%	20%	25%
5.2	Plans and Programmes (threats, opportunities, zoning, actions, costs)	25%	0%	25%
5.3	Joint Plan for Sustaining Landscape Dynamics	25%	0%	25%
5.4	Operationalisation and Monitoring	25%	0%	10%
Sub-score		100%	20%	85%

Since the Landscape Characteristics and Encumbrance Survey as well as the Plans and Programmes (threats, opportunities, zoning, actions, costs) have been addressed in the IDP, in terms of the audit scores for the Sustaining Landscape Dynamics KPA, the following indicators require attention, inclusive of operational strategies and action plans in Tables 20 and 21:

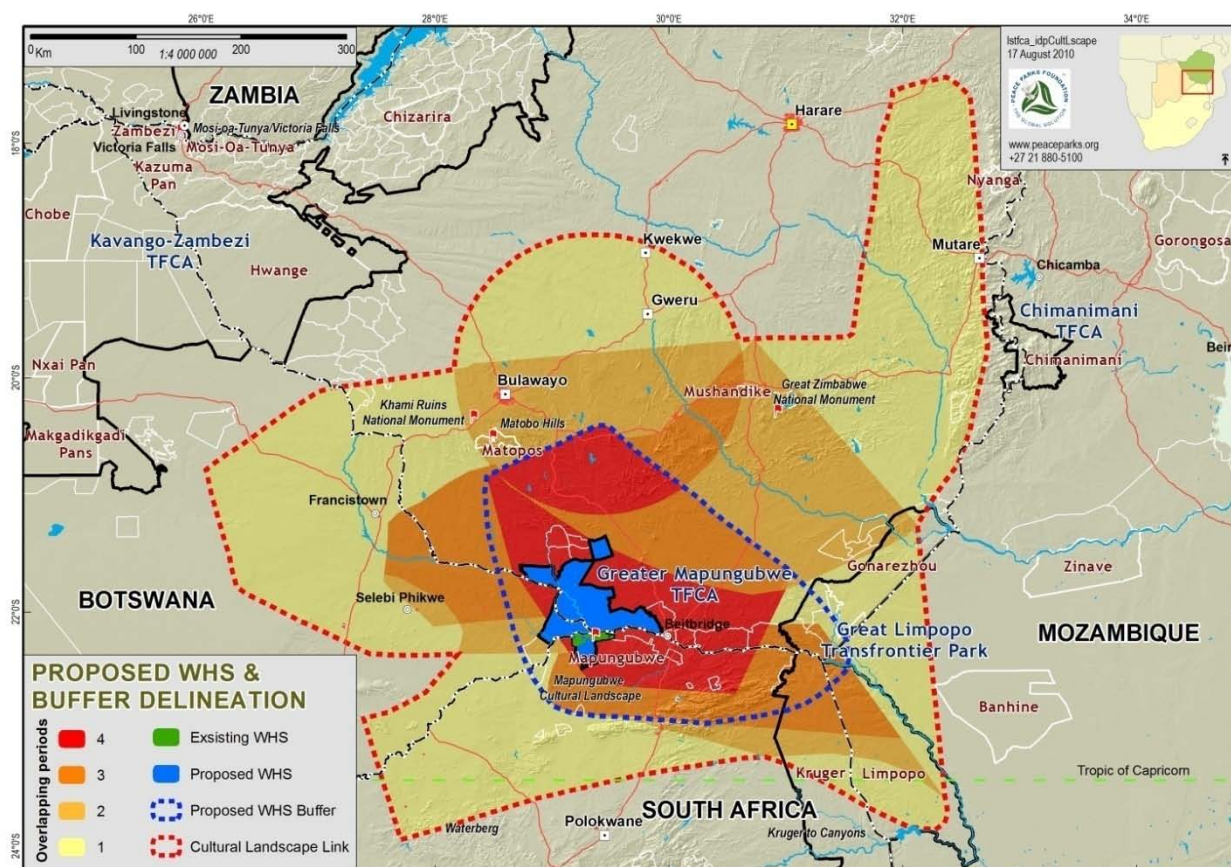
- Joint Plan for Sustaining Landscape Dynamics; and
- Operationalisation and Monitoring.

Table 20: Joint Plan for Sustaining and Restoring Landscape Dynamics

KPI 5.3	Joint Plan for Sustaining and Restoring Landscape Dynamics
Rationale	The biodiversity and cultural heritage has been identified as the key asset to the GMTFCA and therefore needs to be protected.
Strategy	Develop and implement integrated biodiversity and cultural heritage management plans inclusive of aspects such as the management of veterinary issues, predator management; large herbivore management, meta-population management; water and aquatic ecosystems management. Clarity is required regarding the utilisation of game fences within the TFCA since Botswana and South Africa have extensive fences and Zimbabwe does not. This does create challenges since the the Human Wildlife Interface is unclear within the unfenced portions. Since the MCL is of international significance it is critical that a cultural heritage management plan be developed for the entire TFCA.
Actions	5.3.1 Development of Biodiversity Management Plan addressing natural landscape integrity, specifically addressing aspects such as the elephant and other exclosures required to protect the riparian vegetation along the Limpopo and Shashe Rivers
	5.3.2 Development of Veterinary Management Plan addressing among other disease management / control and a policy on buffalo
	5.3.3 Development of Predator Management Plan HWL conflict mitigation
	5.3.4 Development of Elephant Management Plan
	5.3.5 Development of Wildlife Population/Species Management Plan to rationalise and harmonise management activities within the GMTFCA
	5.3.6 Development of Water and Aquatic Ecosystem Management Plan towards harmonised industrial abstraction from shared sources and compliance with EIA policies
	5.3.7 Development of integrated GMTFCA Heritage Management Plan to diversify and enhance to GMTFCA tourism product: - Development of Inventory of cultural sites in Botswana and Zimbabwean components of GMTFCA - Prepare a Motivation/WHS Dossier based on the proposed WHS and buffer delineation (refer Map 38) - Develop a Management Plan - Prepare site plans for individual sites - Align with individual Protected Area Plans
	5.3.8 Request for funding support from the AHF for WHS Management Plan and extension efforts
	5.3.9 Game Fence Management Plan
	5.3.10 Finalise and conclude contractual agreements regarding the South African core area, specifically the Venetia Limpopo Game Reserve incorporation and the several smaller properties within and surrounding Mapungubwe National Park.

Table 21: Operationalisation and Monitoring

KPI 5.4	Operationalisation and Monitoring
Rationale	Recognising the complexity of conservation initiatives, both from a natural and cultural resource perspective, it is perceived that by 2014 only a few of the initiatives aimed at sustaining the landscape dynamics that characterise the GMTFCA. This however would pave the way for further interventions within the TFCA.
Strategy	Many aspects pertaining to the sustaining of landscape dynamics within the TFCA have been identified including the expansion of the WHS; inclusion of additional land into the core area, management of wildlife, free movement of wildlife across the boundaries of individual properties and country boundaries, the conservation of threatened vegetation types as well as ecosystems such as the wetlands and riparian zones within the TFCA. The strategy would be to develop specific projects for each of these.
Actions	5.4.1 Monitor the efficacy of individual projects, plans and programmes against the objectives of the TFCA
	5.4.2 Monitor overall attainment of the vision, mission and objectives of the GMTFCA



Map 38: Proposed WHS and Buffer Delineation

4.5.3.6 Integrated Management (KPA 6)

Table 22: Integrated Management Audit Scores

KPA 6: Integrated Management				
No.	Indicator	Ref Score	2010	2014
6.1	Joint Management Decision/Intention	25%	0%	25%
6.2	Joint Management Strategy (standard operating procedures for border crossings and controls, facilities management, resource use, law enforcement, tourism, communication, monitoring, reporting)	25%	0%	25%
6.3	Joint Operations Structure (joint command, personnel, system, facilities, activities)	25%	0%	10%
6.4	Joint Operations (law enforcement, communication, research, access, tourism)	25%	0%	5%
Sub-score		100%	0%	65%

Despite numerous opportunities, very little attention has been given to the joint management aspects of the GMTFCA. In terms of the audit scores for the Integrated Management KPA (refer Table 22), the following indicators require attention, and operational strategies are listed for these along with action plans in Tables 23-26:

- Joint Management Decision;
- Joint Management Strategy;
- Joint Management Structure; and
- Joint Operations.

Table 23: Joint Management Decision

KPI 6.1	Joint Management Decision
Rationale	By combining management efforts in an aligned and coordinated manner throughout the TFCA, it will be possible to attain the objectives of the GMTFCA more effectively, as well as reduce the likelihood of illegal and uncontrolled use of the natural and cultural resources of the area. The TFCA partner countries must decide what should be jointly managed and what responsibilities remain within the domain of the national components.
Strategy	The strategy regarding integrated management aimed at sustaining the landscape dynamics of the GMTFCA includes a decision and agreement between the partner countries clearly stipulating the aspects that are best managed jointly.
Actions	6.1.1 Ensure that the aspects that can be jointly managed are identified and discussed at a TTC meeting and that a decision regarding joint management is ratified by the Tri-Lateral Ministerial Committee.

Table 24: Joint Management Strategy

KPI 6.2	Joint Management Strategy
Rationale	Once the GMTFCA partner countries have decided what could and should be jointly managed, it is critical that a Joint Management Strategy be compiled stating Standard Operating Procedures for the various activities.
Strategy	Following the decision of the partner countries regarding the preparation of a joint plan guided by the priorities contained in the IDP. This could include aspects such as law enforcement, anti-poaching security, research, predator management, elephant management, alien plant control marketing, training and benefit sharing.
Actions	6.2.1 Identify Joint Management requirements for effective functioning of the TFCA based on various plans and compile this into a Joint Management Strategy.
	6.2.2 Access funding and support for Joint Management activities
	6.2.3 Develop and implement annual activity plans

Table 25: Joint Management Structure

KPI 6.3	Joint Management Structure
Rationale	To effectively coordinate joint management activities between the partner countries necessitates the establishment of a Joint Management Structure.
Strategy	Various strategies can be utilised to establish a joint management structure such as an autonomous management authority, a coordination structure (management committee) or the delegation of responsibility to existing structures. The final decision will be subject to the decision regarding joint management activities.
Actions	6.3.1 Discuss the most relevant Joint Management Structure to address the joint management activities between the three TFCA partner countries, and establish the agreed structures

Table 26: Joint Operations

KPI 6.4	Joint Operations
Rationale	Joint operations such as law enforcement, security, research, predator management, elephant management, marketing, training and benefit sharing, all can make the functioning of the GMTFCA more effective and efficient, allowing the objectives of the TFCA to be attained timeously.
Strategy	Based on the GMTFCA IDP as well as the Joint Management Strategy certain actions can be joint implemented and the implementation thereof overseen by appropriate structures. Key activities that can be jointly implemented within the GMTFCA include: - law enforcement, anti-poaching, communications and security; - conservation management regarding the restoration and maintenance of landscape dynamics and the effective functioning of the ecosystem underlying the GMTFCA; - research and management regarding predators, elephant, alien plants; - marketing and joint tourism development; and - benefit flow management.
Actions	6.4.1 Implement joint operations as per sector plans and strategies
	6.4.2 Monitor impact of joint operations and structures

4.5.3.7 Integrated Regional Development (KPA 7)

Table 27: Integrated Regional Development Audit Scores

KPA 7: Integrated Regional Development				
No.	Indicator	Ref Score	2010	2014
7.1	Regional Development Strategies and Plans Analysis	25%	15%	25%
7.2	Joint TFCA Regional Development Strategy	25%	0%	25%
7.3	TFCA Access Products (all border posts, access control facilities in place)	25%	0%	10%
7.4	Regional Development Activities (Cross border Tourism Products and Activities (bilateral concession agreement, operators agreements, facilities; Agricultural support nodes etc).	25%	0%	25%
Sub-score		100%	15%	85%

Develop and manage regional development initiatives

Even though the Tourism Strategies and Plans Analysis has been done for the GMTFCA as part of the IDP, several other regional development strategies still need to be done. In terms of the audit scores for the Integrated Development Strategies KPA, the following indicators require attention – operational strategies are listed for these along with action plans in Tables 28-31:

- Regional Development Strategies and Plans Analysis;
- Joint TFCA Development Strategy;
- TFCA Access Products (all border posts, access control facilities in place); and
- Integrated Regional Development Activities (Cross Border Tourism Products and Activities; bilateral concession agreement, operators agreements, facilities).

Table 28: Regional Development Strategies and Plans Analysis

KPI 7.1	Regional Development Strategies and Plans Analysis
Rationale	By analysing the range of existing strategies and plans it will be possible to see whether there are any synergies, gaps and overlaps regarding regional development.
Strategy	Besides tourism and a bit of work surrounding the Shashe Irrigation Scheme, very little focus has gone into the analysis of regional development strategies and plans, thus the strategy must entail a broadening of the analysis aimed at ascertaining whether there are synergies or gaps regarding regional development. This should be based on the broad direction that the IDP provides yet varies on the scale, detail and actions that need to be performed. These actions should take place at the national and local scales, rather than at the regional scale. By embedding the local strategies within the IDP and allowing the IDP to guide the development of regional development strategies within each of the partner countries synergies can be established across international boundaries allowing for effective regional integration.
Actions	7.1.1 Collect and collate a database of all the regional development strategies and plans – tourism, conservation, farming, social development etc.
	7.1.2 Analyse the various strategies and plans for synergies, gaps and overlaps.

Table 29: Joint TFCA Regional Development Strategy

KPI 7.2	Joint TFCA Regional Development Strategy
Rationale	Having a strategy regarding regional development will enable the GMTFCA to address aspects beyond tourism and conservation. Within a region with few viable alternatives, it is still imperative that where possible support should be provided to activities such as irrigation. By broadening alternative livelihoods through aspects such as ecotourism development, conservation farming, agriculture, game breeding, hunting and venison production, the region can develop sustainably.
Strategy	The strategy regarding regional development includes an integrated development approach to aspects such as tourism, farming and wildlife management, can be developed, yet these must be aligned with the biodiversity and sensitivity analyses developed within the IDP. The national strategies should include an evaluation of the road networks, and include an investigation into the possible closure of certain roads, as well as the possible upgrading and maintenance of critical roads and bridges within the TFCA. Additional attention needs to be given to the detailed plans for the agricultural support nodes identified within Zimbabwe, all of which require urgent attention and funding.
Actions	7.2.1 Develop Integrated Development Strategies for conservation, tourism, mining, and agriculture since all these elements are present within the landscape surrounding the GMTFCA. Not addressing the integration of these varying land uses would be short-sighted from conservation perspective. Knowing the threats and sources of impacts allows for effective planning and mitigation.
	7.2.2 Develop and implement the Limpopo Valley Airfield as a matter of urgency
	7.2.3 Integrate strategies and plans with Biodiversity and Sensitivity Analyses (land use zoning)
	7.2.4 Develop and implement business plans for the various compatible and acceptable options in an integrated and aligned manner.
	7.2.5 Secure funding for the TFCA regional development activities
	7.2.6 Prepare a development strategy for the agricultural support nodes within Zimbabwe.

Table 30: TFCA Access Products

KPI 7.3	TFCA Access Products
Rationale	Regional movement, albeit tourists or residents, needs to be easy and efficient. Currently movement is difficult, resulting in a lot of illegal border crossings and smuggling taking place. As a result of congestion at Beit Bridge Border Post, tourists are avoiding the region and investment is minimal. Through the development of additional border posts within the GMTFCA, yet outside of the core area, it is believed that regional development, especially in Zimbabwe can be facilitated.
Strategy	The strategy regarding improved access to the region incorporates the development of two one-stop border posts, the first at Homba along the Limpopo, and the second at Mmamabaka, along the Shashe, with a three way Port of Entry at the Limpopo Valley Airfield enabling the development of scheduled flights. This will enable tourists to and through the core area of the TFCA. Additional interventions aimed at improving tourism movement within the core area of the TFCA would be the establishment of informal crossings for use within guided tours and activities.
Actions	7.3.1 Finalise Standard Operating Procedures for the Ports of Entry within the GMTFCA
	7.3.2 Redesign functional flow at the Mmamabaka BP to accommodate a one-stop PE.
	7.3.3 Finalise selection and placement of the Homba one-stop PE
	7.3.4 Secure funding for the development of these PEs

Table 31: Integrated Regional Development Activities

KPI 7.4	Integrated Regional Development Activities
Rationale	By balancing regional development activities through parallel development of activities such as ecotourism and agricultural support, wildlife management including breeding, protecting and utilising, it would be possible to garner support for integrated conservation initiatives such as the GMTFCA.
Strategy	Aligned TFCA Tourism products and activities are necessary to show that the TFCA functions across the international boundary, yet recognition is given to broader regional needs such as appropriate agricultural products and support programmes. Recognising the important role that TFCA Tourism Products can play within the initiative to establish the TFCA as a functional conservation effort, the strategy regarding the development of these would entail options to involve the private sector as investors and operators.
Actions	7.4.1 Develop initial TFCA tourism products making the region attractive to tourists.
	7.4.2 Develop the agricultural nodes within Zimbabwe according to expanded plans that exists to cover the wider area

4.5.3.8 Benefit Flow Management (KPA 8)

Table 32: Benefit Flow Management Audit Scores

KPA 8: Benefit Flow Management				
No.	Indicator	Ref Score	2010	2014
8.1	Benchmarking	25%	0%	25%
8.2	Beneficiation Action Plan (e.g. Community Action Plans)	25%	0%	25%
8.3	Measures and Monitoring (e.g. Employment)	25%	0%	15%
8.4	Reporting	25%	0%	15%
Sub-score		100%	0%	80%

Benefit flow management encapsulates the broad popular concept of “community benefit” and aims to coordinate efforts to ensure that benefits as a result of the establishment of a TFCA filter through to stakeholders, inclusive of affected, neighbouring and host communities.

Since stakeholder groups are broad, ensuring benefits to these in an equitable and sustainable manner is important, and will differ from one region to another and from one TFCA to another. Critical to TFCAs is ensuring that benefits do flow, and that these benefits can be measured as tangible deliverables as a result of the TFCA. To enable this it is imperative that current benefit levels be benchmarked. This can be undertaken through measuring aspects such as poverty levels; availability and level of schooling; access to health facilities; infant mortality rates; access to and distance to social services such as roads, telecommunication, government services; employment levels; income levels etc.

Without benchmarks against which these aspects can be measured, it would be virtually impossible to gauge the impact of the TFCA on the region and its people, or whether the change are attributable to broad government interventions or directly related to TFCA interventions. Once benchmarks for key benefit flow indicators have been set, action plans need to be prepared to improve benefit flow management. These can be done concurrently with the other KPAs or separately if they are independent. These plans should be aligned with the TFCA structures and implemented as part of the TFCA interventions.

Once projects have been implemented the changes to the region, measured against the benchmarks, should be monitored. Continuous monitoring will be important if the TFCA is to claim successes or rectify challenges.

Based on the measurements and monitoring interventions the TFCA structure can report on successes and challenges regarding the benefits to the region and its people. Reports should be based on best practice regarding triple bottom line reporting procedures and undertaken in an accountable and transparent manner.

This KPA did not form part of the initial performance audit, yet due to its importance and significance, as well as potential contribution to the successful development of the TFCA, it was deemed opportune and essential to include this KPA together with its targets and KPI actions.

Detailed actions can be prepared regarding business models for the Maramani community specifically pertaining to establishment of a camp along the Limpopo, as well as potential incorporation of the wildlife corridor into the core area of the Transfrontier Park. Additional plans against which benefits can be measured include support for the crafters within the communal areas of Zimbabwe, and should incorporate aspects such as the potential to utilize the Mapungubwe World Heritage Site Interpretative Centre as an outlet for the crafts developed within the broader TFCA.

The following indicators thus require attention – operational strategies are listed for these along with action plans in Tables 33-36:

- Benchmarking;
- Beneficiation Action Plans;
- Measures and Monitoring; and
- Reporting.

Table 33: Benchmarking

KPI 8.1	Benchmarking
Rationale	To enable the monitoring of benefits of the TFCA to the region and its people it is important that current benefit levels be ascertained prior to the implementation of activities. This will enable the impact of the TFCA to be measured over time and according to a broad spectrum of interventions and impacts.
Strategy	The strategy regarding benchmarking of TFCA benefits would be to identify appropriate and measurable indicators that can provide a true reflection of the impact of the TFCA on the region and its people. These indicators should cover environmental, economic and social factors, and must be incorporated into an annual benchmark report. In this way year-on-year analyses can be prepared and critical milestones identified.
Actions	8.1.1 Identify benchmarking indicators
	8.1.2 Undertake triple bottom line benchmarking exercise
	8.1.3 Prepare benchmarking report

Table 34: Beneficiation Action Plans

KPI 8.2	Beneficiation Action Plans (BAP)
Rationale	Given the broad spectrum of benefits that a TFCA can provide to a region it is imperative that action plans be prepared and aligned, so that maximum effect can be attained. This alignment can be done through the TFCA structure and must correlate with the IDP for the TFCA.
Strategy	The strategy regarding the preparation of beneficiation action plans would entail the identification of key interventions, the costing of actions aligned to the various KPAs and sectors, the securing of funds and apportionment of responsibilities, and the implementation of these plans.
Actions	8.2.1 Identify key interventions
	8.2.2 Prepare and cost BAP(s)
	8.2.3 Obtain funds for BAP(s)
	8.2.4 Implement BAP(s)

Table 35: Measures and Monitoring

KPI 8.3	Measures and Monitoring
Rationale	Without key measures to monitor the impact of individual strategies and BAPs it will not be able to ascertain the effect of these interventions. Without knowing this effect it will not be possible to claim successes, and concomitantly secure additional funding for these interventions.
Strategy	The strategy regarding the measurement and monitoring of benefits emanating from the TFCA includes firstly identifying key measurement and monitoring strategies appropriate to the specific intervention and recognised within best practice, secondly, undertaking monitoring interventions according to recognised norms and standards in a structured and ordered manner.
Actions	8.3.1 Identify key measures and monitoring strategies
	8.3.2 Undertake monitoring interventions and measure and monitor in a structured and ordered manner

Table 36: Reporting

KPI 8.4	Reporting
Rationale	Measurement and monitoring without reporting is meaningless. To enable an understanding of the impact of specific interventions within the TFCA on the region and its people it is critical that reports be prepared and submitted to the relevant authorities and conservation agencies. These reports should be independently verifiable.
Strategy	When preparing the monitoring reports it is imperative that benchmarks initially identified, as well as the specific BAPs be incorporated into the benefit flow report, since it will be against these benchmarks that the impact should be measured. Once prepared these reports should be submitted by the various technical committees to the TFCA structures as per agreed framework and schedule so that the reports can guide improvements to the TFCA management system.
Actions	8.4.1 Prepare reporting framework (what and to whom) and schedule
	8.4.2 Prepare and submit reports to TFCA structures as per framework and schedule
	8.4.3 Incorporate feedback into systems for improvement

4.6 SPATIAL PLANNING

4.6.1 TFCA Components

The GMTFCA can be divided into two distinct areas – (1) a Core Area and (2) Expansion Zone – where the Core Area focuses primarily on conservation, with strict and clear operational procedures and management standards, while the Expansion Zone allows for multiple and mixed land use options.

4.6.1.1 Core Area

The core area within Phase 1 of the GMTFCA (refer Map 39 and Table 37) consists of:

Botswana: Privately owned land within the NOTUGRE.

South Africa

- MPNP;
- Contracted freehold land that is not owned by SANParks but constituted into the MPNP and WHS; and
- Venetia Limpopo Nature Reserve.

Zimbabwe

- Tuli Circle Safari Area (part of the Zimbabwean national conservation estate);
- The western portions of the Machuchuta, and Hwali WMA along the Shashe River;
- The western and eastern portions of the Maramani WMA;
- Sentinel Ranch;
- River Ranch; and
- Nottingham Estate.

4.6.1.2 Expansion Zone

The initial expansion area of the GMTFCA which serves as the planning domain for the core area is critical to the success of the TFCA since many of the ecological systems are embedded within this area, as well as many of the sites of cultural heritage significance, and include:

Botswana

- Lentswe le Moriti – freehold property situated within NOTUGRE (but not a member) that is owned by the Zionist Church in Moria, South Africa;
- Community land to the north-west of NOTUGRE;
- Private land to the south of NOTUGRE generally referred to as Central Tuli;

South Africa

- Vhembe Game Reserve;
- Limpopo Valley Game Reserve (Conservancy);
- Magalakwena Estate;
- Freehold land along the Limpopo river and to the south within the secondary catchments of the Limpopo;

Zimbabwe

- Makado area;
- Eastern portions of Maramani, Machuchuta, Hwali WMAs;
- Halisupi WMA; and
- Doddieburn Ranch.

The components within the partner countries of the GMTFCA are very different and each one requires a simple and brief overview:

Botswana –

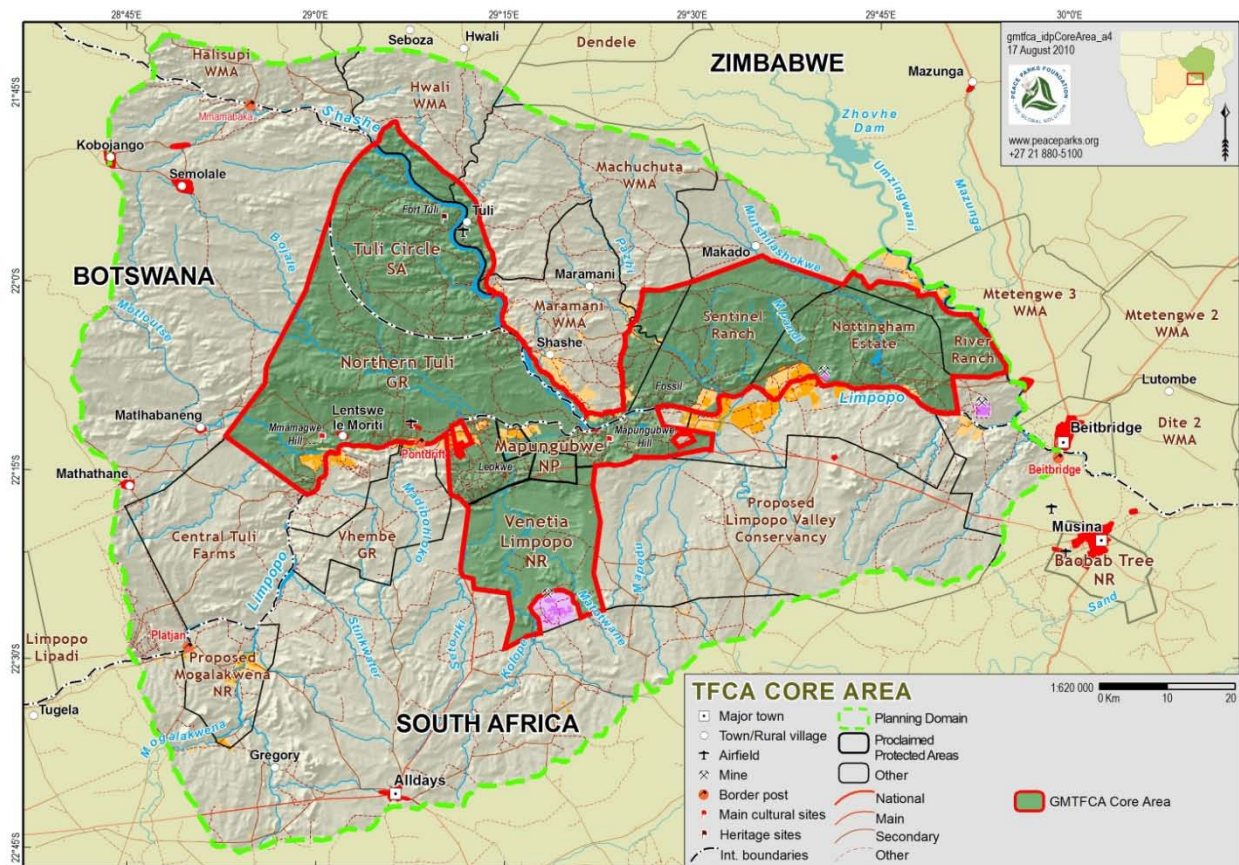
- Privately owned land within NOTUGRE which is reasonably well developed from a tourism perspective and will immediately benefit from increased tourism as a consequence of the TFCA;
- A corridor of community land on the western fringe of NOTUGRE;
- Lentswe le Moriti – a freehold property situated within NOTUGRE (but not a member) that is owned by the Zionist Church in Moria in Limpopo Province, South Africa; and
- Freehold land to the south of NOTUGRE.

South Africa –

- MPNP, reasonably developed from a tourism perspective;
- Freehold land that is not owned by SANParks but is contracted to SANParks, is constituted into the MPNP and WHS and which forms part of the proposed core of the South African component of the TFCA;
- Venetia Limpopo Nature Reserve, south of MPNP; and
- Freehold land on the peripheries, both east and west of MPNP that, it is hoped, will soon commit to the TFCA for the benefit of the region and the TFCA.

Zimbabwe –

- The Tuli Circle Safari Area, a part of the Zimbabwean national conservation estate, and the only portion of Zimbabwe west of the Shashe River, presently utilised as a hunting concession it offers excellent prospects for up market international tourism;
- The Maramani, Machachuta, Hwali, Halisupi Wildlife Management Areas;
- Doddieburn Ranch, currently used for grazing, wildlife tourism and hunting;
- Sentinel Ranch, currently used for wildlife tourism and hunting and limited agriculture;
- Nottingham Estate, currently used for wildlife tourism, hunting and agriculture, as well as opencast coal mining on the property, which if expanded, could impact negatively on tourism to the region. The dam on Nottingham offers tourism potential different to other parts of the TFCA that it could compliment tourism to the region; and
- River Ranch, situated 80km east of the Limpopo/Shashe River confluence, close to Beit Bridge and it is a community owned property on which is situated a diamond mine.



Map 39: Core Area Delineation within Context of Planning Domain

Table 37: Core Area Land Contributions

Country	Area (ha)	Percentage Covered
Botswana	~75,000	~29%
South Africa	~55,000	~21%
Zimbabwe	~130,000	~50%
TOTAL	~ 260,000	100%

4.6.2 Moving from a Current State to a Future Desired State

Within the GMTFCA the numerous roads, tourism developments, agricultural programmes, farms, mines, villages and settlements have created a Current Environmental Character (CEC) that is at a pivotal point between conservation and rural development. If too much infrastructural development is allowed then the character will trend toward a rural area, which will severely impact on the conservation value of the area (refer Map 41).

Evident from the audio-visual impacts map (refer Map 40) is the lack of infrastructural development in the north western portion of the Botswana component and the northern portion of the Zimbabwe component of the planning domain. This could become one of the major draw cards from an ecotourism perspective since the region actually has very few areas with limited impacts. Rather than seeing the lack of development as an encumbrance to regional development, it should be seen as a wonderful tradable asset which could provide substantial benefits to the communities which live in and utilise these areas. The same applies to Sentinel Ranch, Nottingham Estate and River Ranch within Zimbabwe, and the Central Tuli farms in Botswana.

No areas within the GMTFCA have a true wilderness character with only a few areas having a wilderness edge character, while most of the formally proclaimed protected areas are natural undeveloped in character. Most of the GMTFCA is rural undeveloped or rural developed, with the areas along the Limpopo being most developed, either as commercial farms or areas impacted by mining.

Currently the environmental character shows that only a small portion of the GMTFCA actually has the legal status to ensure conservation. Since the objective is to secure the core area as a Transfrontier Park, surrounding by a TFCA, and thus optimally unlocking the environmental, economic, social and cultural value of the area in an equitable and sustainable manner, the steps aimed at attaining the future desired state have been proposed (refer Figures 15-26). These additional areas to the TFCA could be incorporated through agreements, cooperative management, acceptance of standards and conservation principles.

There will be challenges, with blocks and individual properties opting not to be formally part of the TFCA as a conservation initiative. This does remain their prerogative, yet all the properties, whether they are state owned, private or communal, must be made aware that they are located within a broad conservation area, and that their actions and activities can and will have an impact on the conservation of the regions natural and cultural resources.

The SANParks Management Plan for MPNP and WHS identifies key ecological drivers, such as the Kolohe river, as critical to the successful attainment of the conservation objectives of the park. Impacts on the river, albeit outside the park will be monitored and any negative or unlawful activities impacting on the park will be dealt with through the correct channels. This principle should apply to all properties within the planning domain and wider afield.

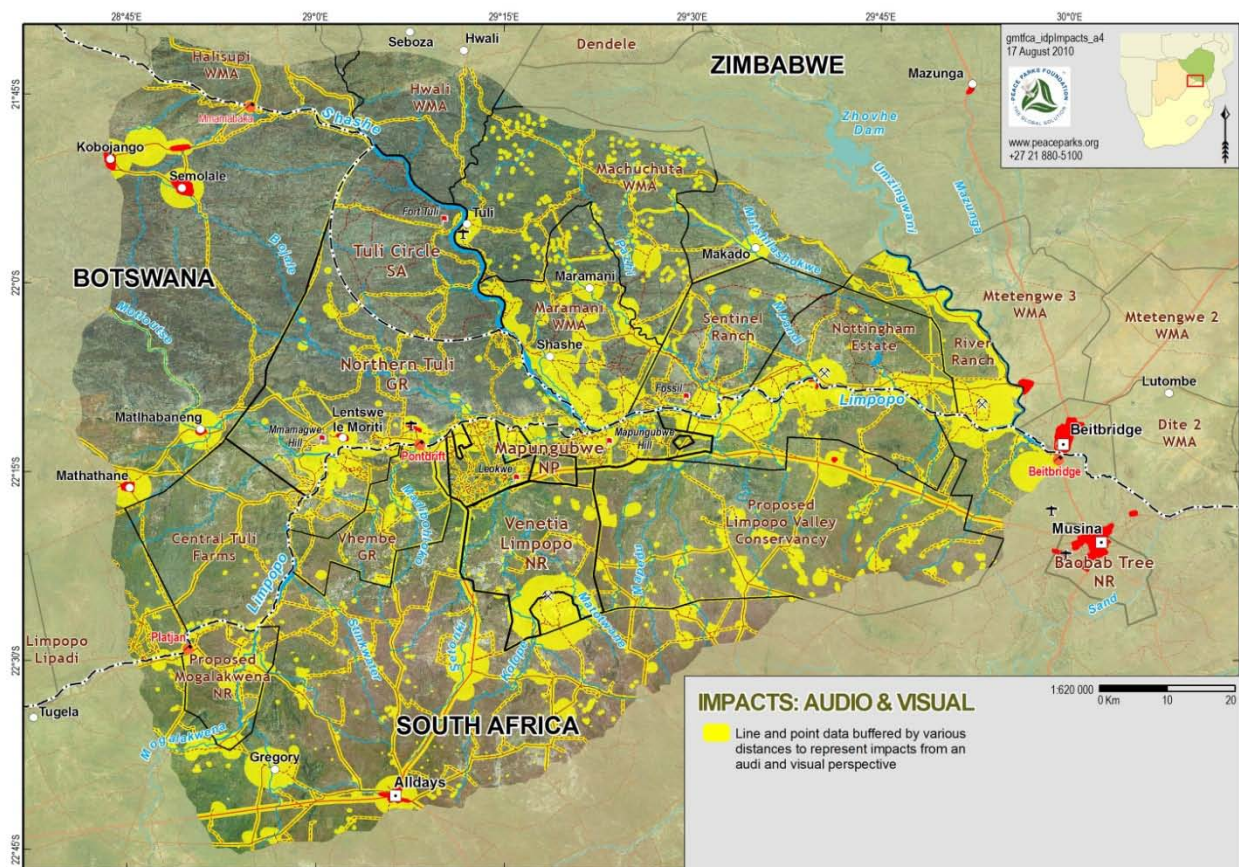
Collectively, the components of the GMTFCA form the major portion of a sub catchment of the Limpopo and Shashe Rivers, effectively establishing a planning unit within which the core area of the TFCA can be established, and within which the surrounding area can be managed to attain collective ecological, cultural, social, and economic objectives.

The core area can expand into the surrounding area, which in turn can expand into the planning domain and its surrounding area.

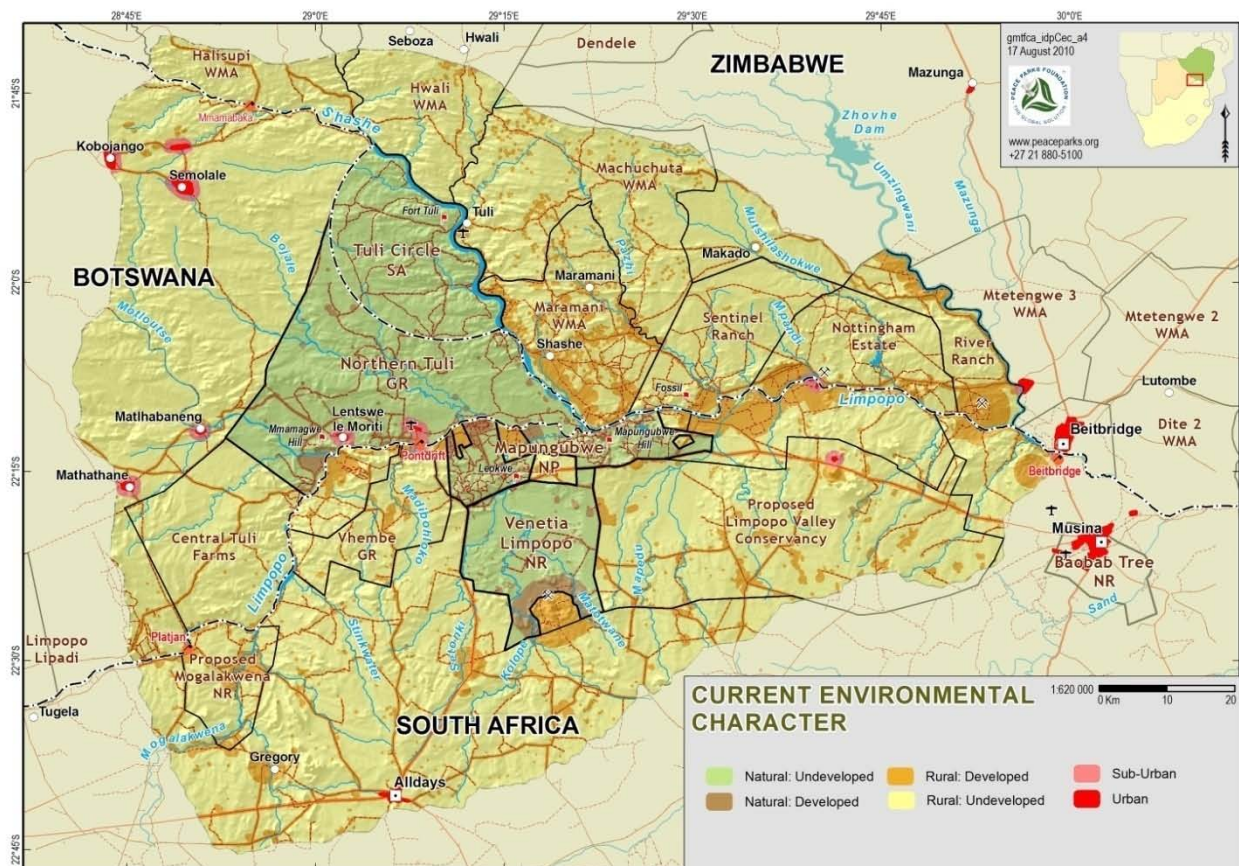
Undertaken in this way the impact of activities within the surrounding area can be influenced based on the specific objectives within the core. This approach has been used within the management plan for the MPNP and has been applied to the entire TFCA.

Besides having a measure of control over activities within the core and surrounding areas of the TFCA it is still critical that landowners and users within the TFCA be actively involved in the planning and deliberations, whether they are part of the core conservation area or merely geographically included within the catchment affecting the core area, so that they can be aware of the impact of activities and land use practices within the region.

The future desired state or Future Environmental Character (FEC) for the GMTFCA shows a vastly increased conservation initiative where the land currently utilised for wildlife and conservation based tourism is formally protected and collaboratively managed ensuring that the threats are mitigated and that landscape dynamics are maintained (refer Maps 42-43). This is based on the access, use, development and infrastructure interventions as discussed in the following section (Section 4.6.4) as well as the expansion of the core area of the TFCA. Table 38 sets out descriptions of the various character zones as well as opportunities for access, use, development and infrastructure.



Map 40: Audio- visual Impacts



Map 41: Current Environmental Character

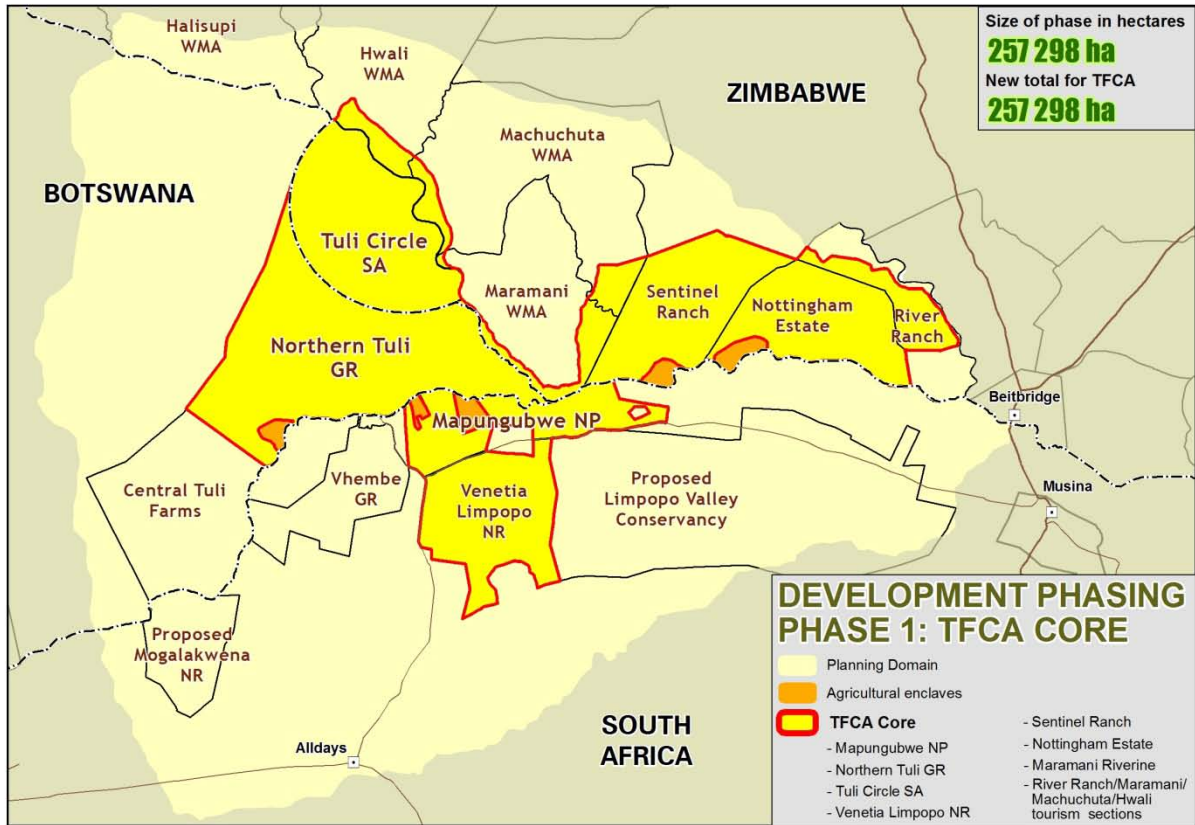


Figure 14: GMTFCA Core Area - Phase 1

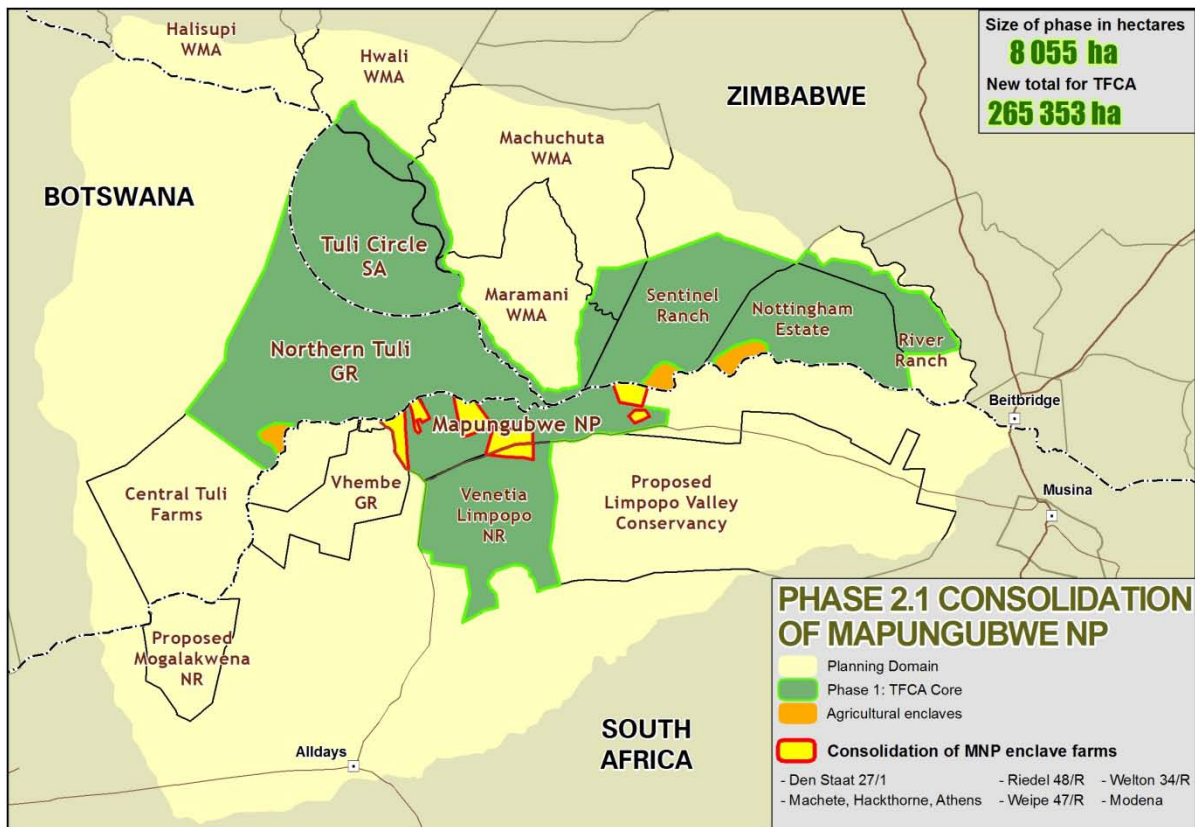


Figure 15: GMTFCA Expansion - Phase 2.1

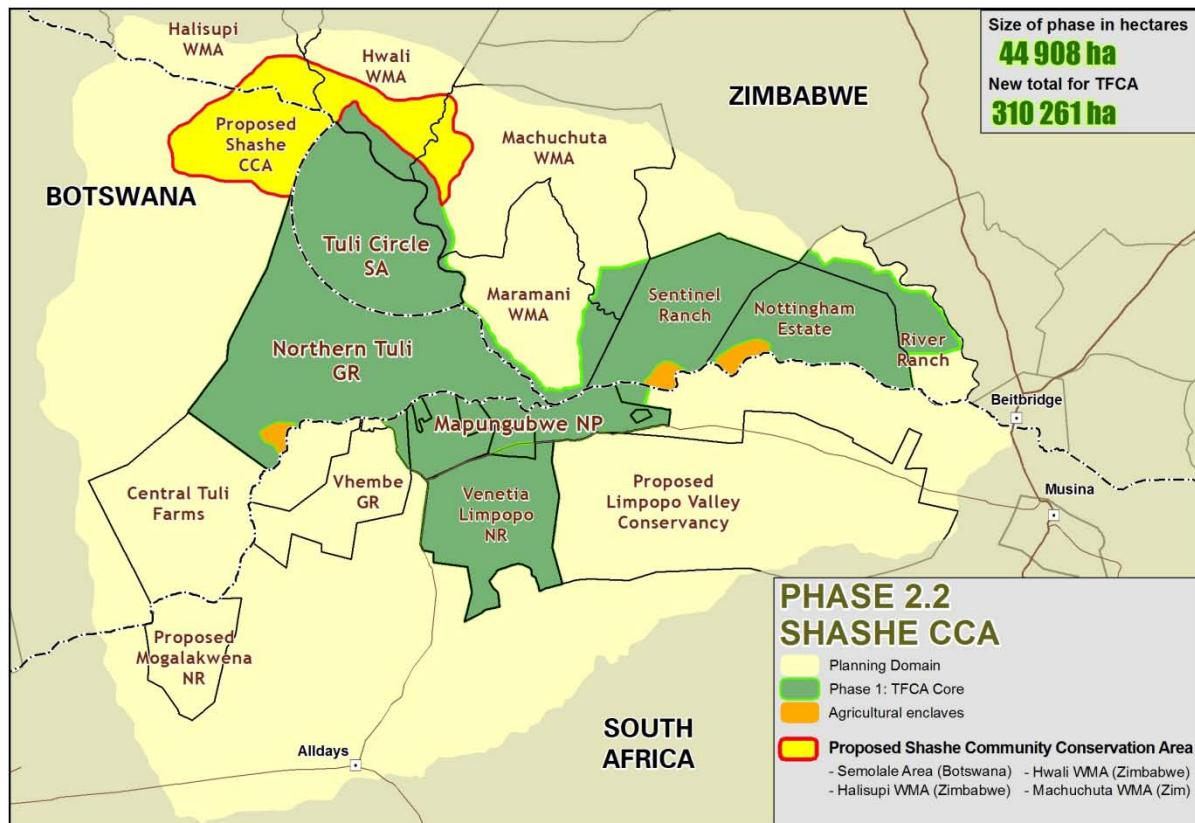


Figure 16: GMTFCA Expansion - Phase 2.2

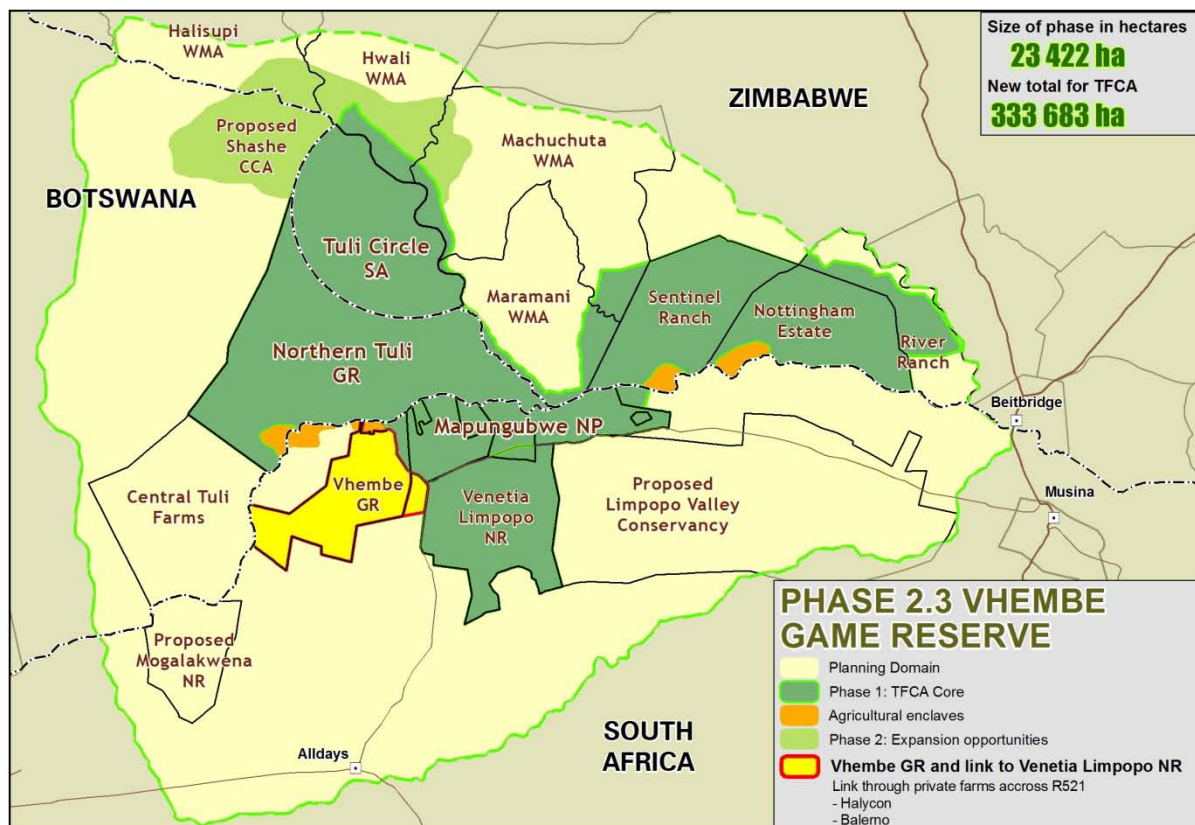


Figure 17: GMTFCA Expansion - Phase 2.3

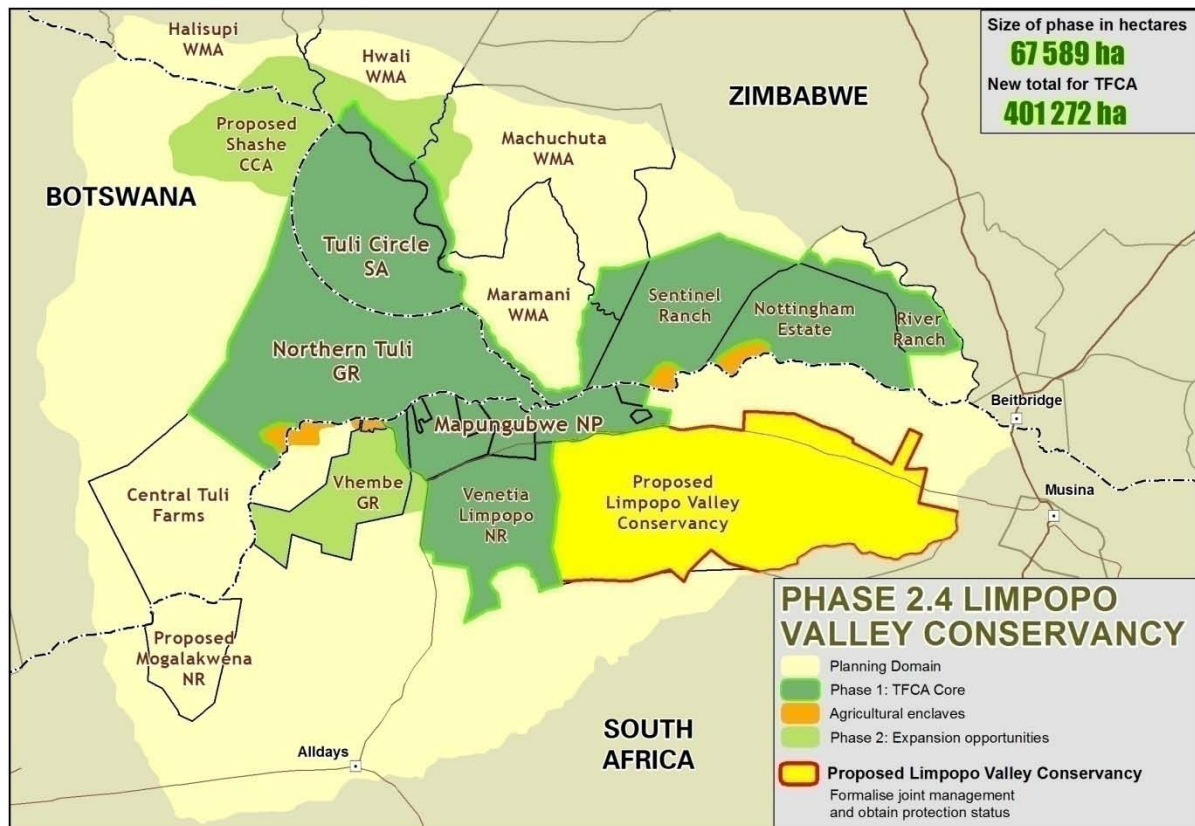


Figure 18: GMTFCA Expansion - Phase 2.4

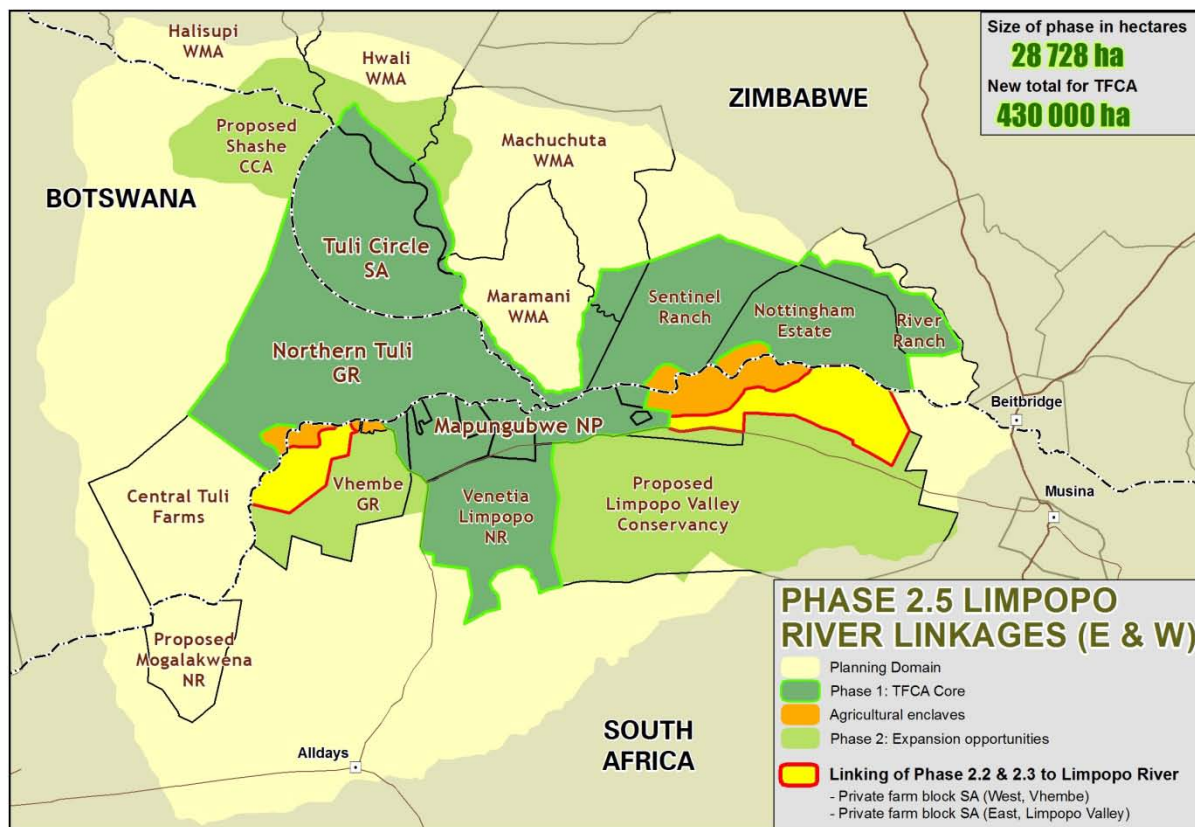


Figure 19: GMTFCA Expansion - Phase 2.5

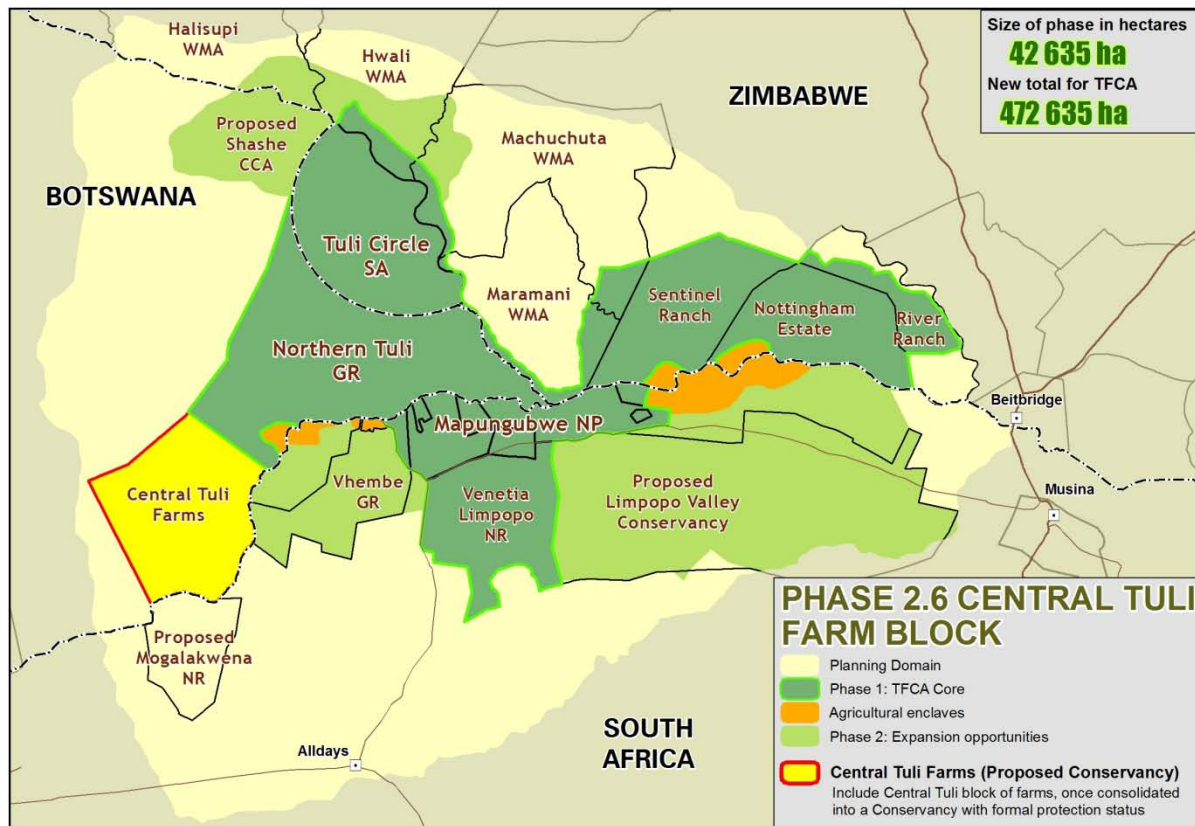


Figure 20: GMTFCA Expansion – Phase 2.6

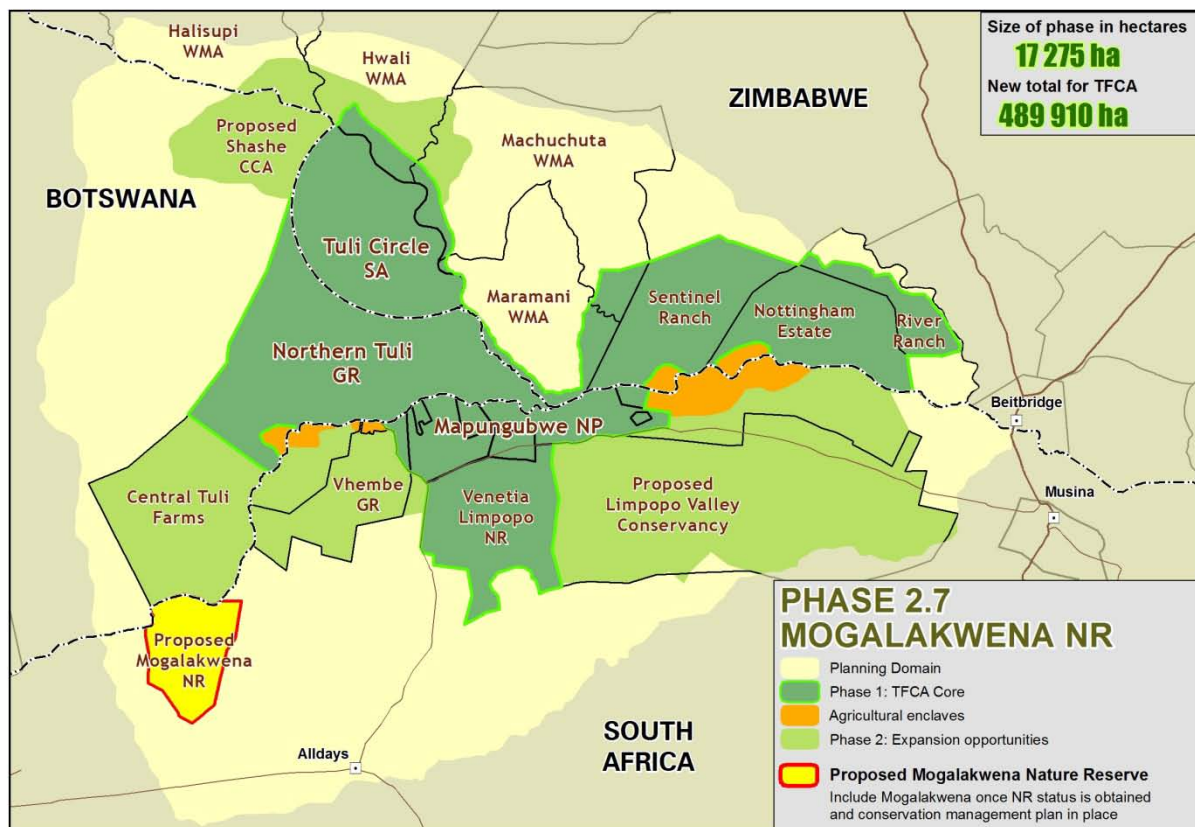


Figure 21: GMTFCA Expansion – Phase 2.7

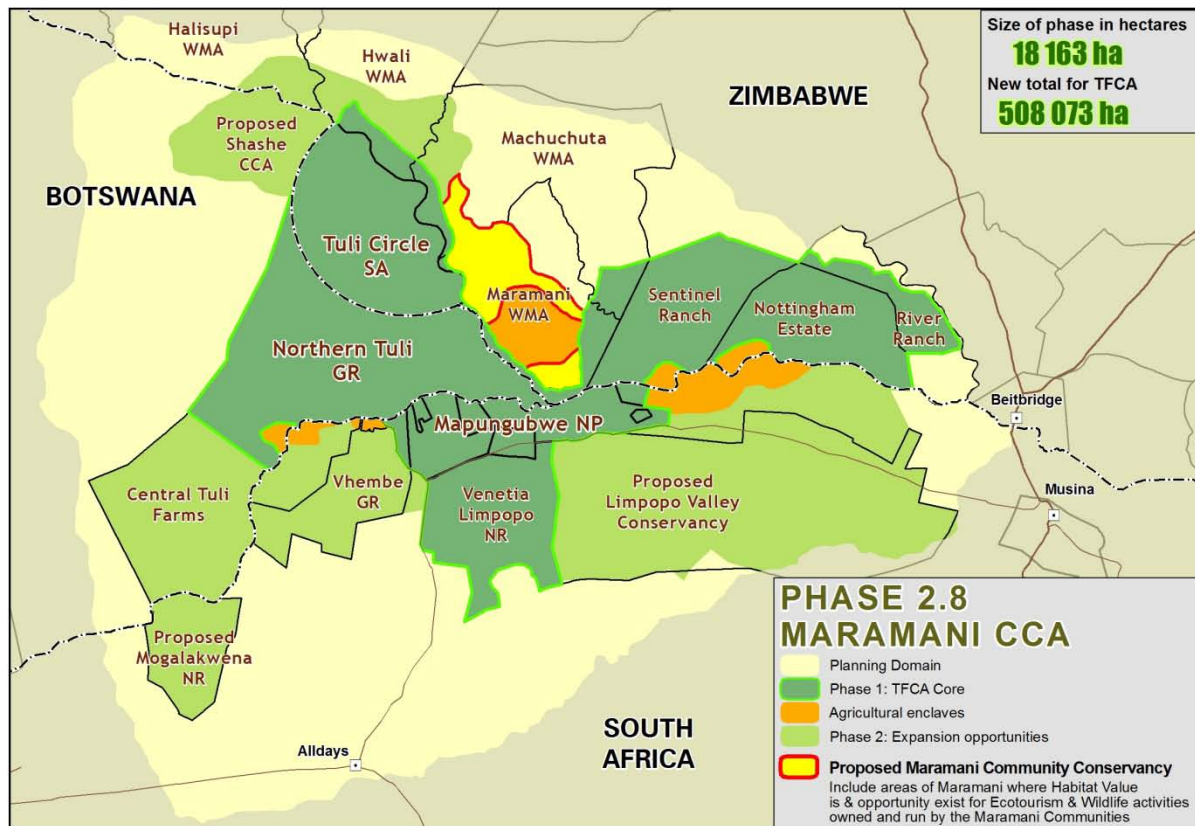


Figure 22: GMTFCA Expansion – Phase 2.8

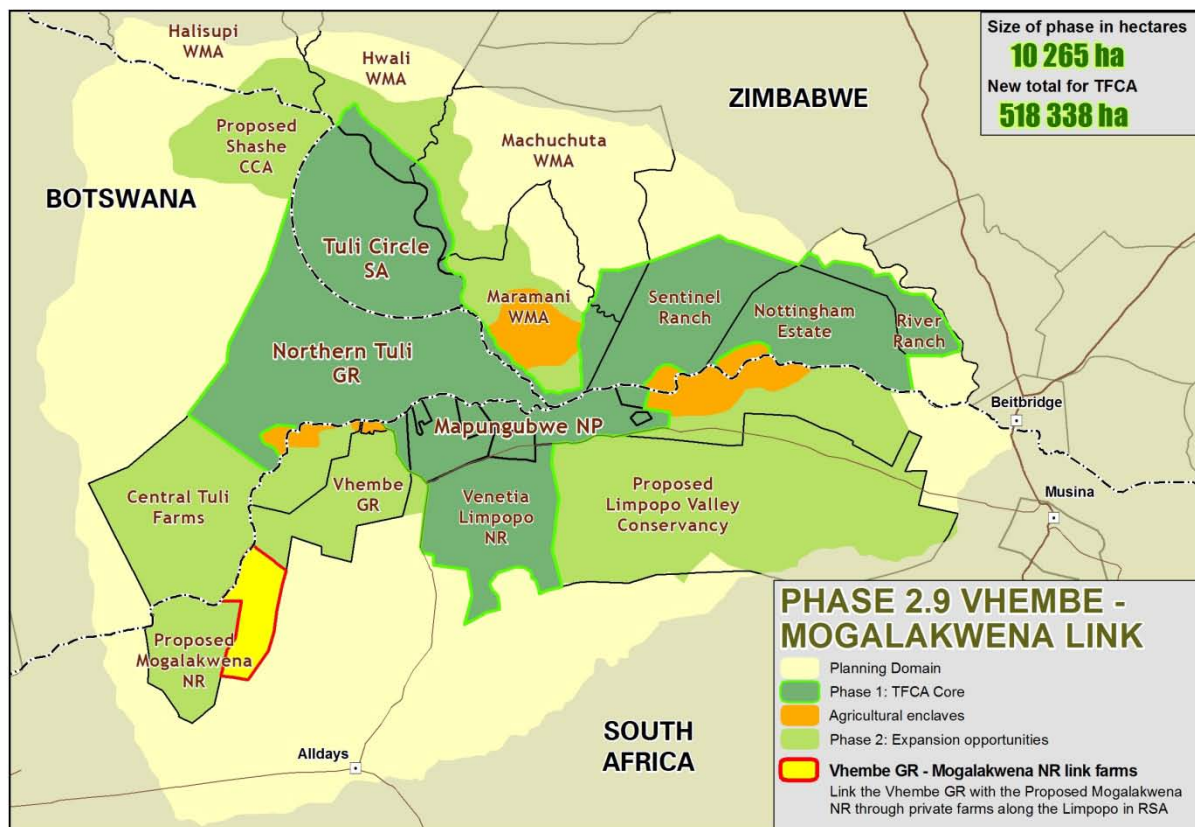


Figure 23: GMTFCA Expansion – Phase 2.9

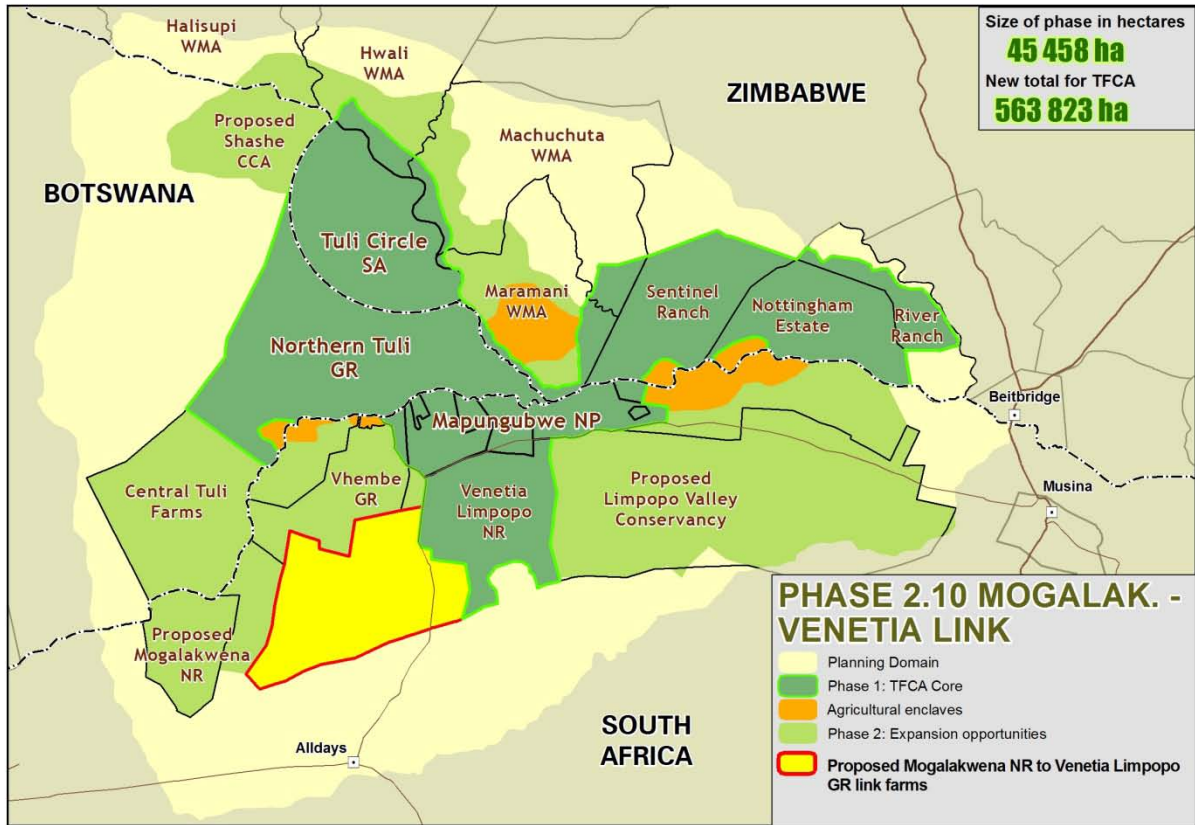


Figure 24: GMTFCA Expansion - Phase 2.10

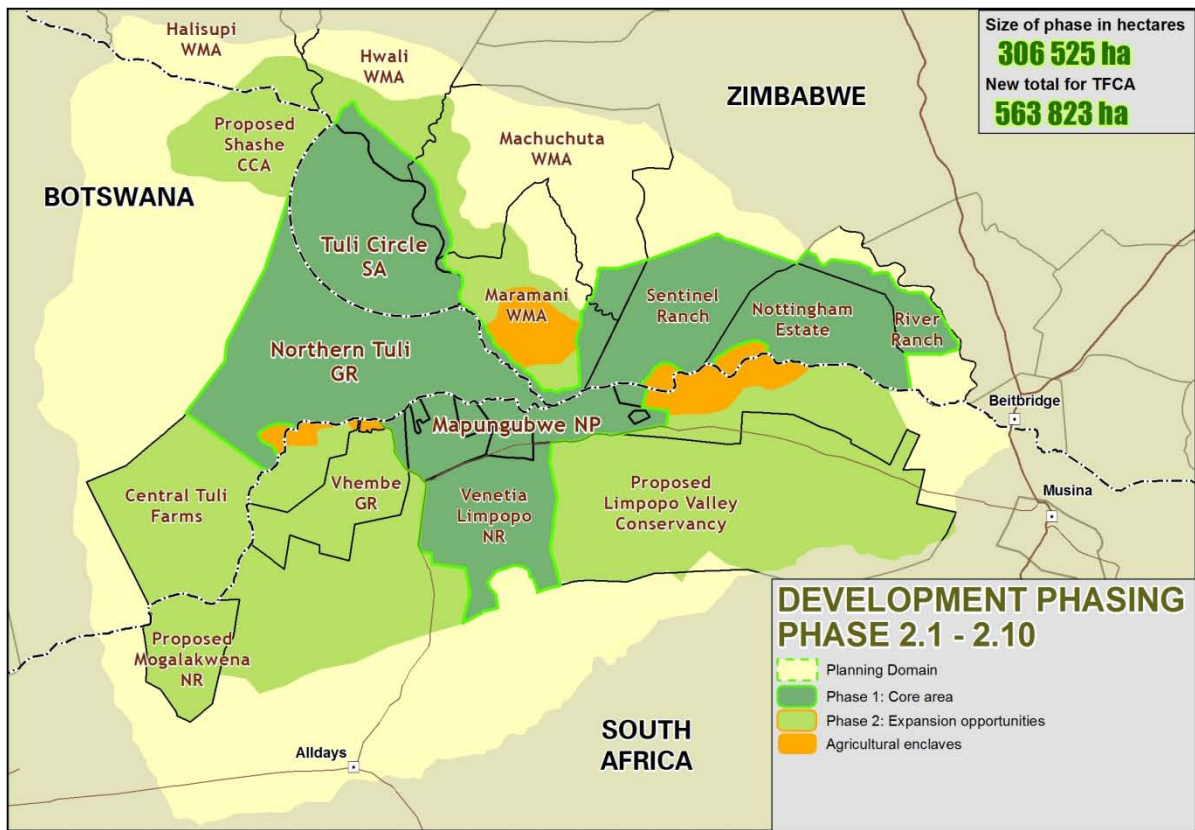


Figure 25: GMTFCA Expansion - Phase 2

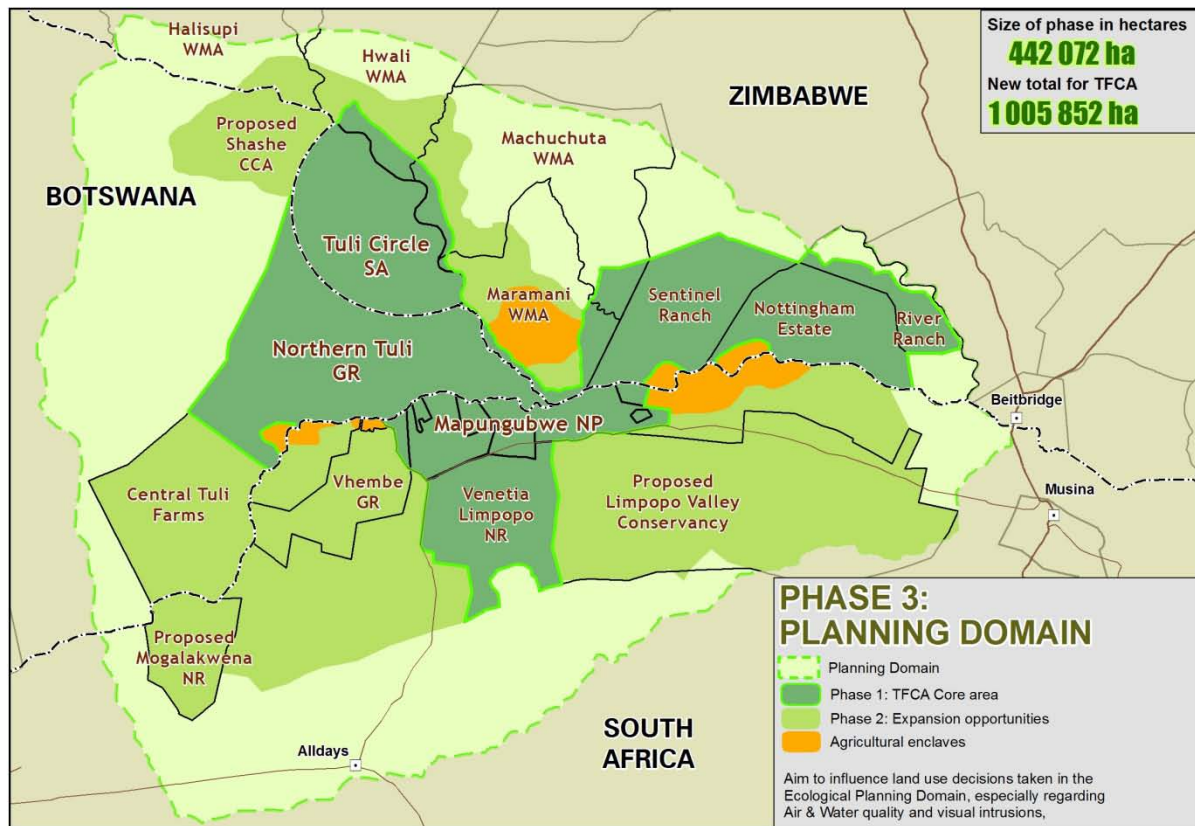
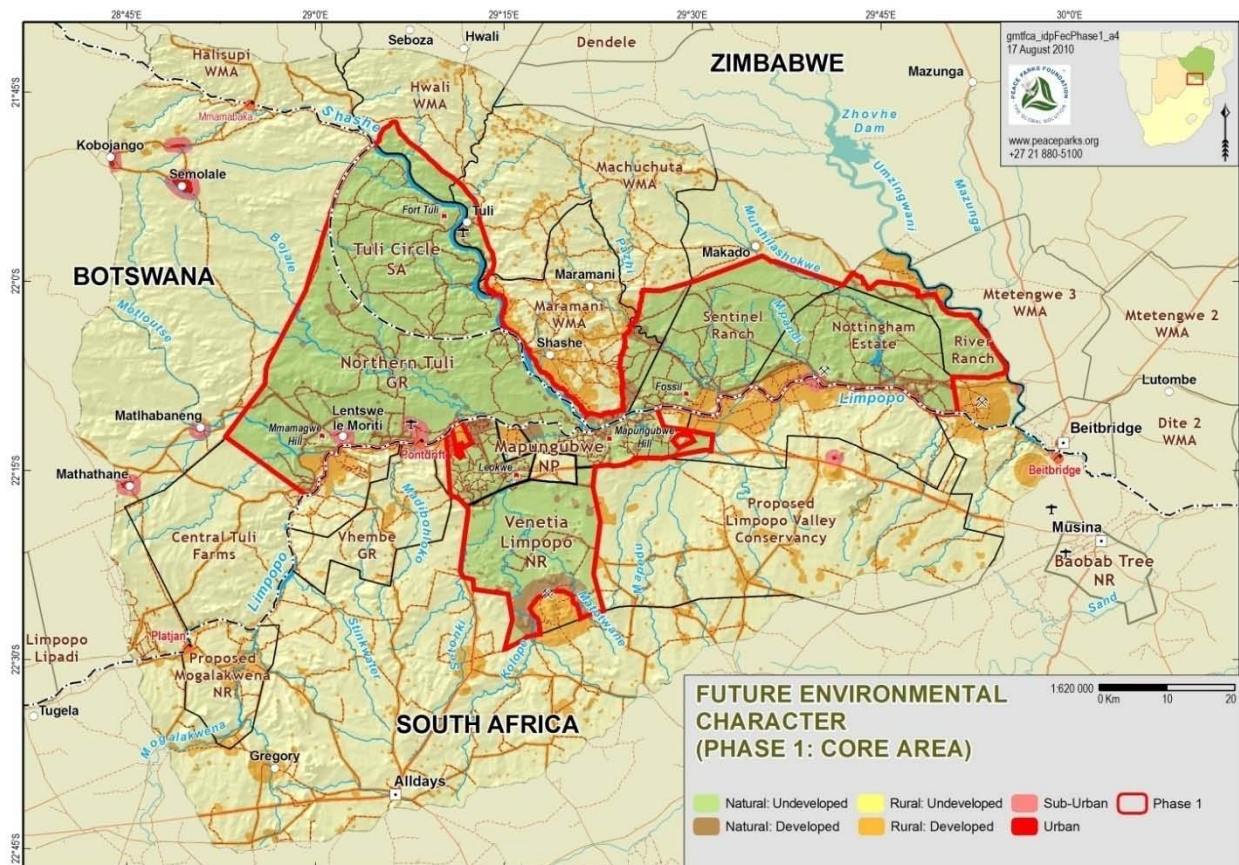


Figure 26: GMTFCA Expansion - Phase 3



Map 42: Phase 1 Future Environmental Character



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Landscape Character (Description and Criteria)	Opportunity Spectrum		
	Access	Use	Development & Infrastructure
Wilderness - No infrastructure - No external audio-visual impacts - Large in size - Outstanding opportunities for solitude and isolation	- Ideally limited to single groups but not necessarily - Very strict access conditions	- Low intensity 'Pack it in, pack it out' principles 'No trace left' principle - Research - Nature and heritage based activities - Non-motorised	None
Wilderness edge - Formally protected - No infrastructure except for cultural heritage resources of historic and archaeological significance - Very limited external audio-visual impacts, >10km - Relatively large in size - High probability of isolation	- Ideally limited to single groups but not necessarily - Very strict access conditions	- Low intensity 'Pack it in, pack it out' principles 'No trace left' principle - Research - Nature and heritage based activities - Non-motorised	None
Natural, limited access / undeveloped - Formally protected - Infrastructure limited to cultural heritage resources of historic and archaeological	- Limited groups, more than one group may be in this area at one time - Strict access conditions	- Nature based activities - Motorised/non-motorised - Guided/self guided - Low intensity and low impact	Small, low impact, environmentally sensitive developments

Landscape Character (Description and Criteria)	Opportunity Spectrum		
	Access	Use	Development & Infrastructure
significance, guest experience facilities and limited management infrastructure - Limited external audio-visual impacts - Size irrelevant - Moderate sense of isolation			
Natural, developed - Formally protected - Infrastructure appropriate to protected areas - Limited external audio-visual impacts - Size irrelevant - Moderate sense of isolation	- Nature and size of groups linked to carrying capacity assessment, industry norms and standards and objectives - Less restrictive access conditions	- Nature-based activities - Motorised/non-motorised - Guided/self guided - High or low intensity, low impact	Infrastructure and facilities appropriate to intensity of utilisation minimize impact
Rural-natural - Largely natural setting not formally protected - Infrastructure is rural in nature - External audio-visual impacts limited - Size irrelevant - Moderate sense of isolation	- Nature and size of groups linked to carrying capacity assessment, industry norms and standards and objectives - Less restrictive access conditions	- Any activities based on objectives - Motorised/non-motorised - Guided/self guided - High or low intensity, low impact	Infrastructure and facilities appropriate to intensity of utilisation to minimise impact
Rural-developed - Prevalence of agricultural practices such as lands, fields, orchards, vineyards, avenues and windbreaks - Infrastructure is rural in nature - External audio-visual impacts limited - Size irrelevant - Moderate sense of isolation	- Nature and size of groups linked to carrying capacity assessment, industry norms and standards and objectives - Less restrictive access conditions	- Any activities based on objectives - Motorised/non-motorised - Guided/self guided - High or low intensity, low impact	Infrastructure and facilities appropriate to intensity of utilisation to minimise impact
Suburban - Low to medium density residential development - Audio-visual impacts prevalent - Size is irrelevant	- Nature and size of groups linked to carrying capacity assessment, industry norms and standards and objectives - Less restrictive access conditions	- Any activities based on objectives - Motorised/non-motorised - Guided/self guided - High or low intensity, low impact	Infrastructure and facilities appropriate to intensity of utilisation to minimise impact
Urban - High density development - Audio-visual impacts significant - Size is irrelevant	- Nature and size of groups linked to carrying capacity assessment, industry norms and standards and objectives - Less restrictive access conditions	- Any activities based on objectives - Motorised/non-motorised - Guided/self guided - High or low intensity, low impact	Infrastructure and facilities appropriate to intensity of utilisation to minimise impact

4.6.3 Concept Development Plan

The Concept Development Plan (CDP) for GMTFCA (refer Map 44) spatially represents the Access, Use, Development and Infrastructure (AUDI) management interventions for the TFCA (refer Figures 28-30) and has been prepared for Phase 1 of the TFCA with a view on guiding the attainment of the Strategic Business Plan.

For purposes of clarity the CDP is initially examined in its individual AUDI components. Each of these components is critical to unlocking the ecotourism potential of the TFCA in a systematic and coordinated manner. In deciding about a concept, such as access points, appropriate use, development nodes or requisite infrastructure, it was critically important to revert to and consider the sensitivity analysis as well as the CEC that have been prepared for the TFCA.

4.6.3.1 Access

To control access to the core area of the GMTFCA it is critical to differentiate between visitors accessing the park and people transiting through the park. *Bona fide* guests access the park either by road or air and have arrangements in place to visit the region, and utilise the facilities on offer, while people transiting the park merely are utilising the public roads that run through the park and need to be checked where they enter and exit, similar to what is done within Chobe National Park, Kafue National Park, and many other similar cases throughout southern Africa.

Guests accessing the park for specific country based products need to utilise the country based access points closest to their accommodation or activity, and if necessary clear immigration formalities at the requisite Ports of Entry – Formal crossing points.

Guests that are specifically utilising the TFCA Tourism products will be exempted from these formalities since the product design ensures that they are under the control of an operator at all times, and that the country of origin is the country of exit, and the crossing are via approved informal crossing points.

During **Phase 1** of the GMTFCA development, access to the Greater Mapungubwe Transfrontier Park (GMTFP) is via several gates, checkpoints and the Limpopo Valley Airfield. The Limpopo Valley Airfield is a critical aspect which can ensure that access to the park for international guests would be easy, and can significantly boost the viability of all the developments, as well as significantly increase the employment opportunities within the TFCA (refer Figure 28 and Appendices 5 and 6).

The gates and checkpoints are along the main roads servicing the TFCA, some of which will allow for public transit. All the gates and checkpoints will also serve as Foot and Mouth Disease (FMD) control points (refer Figure 27). Access to the Park will be through the following gates and checkpoints:

Botswana:

- Limpopo Valley Airfield;
- NOTUGRE – Western Checkpoint;
- NOTUGRE – Southern Checkpoint;
- NOTUGRE – Pontdrift Checkpoint;

South Africa:

- Mapungubwe Main Gate;
- Venetia Checkpoints(east and west);

Zimbabwe:

- River Ranch checkpoint;
- Homba Port of Entry and Tourist Access Facility (TFCA HQ);
- Mutshilashokwe Checkpoint;
- Sentinel Checkpoint;
- Shashe Checkpoint; and
- Fort Tuli.

During **Phase 2** certain of the access points will be changed, and include the development of gates/checkpoints at Shashe CCA (Semolale area in Botswana and Halisupi WMA in Zimbabwe).

General access to the TFCA will be along the existing road network and does not necessitate additional controls besides the positioning of "Welcome to the GMTFCA" along the roads, so that visitors can be sensitised regarding the TFCA and the park.

The objectives of an entrance/exit/immigration strategy should be:

- Common to all participants in the TFCA;
- Simple to administer;
- Secure;
- Not difficult to police; and
- Inexpensive to operate.

Limpopo Valley Airfield (refer Appendix 4) in Botswana needs to be urgently implemented whereby:

- Immigration from South Africa, Botswana and Zimbabwe is present; and
- All arriving air passengers on route to either South Africa or Zimbabwe can clear into those respective countries. Road or short hop air transfers can get them to their destinations without delay.

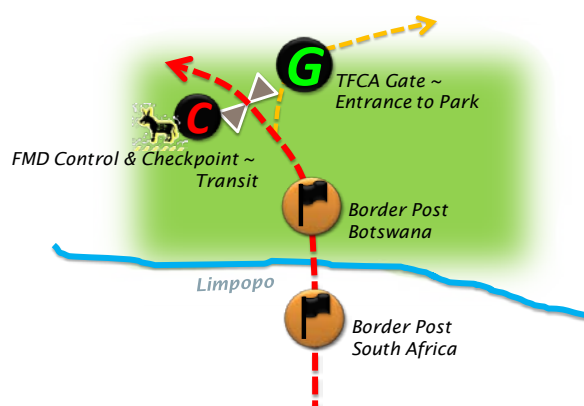


Figure 27: Border Posts, Gates and Checkpoints

4.6.3.2 Use

The various access, use, development nodes, as well as infrastructural proposals all influence the character of the environment that visitors to the GMTFCA experience. With improved conservation commitment, formal proclamation of areas that are critical, yet not protected from a statutory perspective can now obtain the requisite status.

Within these parameters activities will be restricted to ensure that the future desired environmental character of the TFCA is maintained. Certain areas will be managed to maintain a natural undisturbed character, while the establishment of roads, tracks and lodges will be allowed in others.

By having clarity on what activities will be allowed in each area, the environmental, aesthetic and operational conditions of each area or zone can be maintained and conserved.

Based on the proposed zonation of the TFCA, the core area of the Park is ideally suited to the conservation of the Mapungubwe Cultural Landscape as well as the biodiversity associated with the confluence of the Limpopo and Shashe Rivers, specifically the riparian vegetation within the area and the sandstone ridges that characterise the area. Certain areas within the core area are excluded such as the commercial farms along the Limpopo, within Botswana, South Africa and Zimbabwe. These areas will maintain their Rural Developed character.

Recognising the important role that hunting plays in conservation, certain areas within the TCSA and the Sentinel-Nottingham-River Ranch Complex have been identified as ideal areas to accommodate this consumptive form of resource utilisation, while the NOTUGRE Complex has its own internal arrangements regarding hunting and wildlife utilisation, as do the South African component.

Map 41 illustrates the CEC while Map 42 shows the FEC (Phase 1). Table 38 illustrates the restrictions to access, use, development and infrastructure within each zone.

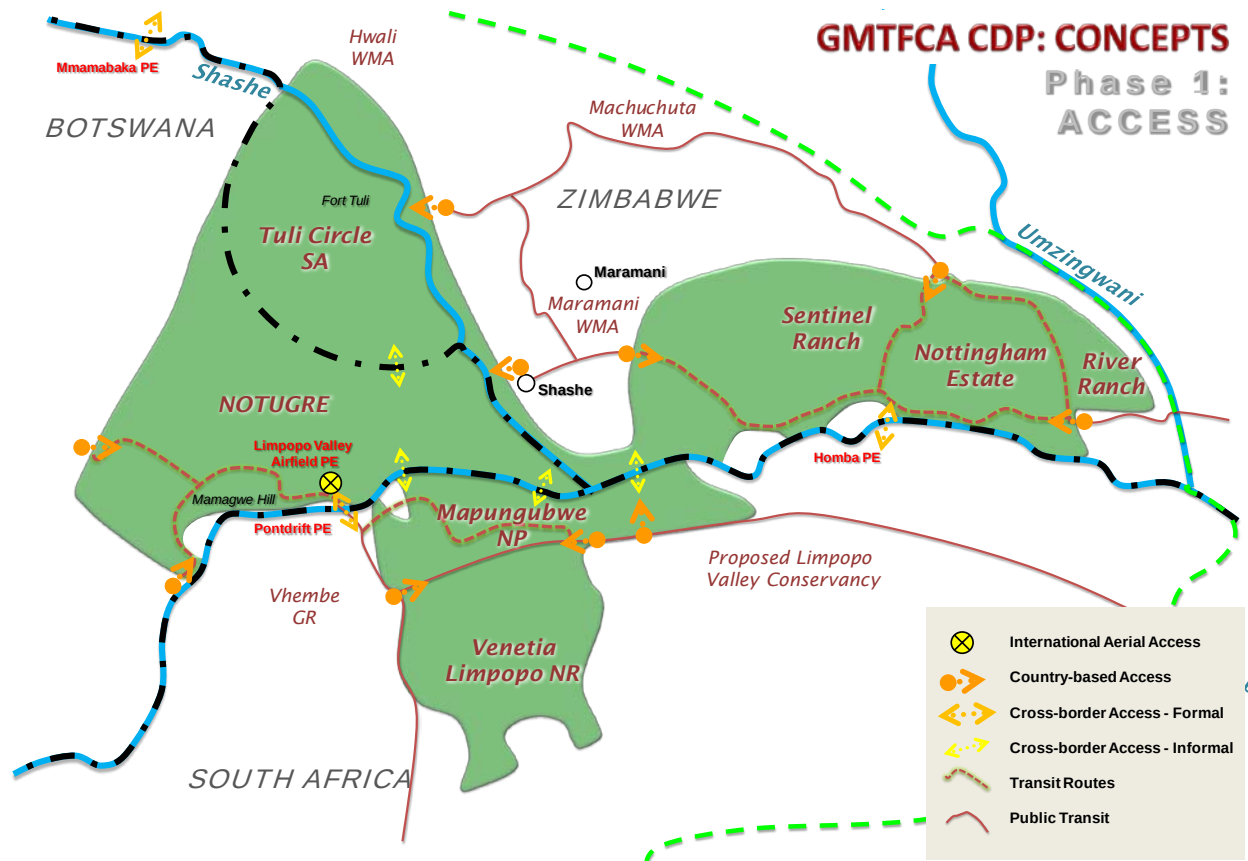


Figure 28: GMTFCA Access Concept Phase 1

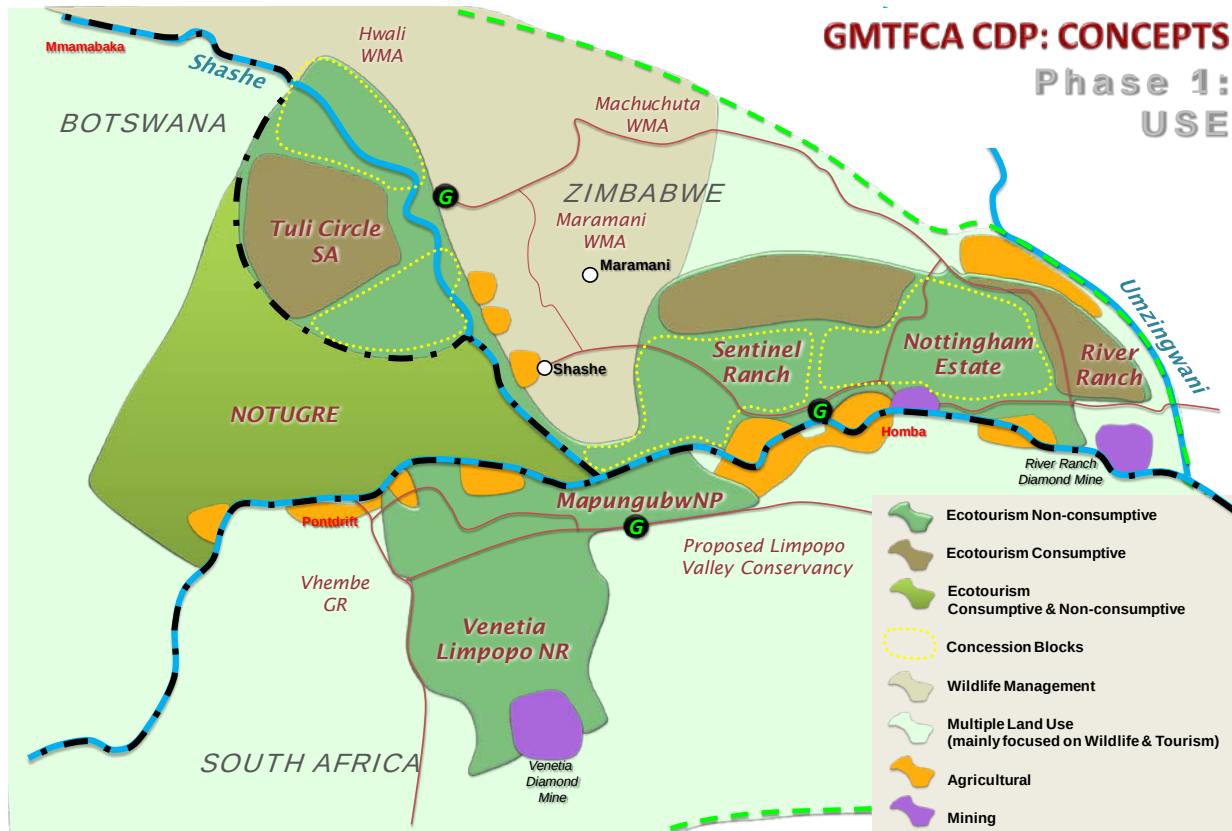


Figure 29: GMTFCA Use Concept Phase 1

4.6.3.3 Development

Critical to the success of the GMTFCA is the establishment of alternative livelihoods within the Zimbabwe component of the TFCA. This includes both agricultural and tourism support nodes. Several opportunities for establishing agricultural support nodes exist, the most critical is the garnering support for the Shashe Village Irrigation Scheme. Successes at this scheme can be replicated at the other schemes, yet caution must be taken not to dilute the impact of each project prior to establishing a success at one of the schemes.

Certain developments aimed at unlocking the ecotourism and conservation potential inherent to the park should be implemented. These include the establishment of the Limpopo Valley Airfield as the main aerial access and hub from which shorter shuttle flights can be implemented to service the surrounding lodges in all three countries, the development of 4x4 routes, both 2 country and 3 country interpretative trails, a mountain bike trail, a wilderness (hiking) trail in the confluence area and control measures for day visitors from NOTUGRE (refer Section 4.6.4.3 for detailed descriptions).

The cross border 4x4 routes will benefit significantly from the wildlife and scenic beauty of the area and include trails focusing on:

- The broad natural and cultural landscape on the Mapungubwe Eco-Trail;
- The Pioneer history of the region; and
- The world renowned Mapungubwe Iron Age cultural landscape.

The 2 country – Zimbabwe and South Africa – Eco-Trail focuses on the fossils found on Sentinel Ranch and surrounding area, explaining the geology and significance of the sandstone ridges and underlying permeable geology, and the super-imposed landscape shaped by the rivers, touches on the pioneer history of the area, the beautiful scenery, important cultural landscape and wildlife.

The 2 country – Zimbabwe and South Africa – Pioneer 4x4 Interpretative route incorporates the history of the area, the role of Cecil John Rhodes and the BSA Company, as well as the role the region has played in the liberation struggles starting with the Anglo-Boer War. This route will focus on the pioneer history of the area with Fort Tuli serving as an anchor attraction; yet include the sites within MPNP, Sentinel Ranch, and the areas within the WMAs along the Shashe River.

The 3 country – Botswana, South Africa and Zimbabwe - Mapungubwe Iron Age 4x4 Interpretative route will focus on the sites of cultural significance within the Mapungubwe Cultural Landscape, and should include aspects such as Mapungubwe Hill, Mmamagwe Hill, and the sites along the Limpopo and Shashe Rivers.

Strategically situated at the confluence of the Limpopo and Shashe Rivers, which also serve as the borders between the partner countries, an opportunity exists to develop a wilderness style trail which links the Mapungubwe WHS Interpretative Centre, a Wilderness Camp in the MPNP and a Wilderness Camp in the Maramani WMA. This low impact, visually stunning and interpretatively robust product can contribute significantly in broadening the concept of cross border TFCA products, products that can only exist within a TFCA context. The success of the wilderness trails in the Kruger National Park in South Africa should serve as the basis for this product.

Based on the same logistical arrangements a guided mountain bike trail can be developed at the confluence area, yet the distances covered will be slightly longer.

To address the needs of visitors within the NOTUGRE component of the TFCA, it is recommended that control measures be implemented to allow for visitation to the Mapungubwe World Heritage Site Interpretative Centre, with a centralised meeting spot at the Limpopo Valley Airfield, a game drive vehicle to shuttle visitors to the Centre and back along a predetermined route, compliant with the general arrangement currently controlling visitor access to the component.

Within the GMTFCA certain developments need to be implemented to directly provide benefits to the affected communities enabling a positive response towards conservation and ecotourism initiatives in the area. These include boreholes critical for domestic livestock watering points, agricultural support nodes such as the Shashe Irrigation Scheme, and support for conservation initiatives such as Central Tuli, Limpopo Valley Conservancy and the community conservation initiatives in Botswana and Zimbabwe.

Tourism support nodes have been identified at the Confluence, Shashe Irrigation Scheme, Fort Tuli and Mmamabaka area (CCA) since these areas would find it difficult to raise and secure funding on their own.

Ports of Entry need to be developed at Mmamadaka between Botswana and Zimbabwe on the Shashe River in the north of the study area, and between South Africa and Zimbabwe at Homba. Botswana has shown its commitment by developing their side of the proposed Port of Entry on the Shashe, a development which could

serve as the basis for a One-Stop Port of Entry, while the owners of Nottingham have indicated their support for a Port of Entry and low-level crossing on the eastern side of the study area.

Both these Ports of Entry will make lawful access easier, and stimulate regional growth and development, both within and adjacent to the GMTFCA.

Additionally, the unconsolidated portions of properties within the core and surrounding areas of the TFCA need to be addressed. This is specifically required within Botswana and South Africa where small portions have not been consolidated into contiguous units.

Undertaken in this way the objectives of both the core area and the broader TFCA can be attained in a sustainable and appropriate manner (refer Figure 30 as well as Appendix 3 – Tourism Development Protocol).

To enable the TFCA Tourism Products to function effectively, as well as provide significant tangible benefits to the Maramani and Machuchuta communities, two tourism developments have been proposed, the first at Musimani, and the second at Fort Tuli. These camps will serve the 4x4 market utilising both country specific products as well as the TFCA Tourism Products. Developed as Community Public Private Partnerships (CPPP) these developments could form the basis for further community owned tourism products and concessions within the TFCA.

4.6.3.4 Infrastructure

Infrastructural requirements necessary to unlock the ecotourism potential of the TFCA include the Limpopo Valley Airfield, a game fence along the eastern edge of the Shashe River, several gates and checkpoints, an agricultural support node, two TFCA Tourism Products (trail camp development), and several agricultural enclaves. The details of these are discussed later in this document.

The Limpopo Valley Airfield is a critical intervention aimed at unlocking the ecotourism potential by allowing the TFCA to develop as an important stopover between several tourism hotspots. By allowing guests to fly through the TFCA rather than just to the TFCA will enable this to happen. Most of the infrastructure is already in place, and the critical aspect is having immigration officials from all three countries present.

The proposed core area delineation fence, stretching from the veterinary fence at the north-western corner of NOTUGRE, along the northern and western boundary of Sentinel Ranch, Nottingham Estate and River Ranch back to the eastern boundary of Mapungubwe National Park, where it will follow the national park's boundaries back to NOTUGRE's fence along the Limpopo has been identified as a critical intervention to reduce HWC, by securing the core area and stimulating socio-economic development. By effectively securing the core area, it will be possible to provide clarity regarding the various projects and programmes both within the Park and TFCA components. Once the external fence has been developed compliant with the veterinary specifications, internal fences can be removed ensuring free movement of wildlife, subject to resource management interventions and objectives, such as the elephant exclosures within MPNP (refer Figure 30 and Table 39).

Table 39: Fencing Requirements

Country	Fence strategy	Length (km)	Percentage
Botswana	Veterinary Fence (construct)	36	9%
	Veterinary Fence (maintain)	39	33%
	Veterinary Fence (remove)	18	15%
Subtotal		92	15%
South Africa	Veterinary Fence (construct)	157	42%
	Veterinary Fence (maintain)	77	67%
	Veterinary Fence (remove)	58	50%
Subtotal		293	48%
Zimbabwe	Veterinary Fence (construct)	184	49%
	Veterinary Fence (remove)	40	34%
Subtotal		224	37%
TOTAL		608	100%
Fence strategy (summary)			
Veterinary Fence (construct)		377	62%
Veterinary Fence (maintain)		116	19%
Veterinary Fence (remove)		116	19%
TOTAL		608	100%

Infrastructure support requirements within the broader TFCA will be limited to initiatives necessary to ensure the attainment of the conservation, social and economic objectives. This will include support for the enclaves surrounding the commercial farms on the Limpopo, as well as the fencing of the community conservation areas along the Shashe River.

Specific infrastructural development would be needed at the Venetia Checkpoints to control access along the transit route linking up with the Mapungubwe Main Gate, as well as gates and checkpoints at Sentinel, River Ranch, Mutshilashokwe, Shashe and Fort Tuli to assist in controlling access within the Zimbabwean component of the GMTFCA.

To ensure easier tourist access to the TFCA it is recommended that additional Ports of Entry be established at Homba and Mmamadaka.

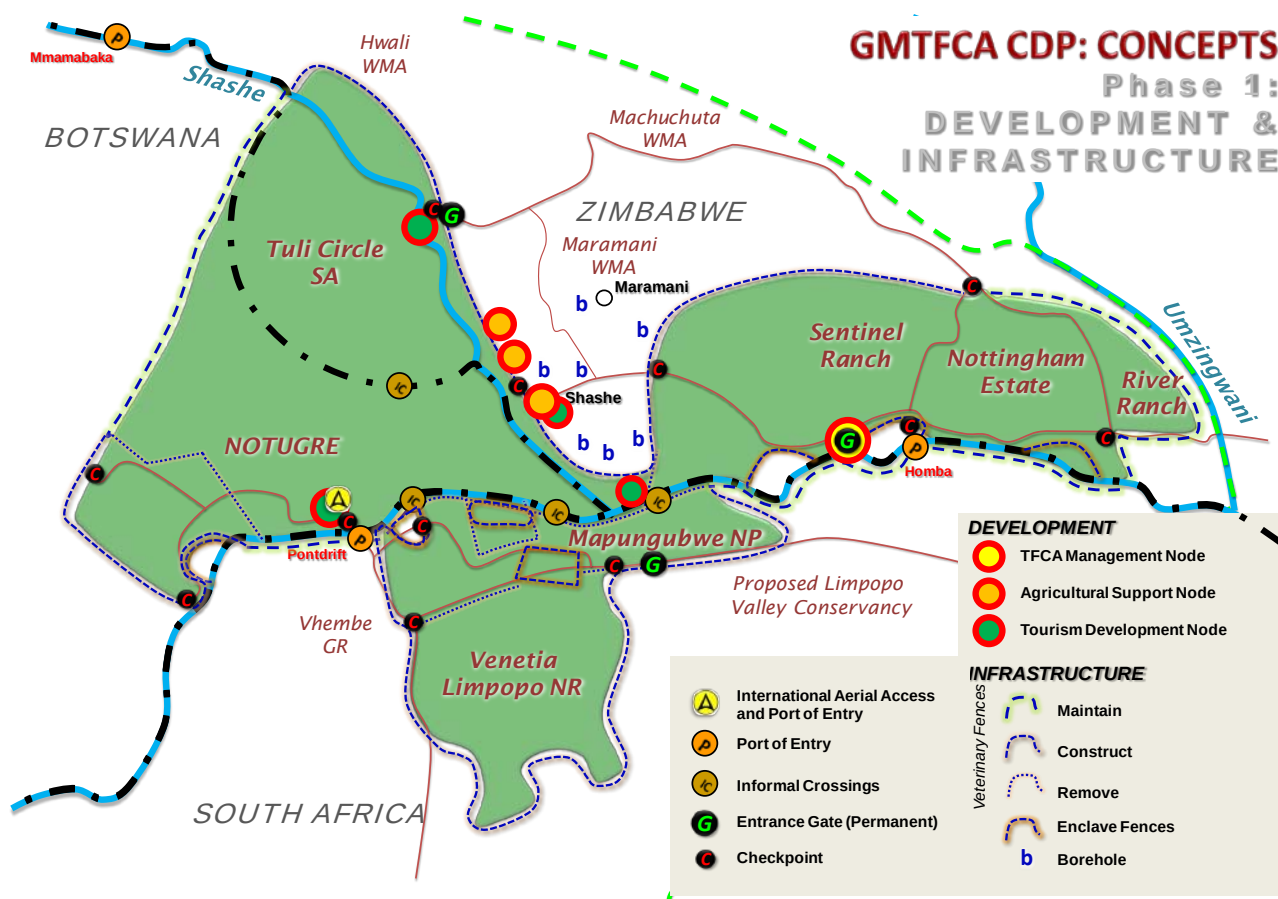


Figure 30: GMTFCA Development and Infrastructure Concept Phase 1



4.6.4 Detailed Concept Plans

Detailed Concept Plans to assist with the establishment and development of the GMTFCA have been proposed, and include:

- Gates and Checkpoints;
- Ports of Entry and Informal Crossings;
- TFCA Tourism Developments; and
- Agricultural Support Nodes and Enclaves.

4.6.4.1 Gates and Checkpoints

Without gates and checkpoints it is difficult to control tourism movement into and through the TFCA. To assist in establishing effective control, several gates, which serve as administrative hubs providing reception, administration and coordination of tourist access and exit have been proposed, and include (refer Figures 31-41) Mapungubwe National Park Main Gate; Sentinel Gate; and Tuli Gate.

Checkpoints have been proposed for development at River Ranch; Mutshilashokwe; Sentinel; Shashe; Notugre West; Notugre East; Pontdrift; Venetia West; and Venetia East.

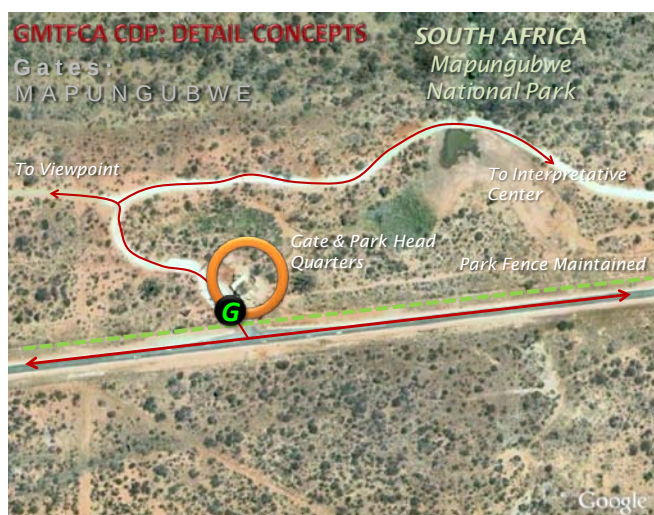


Figure 31: Mapungubwe Main Gate



Figure 32: Park Head Quarters

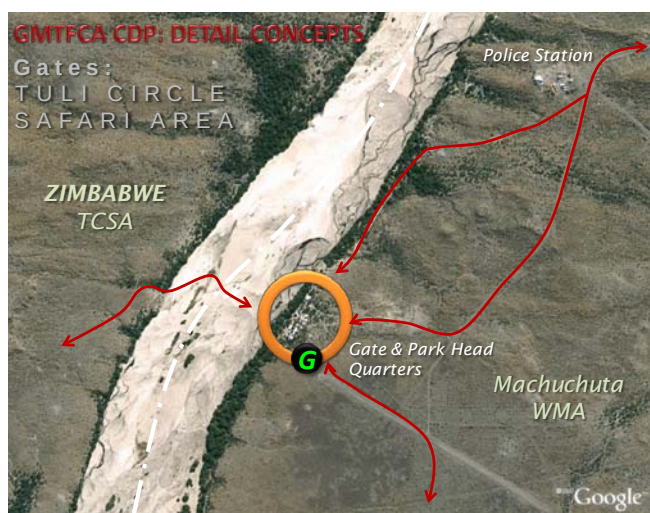


Figure 33: Tuli Circle Safari Area Main Gate



Plate 5: Current Facilities – Proposed Park Head Quarters



Figure 34: River Ranch Checkpoint



Figure 35: Mutshilashokwe Checkpoint

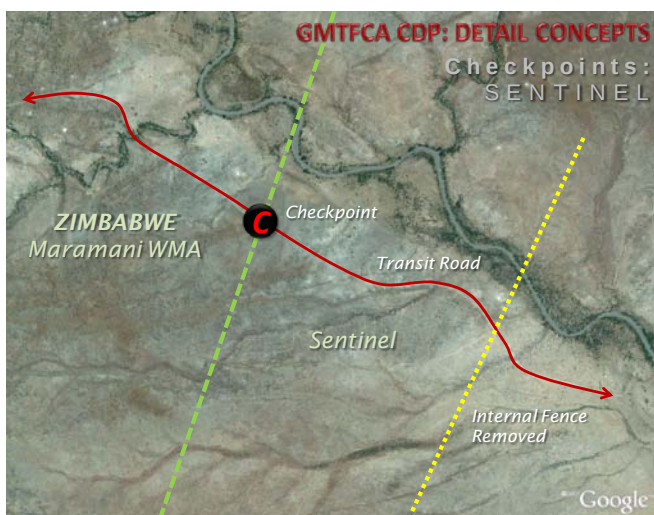


Figure 36: Sentinel Checkpoint



Figure 37: Shashe Checkpoint

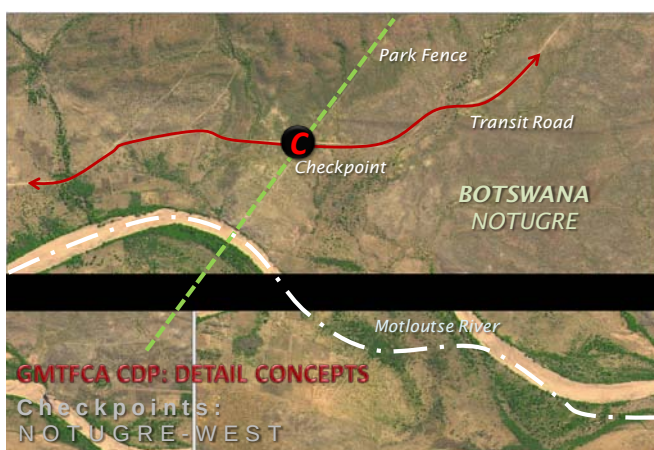


Figure 38: NOTUGRE West Checkpoint

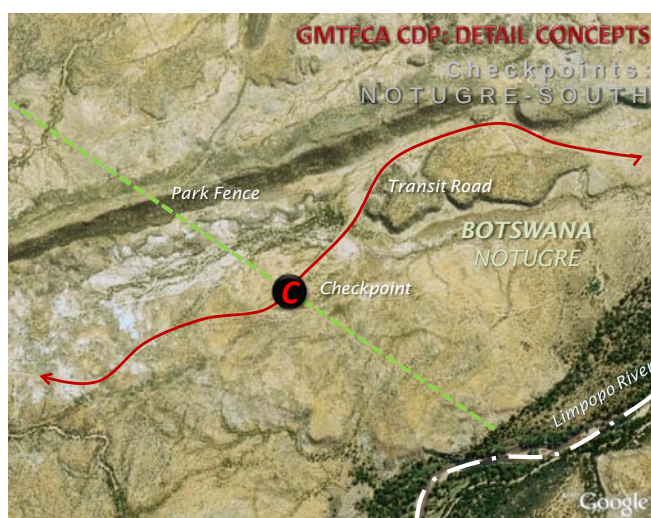


Figure 39: NOTUGRE- South Checkpoint

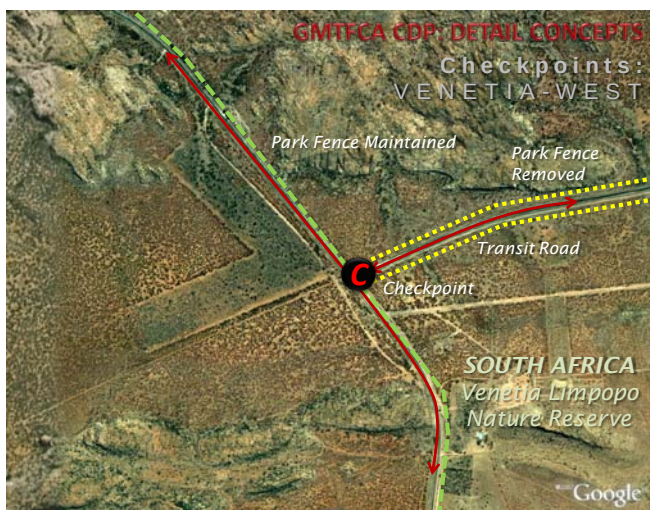


Figure 40: Venetia- West Checkpoint



Figure 41: Venetia- East Checkpoint

4.6.4.2 Ports of Entry and Informal Crossings

To enable tourist access within the TFCA two types of interventions are proposed - Ports of Entry and Informal Crossings.

The Ports of Entry are based on the existing Port of Entry at Pontdrift yet expanding this to include the Limpopo Valley Airfield Port of Entry, effectively functioning as a single administrative unit, inclusive of the Zimbabwe officials enabling aerial access to and through the TFCA. A new one stop Port of Entry has been proposed between South Africa and Zimbabwe –Homba – situated on the eastern side of the TFCA, while another has been proposed at the partially completed Mmamadaka in the north western side of the TFCA between Botswana and Zimbabwe. These Ports of Entry will significantly contribute to increasing tourist movement to and through the GMTFCA (refer Figures 42-44).

Informal Crossings for use within the core area of the TFCA have been proposed for (refer Figures 45-48) Musimani; Sentinel; Confluence; Rhoadesdrift; and Pitsane. These informal crossing points will only be used by guided tourists, following proper protocols based on the guidelines and standard operating procedures as developed by the Security Working Group of the GMTFCA structure.



Figure 42: Limpopo Valley Airfield and Pontdrift



Figure 43: Homba Port of Entry



Figure 44: Mmamadaka Port of Entry

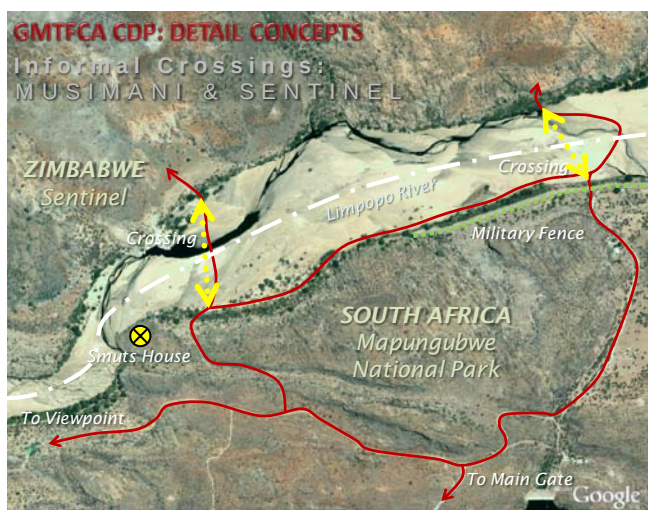


Figure 45: Musimani and Sentinel Informal Crossings



Figure 46: Confluence Informal Crossing



Figure 47: Rhodes Drift Informal Crossing



Figure 48: Pitsane Informal Crossing

4.6.4.3 TFCA Tourism Developments

Despite the vast opportunities that exist for tourism development within each component of the GMTFCA, only two TFCA specific tourism developments have been proposed as essential to initiate and support the TFCA Tourism Products that have been recommended for the TFCA. These are the Musimani Trail Camp and the Fort Tuli Trail Camp (refer Figures 49-50).

The Musimani Trail Camp consists of two separate, yet linked developments, the first being a permanent trail camp, consisting of several tented units with a central boma/kitchen area, while the second consists of a 4X4 Trail campsite, where infrastructure is limited to two showers and enviro-loos under large trees on the banks of the Limpopo. The theme for the Musimani Trail Camps should reflect the early traders that plied their trade along this route.

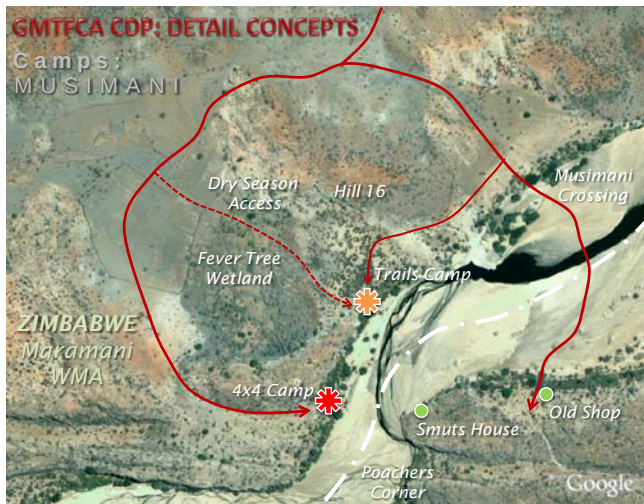


Figure 49: Musimani Camp



Figure 50: Fort Tuli Camp

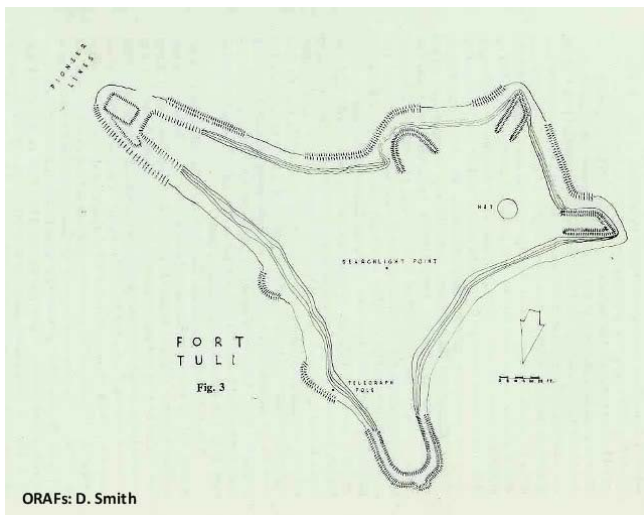


Plate 6: Fort Tuli – Pioneer Lager

Photographs taken by W. Ellerton Fry of the Pioneer Column and Fort Tuli from his original book [The Occupation of Mashonaland](#) published in 1890

4.6.4.4 Agricultural Support Nodes and Enclaves

Critical to the success of the GMTFCA is the establishment of agricultural support nodes within the Zimbabwe component of the TFCA. Initial work has been undertaken at the Shashe Irrigation Scheme, yet this pilot project should be rigorously interrogated since the lessons learnt here will form the basis for the interventions at the other irrigation schemes and projects (refer Figure 51).

Recognising the important role that the existing agricultural schemes, such as Nottingham, Sentinel and Tuscanen, play in the area, efforts to ensure that potential human wildlife conflict is minimised should be encouraged, including the construction of elephant restraining lines around these developments (refer Figures 52-54).

Within Shashe Village and the MPNP, exclosures have been utilised to reduce the impact of elephant on riparian vegetation, and these methods could serve as example for these efforts.

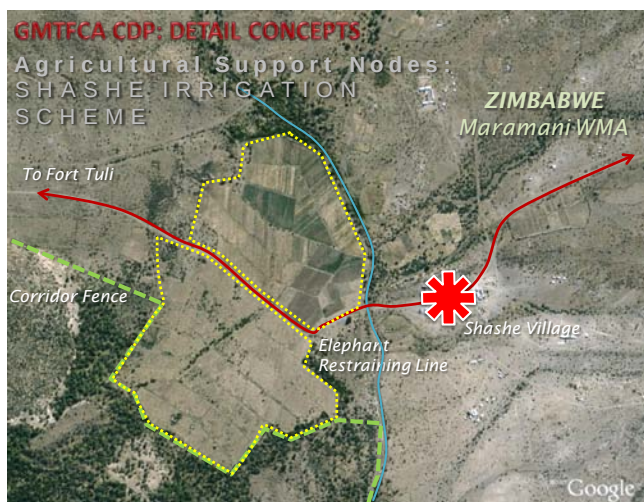


Figure 51: Shashe Agricultural Support Node



Figure 52: Nottingham Agricultural Enclave



Figure 53: Tuscanen Agricultural Enclave



Figure 54: Sentinel Agricultural Enclave

4.6.5 TFCA Tourism Products

The list of TFCA Tourism Products (Cross Border Activities) provided within the IDP for the GMTFCA is by no means exhaustive, and can be expanded as the concept of cross border tourism products gains acceptance. Aspects that can be elaborated in future include horse trails, traversing concessions and lodge developments.

4.6.5.1 Mapungubwe Eco Trail

The GMTFCA, and specifically Sentinel Ranch and Nottingham Estate, is blessed with numerous examples of dinosaur fossils, as well as an abundance of beautiful scenery and wildlife. The Mapungubwe Eco Trail affords the opportunity to visitors to explore the region and enjoy the attractions inherent to the area. It is recommended that a three day experience be packaged to highlight these attractions (refer Figure 55).

Day 1: Guests arrive at Sentinel camp, accessing either from the Sentinel, Homba or River Ranch Gates, or from Mapungubwe National Park, where they will be met by a guide and escorted over the Limpopo at the historical Musimani Crossing close to Poachers Corner. After settling into the camp, guests will walk to the top of a nearby sandstone ridge and cliff where they will receive an introduction to the region, its geological significance and the fossilisation process. Following this orientation, guests return to the camp, enjoy sundowners and dinner.

Day 2: After breakfast, guests depart for the WHS Interpretative Centre at Mapungubwe NP for a detailed orientation and discussion, after which the group visits Mapungubwe Hill and the confluence viewpoint where snacks are served. The rest of the morning is spent slowly returning to the camp, crossing the Limpopo and stopping at several scenic and geologically significant sights amongst the sandstone cliffs. Following lunch and a siesta, the afternoon sees guests visiting the fossil sites on Sentinel Ranch, exploring the riparian zone along the Limpopo.

Day 3: Once breakfast has been enjoyed by guests, the group departs on a long loop initially exploring the sandstone ridges, after which the deeper bush and Shashe Village is visited, including a visit to a pioneer history site overlooking a water hole. Lunch is enjoyed en route, with guests returning to camp in the late afternoon.

Day 4: Following a leisurely breakfast, guests depart for home, or continue with their journey. Guests that entered from Mapungubwe National Park are escorted back to the Main Gate.

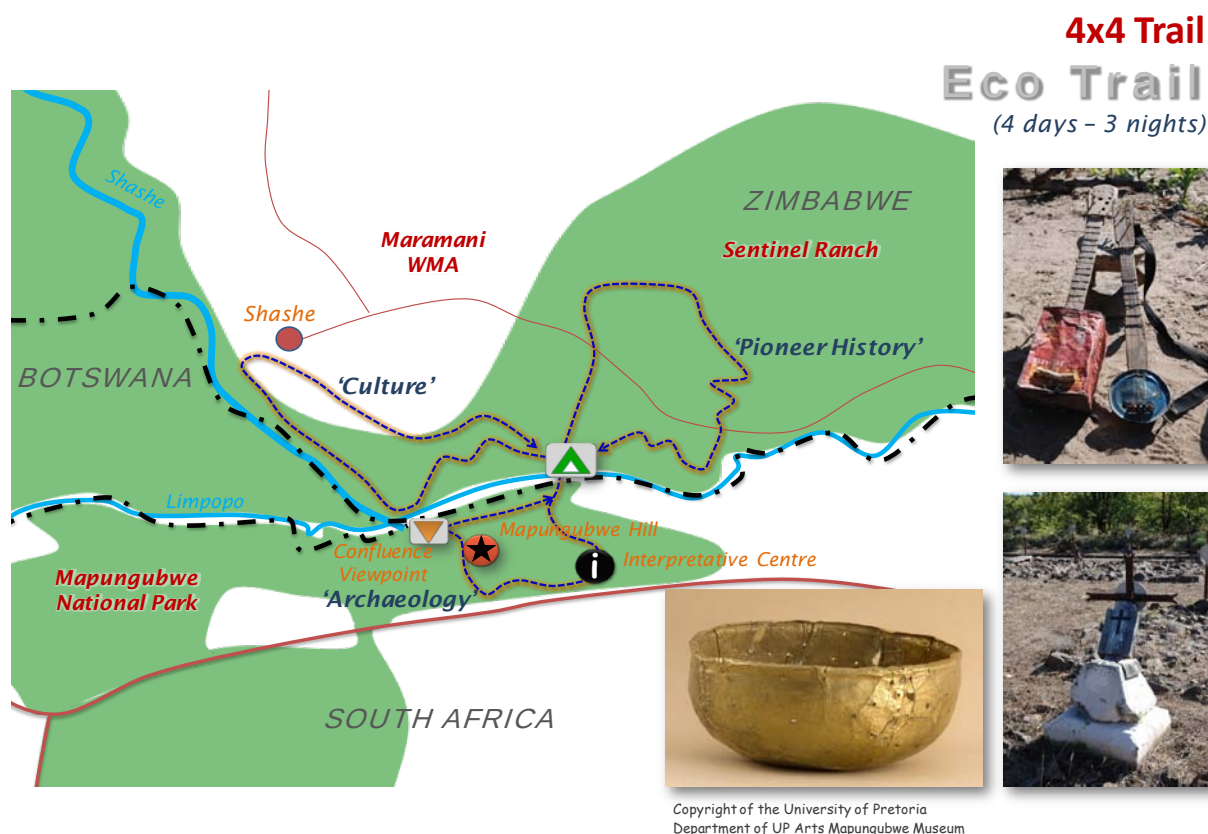


Figure 55: Eco Trail

4.6.5.2 Pioneer Route

The GMTFCA has a deep rooted Pioneer history, mainly associated with Cecil John Rhodes and the BSA Company, with several sites significant within the Anglo-Boer War. Fort Tuli features prominently in this history, including the influence on the international border between Zimbabwe and Botswana. A three day guided 4x4 experience will provide visitors with insight into this history (refer Figure 56).

Day 1: Guests arrive at the Musimani Camp, a dedicated 4x4 campsite on the banks of the Limpopo, settle in, after which the group walks to a viewpoint for sundowners and an orientation talk.

Day 2: Following breakfast the group packs the vehicles and depart for the Mapungubwe WHS Interpretative Centre, Mapungubwe Hill and the confluence viewpoint before crossing the Limpopo and enjoying lunch on the banks of the river. The trail follows the Shashe River to Fort Tuli where guests pitch camp close to Fort Tuli. Sundowners are enjoyed overlooking the landscape from the Fort.

Day 3: Early morning sees guests visiting the Fort at sunrise, after which breakfast and the striking of camp is undertaken. The route takes guests out of the Park to the Pioneer Memorial, and several sites along the river, e.g. the Irrigation Schemes etc., before returning to the Musimani Camp. Lunch is enjoyed in the bush at Sentinel Ranch, before returning to camp.

Day 4: After a leisurely breakfast, guests strike camp and return home or continue on their journey. Guests arriving from Mapungubwe National Park are escorted back to the Main Gate.



Figure 56: Pioneer Route

4.6.5.3 Mapungubwe Iron Age Trail

Focussing on the cultural heritage resources associated with the Mapungubwe Cultural Landscape, this interpretative trail incorporates aspects such as the Mapungubwe WHS Interpretative Centre, Mapungubwe Hill, Leokwe Hill, Mmamagwe Hill and several other sites (refer Figure 57).

As a guided trail, many of the smaller sites can be incorporated since these would be interpreted by the field guide and follow strict guidelines.

Day 1: Guests will arrive throughout the afternoon on day one. They will be received by the guides and lead vehicle at the Shashe and Limpopo Confluence viewing deck, the start and end point of the journey. After

everyone has arrived, and enjoyed welcoming drinks and snacks, the party will proceed to the Musimani camp in the Zimbabwe Component of the GMTFCA. The fire will be lit, and dinner prepared. After dinner a presentation will be made, describing what guests can expect from the trip, and detailing the cultural history of the area.

Day 2: After a relatively early breakfast the party will strike camp, and head for the Mapungubwe WHS Interpretative Centre, after which a guided tour of the hill will take place. By this time it should be late morning, and after enjoying refreshments, the group will travel via the aerial walkway, to the Rock Art site, Leokwe Hill, and through the sandstone ridges on the western side of Mapungubwe National Park, before turning north to the Limpopo.

Day 3: After an early morning visit to the wetland viewpoint the camp is struck and guests cross the Limpopo into NOTUGRE, where the rest of the day will be spent slowly travelling towards the overnight stop in the vicinity of Mmamagwe Hill. Sundowners can be enjoyed at Mmamagwe Hill, another of the major sites of cultural significance within the GMTFCA.

Day 4: Day four will be the longest driving day of the entire trip, and the group will after an early breakfast, pack up camp and head north-east to enter the Tuli Safari Area. Large amounts of wildlife should be seen en route and a slow pace will be followed through the bush. Lunch will be enjoyed en route. The group will drive along the riparian zone of the Shashe River to overnight at a camp on the river. Sundowners will be enjoyed at Fort Tuli, before returning to the camp on the river.

Day 5: Day five will get off to a slow start, with a scrumptious breakfast, and will then continue along the Shashe River towards Shashe Village where refreshments can be enjoyed. The route continues via the Limpopo/Shashe Confluence to the Musimani Camp. The final night is spent discussing observations, the history of conservation in the area, and the role that the GMTFCA plays in protecting this cultural landscape.

Day 6: Following a leisurely breakfast camp is struck and guest cross the Limpopo for a final visit to the viewpoint and WHS Interpretation Centre. After a final refreshment stop, debriefing and greetings, guests can return home or continue on their journey.



Figure 57: Mapungubwe Iron Age Trail

4.6.5.4 Confluence African Foot Safari/Mountain Bike Trail

Guided hiking trails afford guests the opportunity to experience Africa through the “souls of their feet”. Based on the successes of the various wilderness trails in the Kruger National Park, and now also being offered in the Kgalagadi Transfrontier Park, wilderness trails have become a popular adventure option.

Recognising that Mapungubwe does not offer true wilderness in the strict IUCN sense, the Mapungubwe cultural landscape in the region of the confluence of the Limpopo and Shashe Rivers does offer magnificent scenery, rich cultural heritage, and can combine the selective use of a game drive vehicle and walking to provide a world class adventure option (refer Figures 58-59).

Day 1: During late afternoon (15:00) guests arrive either at Shashe Village or at the Mapungubwe National Park Main Gate, get met by the field guide or Trail leader and assistant, after which their equipment is transported to the wilderness camp. After settling into camp guests are transferred to the confluence viewpoint for welcoming drinks and snacks, where they are briefed about the trail, the area, and the team. The final 1,5km is walked along game trails and paths. Guests arrive in camp just before sunset and enjoy drinks around the campfire. Just prior to main course, the trail leader/guide briefs the guests about Mapungubwe and its cultural significance.

Day 2: Following early morning coffee and rusks around the campfire, guests depart on a walk to Mapungubwe Hill after which they enjoy breakfast (“Bush Bonnet Buffet” style). Guests are transferred to the Mapungubwe WHS Interpretative Centre and then to the confluence viewpoint from which they walk down to, and across the confluence back to the campsite in Zimbabwe, where snacks and drinks are served. Guests relax over the heat of the day, after which they embark on a short late afternoon stroll amongst the sandstone ridges returning to camp to refresh and enjoy dinner.

Day 3: Guests get an early morning wake-up call of coffee and rusks, after which they embark on a walk to the Limpopo/Shashe Confluence before returning to camp for brunch and a siesta. Following snacks and tea, the guide takes the guests on a walk through the sandstone ridges along the Limpopo and back to camp for dinner. Discussion around the campfire pertains to the guests experience of the natural beauty, wildlife and cultural significance of the Mapungubwe Cultural Landscape to the region and its people.

Day 4: After a leisurely morning around the campfire, enjoying coffee and rusks, as well as breakfast guests can either walk back across the Limpopo to the confluence viewpoint, or travel by game drive vehicle, for a final greeting at either the viewpoint or at the confluence before being transferred to their vehicles at the Mapungubwe Main Gate or Shashe Village before returning home or continuing on their journey.

Based on the Confluence African Foot Safari concept, the facilities can be used for a mountain bike trail, which will allow GMTFCA to build forth on the adventure options offered by Mashatu in Botswana, and the successes of the Tour de Tuli. The distance are slightly longer than those on the hiking trail, yet the story line and logistics stay the same (refer Figure 41).

4.6.5.5 NOTUGRE Day Visitors Access

The Mapungubwe Cultural Landscape is one of the GMTFCA's main attractions, and the award winning WHS Interpretative Centre should be utilised for all the partner countries as a “must visit” for any visitor to the Greater Mapungubwe Transfrontier Park. In compliance with the operational rules of NOTUGRE it is recommended that visitors from NOTUGRE meet at the Limpopo Valley Airfield, from where guided game drive vehicles transfer guests to the WHS Interpretative Centre and back. No self drives and no vehicles other than those of NOTUGRE may be used.

In this way guests to the Botswana component of the GMTFCA can also seamlessly visit the WHS without breaching the traversing rules of NOTUGRE (refer Figure 60).

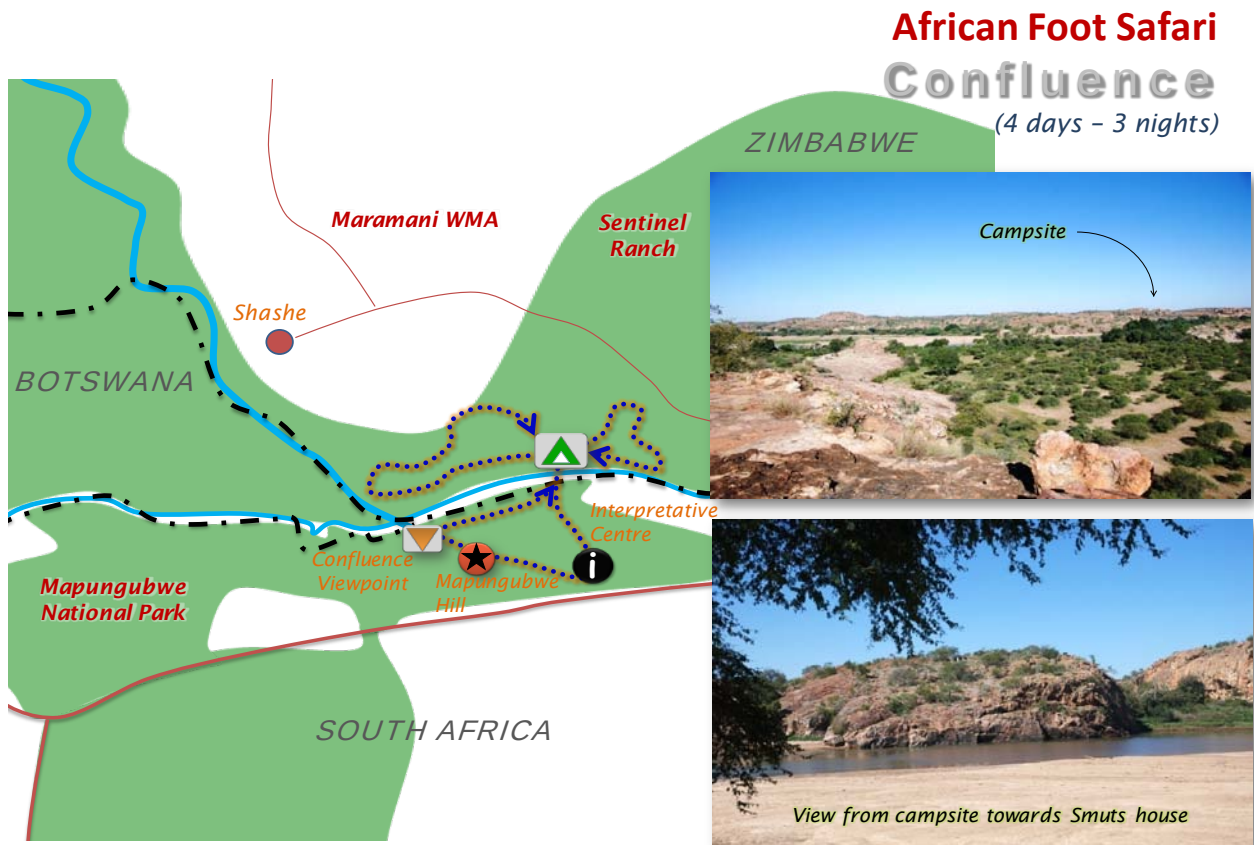


Figure 58: African Foot Safari

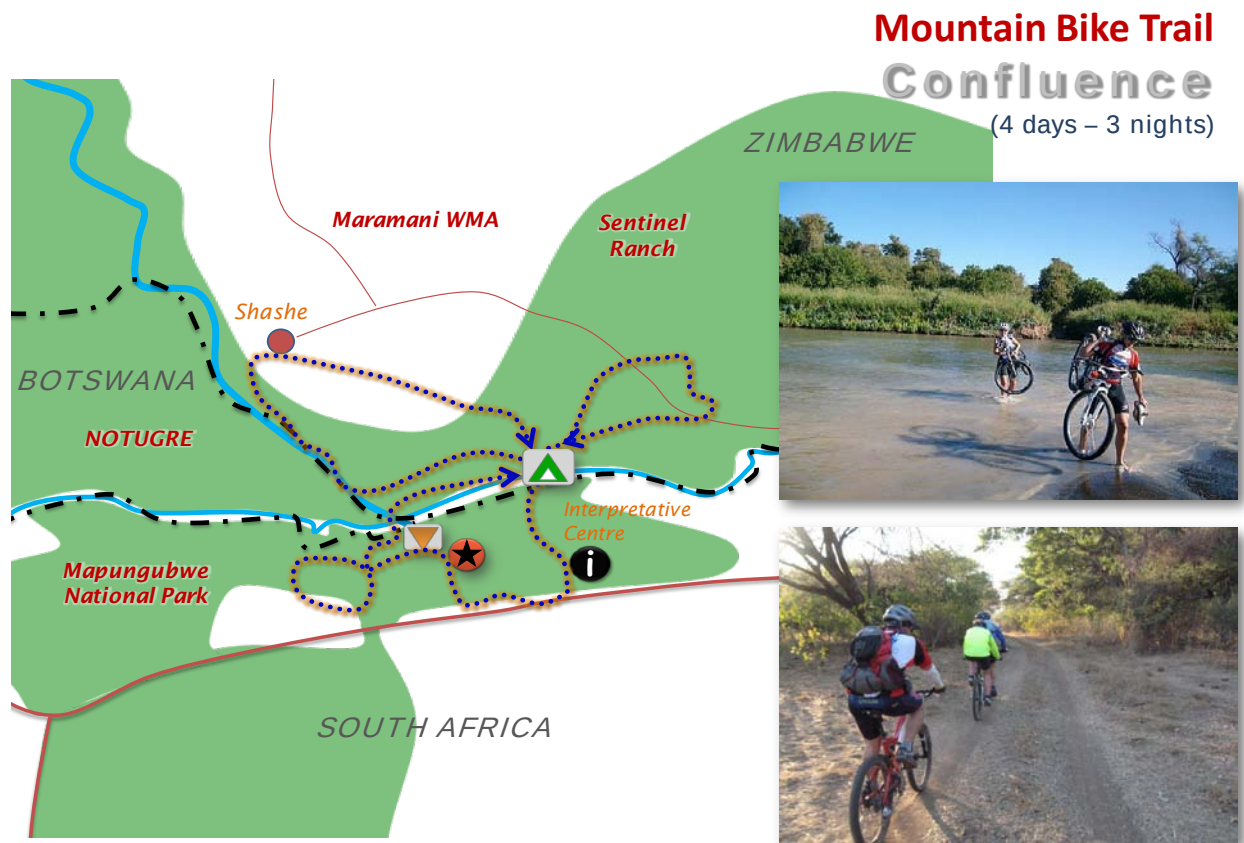


Figure 59: Mountain Bike Trail



Figure 60: NOTUGRE Day- Visitors

READING LIST

Publications

Berry, M. and Cadman, M. 2007. Dongola to Mapugubwe, The 80-year battle to conserve the Limpopo Valley. Mmabolele Press, Swartwater

Development Bank of Southern Africa, 2002. Mapungubwe Tourism Initiative, Conceptual Tourism Destination Plan, November 2002. (SIVEST Report)

Huffman, T.N. 2001. Mapungubwe, Ancient African Civilisation on the Limpopo. Wits University Press, Johannesburg.

TTC and Working Group Documents

Institutionalisation and Benefits:

- Memorandum of Understanding, June 2006
- Feasibility Study / Motivation Report
- Draft Treaty
- TTC Procedural Guidelines
- Needs and Expectations Workshop Outcomes ~ Zimbabwe
- Needs and Expectations Workshop Outcomes ~ Botswana
- Report on Strategic Plan Exercise, January 2008
- Strategic Plan and Project List, March 2009
- Safety and Security Plan
- Proposal for Facilitation, Participation and Empowerment of Communities

Resource Management:

- Mapungubwe Cultural Landscape World Heritage Nomination Dossier, January 2002
- IMP for Natural and Cultural Heritage Resources in the Vhembe / Dongola National Park, September 2003
- Project Proposals for Cultural and Tourism Management Plans for Mapungubwe World Heritage Sites
- Cultural Heritage Survey
- Cultural Heritage Management Plan
- Rock Art Site Management Plans (MPNP)
- Terms of Reference – Elephant Conservation Policy and Management Plan
- Predator Management Plan
- Tuli Lion Report (regular formal reports)
- Websites for predator and elephant research
- General game census reports (Mashatu researchers)
- MPNP Management Plan (all additions)
- SANParks game counts; wetland rehabilitation project

Tourism:

- Integrated Tourism Plan, September 2009
- Tourism Management Plan, November 2009
- Limpopo Valley Airfield Operational Plan
- Concept Entry Proposals

SUPPORTING DOCUMENTS

GMTFCA TTC. 2010. Greater Mapungubwe Transfrontier Conservation Area Integrated Development Plan Consultation and Review Report, July 2010.

APPENDICES

APPENDIX 1. TOURISM ACCOMMODATION

Table 40: Tourism Accommodation

Component	Facility	Catering	Bed Capacity
BOTSWANA			
NOTUGRE	Dopotta	Self	24
	Eagle's Nest	Self	8
	Fairfield	Self	10
	Fika Futi	Self	8
	Hatari	Self	12
	Jwala	Self	16
	Jwala Tended Camp	Self	9
	Kanda	Self	8
	Limpopo	Self	12
	Limpopo Camp	Self	10
	Limpopo Valley Horse Safaris	Fully	8
	Mashatu Main Camp	Fully	28
	Mashatu Tented Camp	Fully	16
	Matombe	Self	10
	Migwe Camp	Self	8
	Mohave Wilderness Camp	Fully	12
	Naledi	Self	12
	Nitani	Fully	10
	Nokalodi	Fully	8
	Nokalodi Tended Camp	Self	10
	Nurnberger	Self	8
	Papate	Self	8
	Redshields	Self	10
	Reinhardt van Rensburg	Self	25
	Rock Camp	Self	8
	Santhatha	Self	12
	Sethare	Self	10
	Shalimpo	Fully	10
	Shashe Camp	Self	12
	Tuli Lodge	Fully	16
	Tuli Lodge (Campsite)	Self	4 sites
	Tuli Trails 1	Fully	10
	Tuli Trails 2	Fully	8
	Willem's Camp	Self	25
Community Land West of NOTUGRE	Information unavailable		
Central Tuli Private farms	Malema		8
	Kwa-Tuli Island Camp		10
	Kwa-Tuli Koro Camp		10
SOUTH AFRICA			
MPNP	Tshugulu Lodge	Self	12
	Little Muck Lodge	Self	19

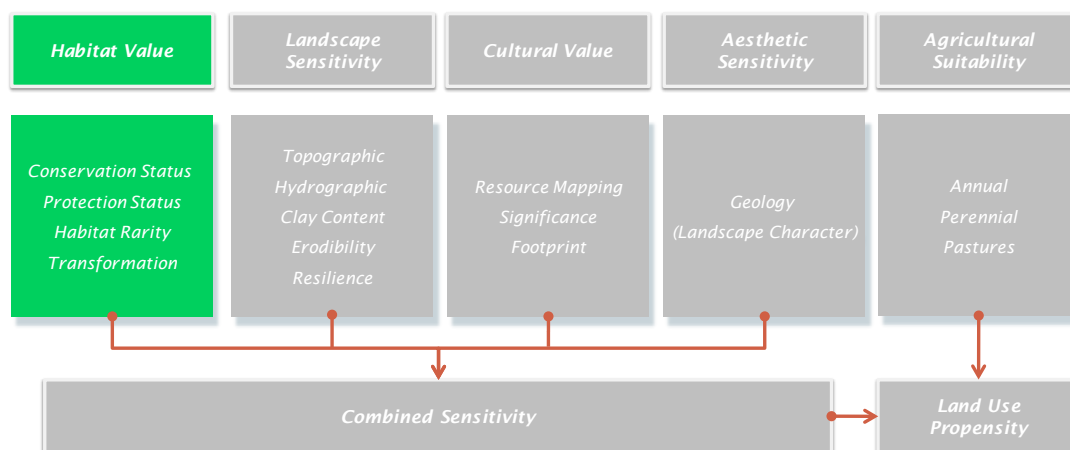
<i>Component</i>	<i>Facility</i>	<i>Catering</i>	<i>Bed Capacity</i>
	Limpopo Forest Tented Camp)	Self	16(8*2)
	Limpopo Forest Campsite (Mazhou Camping Site	Self	60 (10*6)
	Leokwe Camp	Self	72
	Rhodes Drift Lodge	Self	14
	Vhembe Wilderness Camp (Schroda)	Self	8
Venetia Limpopo Nature Reserve	Mopane Camp	Self	24
	Faure Research Camp	Self	24
Limpopo Valley Game Reserve	Dongola Ranch	Self/Fully	68
	Dongola Ranch Camp & Caravan	Self	32 sites
	Mopani Bush Lodge	Fully	16
	Klein Bolayi Game Lodge	Fully	28
	Evelyn Lodge	Fully	10
Vhembe Game Reserve	Information unavailable		
Magalakwena Private farms	Information unavailable		
Private RSA farms (West, Central, East	Ratho Game Lodge (Ratho Farm)	Fully	16
	Khioxa (Machete Farm)	Fully	14
ZIMBABWE			
Tuli Circle / Maramani WMA	Wildlife Society Camp	Self	16
	Hunting Camp	Self	8
	Hunting Camp	Self	8
	Hunting Camp	Self	8
Sentinel Ranch	Sentinel Limpopo Safari Camp	Fully	9
	Sentinel Private Camp	Self	8
Nottingham Estate	Greater Kuduland Safaris Camp	Fully	12
	Nottingham Estates Fishing Camp	Fully	20
River Ranch	Information unavailable		0
Machuchuta WMA	Information unavailable		0
Hwali WMA	Information unavailable		0
Halisupi WMA	Information unavailable		0

APPENDIX 2. SENSITIVITY ANALYSIS

The Sensitivity Analysis is used as a decision support tool for integrating systematic conservation planning principles and best available biodiversity knowledge into spatial planning for TFCAs. By analysing the sensitivities and suitabilities of the study area in a scientific manner the bias commonly associated with conservation planning is removed, ensuring that the planning process also addresses other aspects necessary for integrated solutions within a region with a strong conservation focus. Integration is essential to ensure equitable access to resources, both natural and cultural, while allowing for controlled access, development and the provision of requisite infrastructure.

The methodology for analysing the various individual environmental sensitivities and suitabilities are set out below.

Habitat Value



The Habitat Value process determines what an area contributes to the international, national and regional conservation estates and highlights the remaining high value areas that act as critical habitat for multiple species of fauna and flora. Habitat units are defined by a particular vegetation community as a broad proxy for biodiversity, representing the best available summary of biodiversity across a specific landscape. Values are assigned according to the contribution that each type makes to the conservation estate. It also analyses the Protection Status, recommending protection for under protected habitats that are outside the formal protected areas network. The rarity of the habitats is also assessed as attempts need to be made to conserve a broad range of diversity as possible. Greater importance is therefore given to habitats that are not common in the region. It is important to revise the habitat value with the type and level of transformation that had occurred in the study area so a subtraction is made to simulate the level of transformation.

Local Conservation Status

This layer is similar to the international IUCN categories, classifying vegetation types according to threat levels. Riparian Woodland on wetlands and alluvium are Critically Endangered in the study area, while Riparian Shrubland on alluvium and other riverine types are Endangered (refer Table 41 and Map 45).

Local Protection Status

Similar to a gap analyses on a local scale, this layer scores each vegetation type according to the level of protection it receives in the study area. Tuli Circle Safari Area, Mapungubwe National Park, NOTUGRE and Venetia GR were identified as formal protection. Jubernardia Woodland, Limpopo Sweet Bushveld and Thicket Woodland (Mopane dominant), Limpopo Ridge Bushveld and Mopani Woodland (Granophyre) are under protected in the study area (refer Table 42 and Map 46).

Habitat Rarity

Rather than overall rarity, this layer assesses the representivity of each vegetation type in the study area. Each type is calculated as a percentage of the total extent. Types that fall below 10% are seen as rare in the study area and therefore given a higher level of importance to conserve as broad a range of biodiversity as possible. Once again the Riparian types are underrepresented as well as Jubernardia Woodland (Granophyre) and Limpopo Ridge Bushveld (refer Table 43 and Map 47).

Transformation

The majority of the study area still under natural cover consisting mainly of Woodland interspersed with Thicket, wetlands and pans. Transformation has occurred mainly as a result of agricultural activities (both dryland and irrigation) on the fertile valley soils and along watercourses. In certain areas like the Kolohe floodplain large wetlands have been significantly modified by intensive farming practices. Other areas of intensive agriculture are the Wetlon-Denstaat-Modena enclaves in Mapunguwe NP, the Weipe group of farms to the east and the farms south of Lentswe le Moriti. Impacts as a result of mining activities are at the Venetia and River Ranch Diamond Mines and the Tuli Coal Mine (refer Table 44, Map 48 and Map 25 – Land Cover).

Table 41: Local Conservation Status

Category	Classes
Riparian Woodland (Wetland)	Critically Endangered
Riparian Woodland (Alluvium)	
Riparian Shrubland (Alluvium)	Endangered
Riverbed	
Sandbanks	
Guibourtia Mixed Woodland	Vulnerable
Jubernardia Woodland (Granophyre)	
Limpopo Ridge Bushveld	Less Threatened
Mopani Woodland (Granophyre)	
Brachystegia Woodland (Granite)	

Table 42: Local Protection Status

Category	Classes
Jubernardia Woodland (Granophyre)	< 1%
Limpopo Sweet Bushveld	
Thicket Woodland (Mopane dominant)	
Limpopo Ridge Bushveld	10 - 20
Mopani Woodland (Granophyre)	
Riparian Shrubland (Alluvium)	20 - 40
Guibourtia Mixed Woodland	
Riverbed	
Riparian Woodland (Alluvium)	>40
Riparian Woodland (Wetland)	

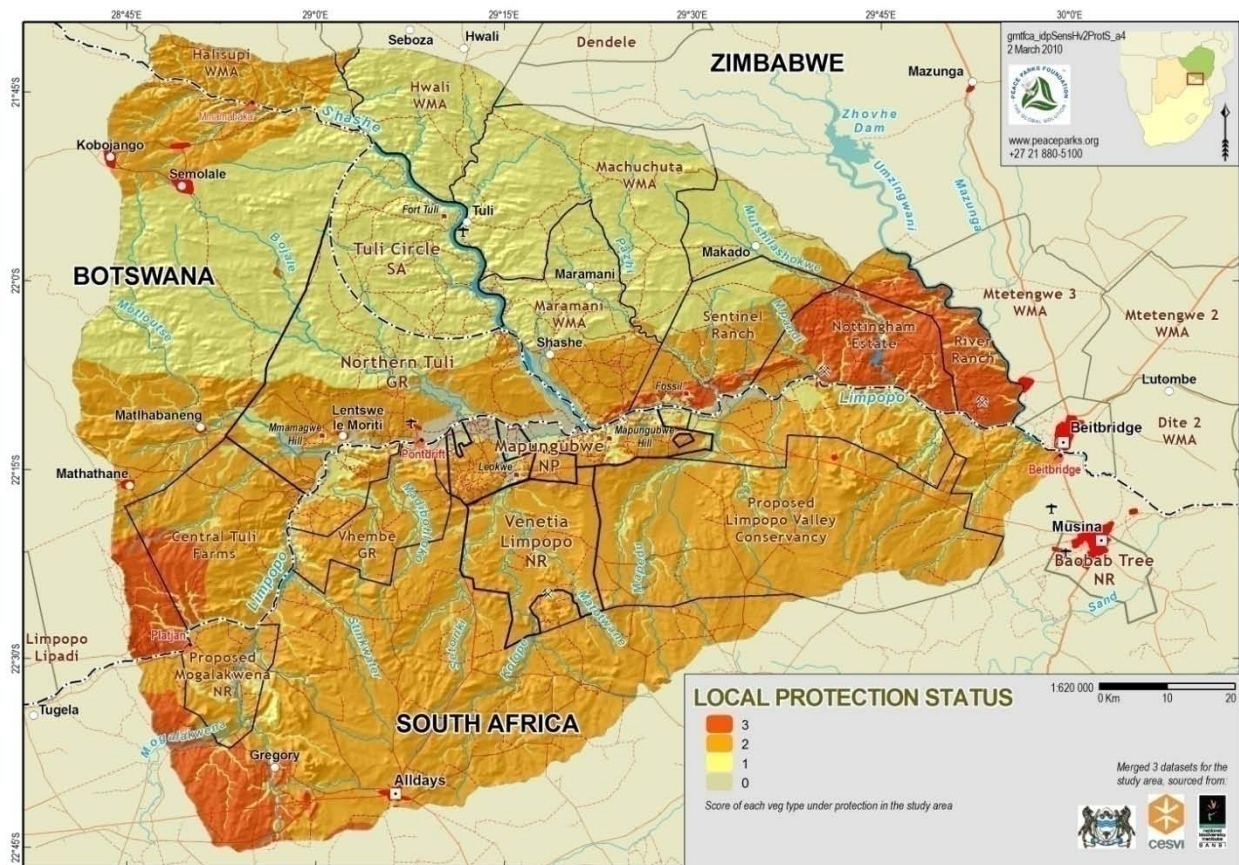
Table 43: Habitat Rarity

Category	Classes
Riparian Woodland (Wetland)	0 – 5 %
Sandbanks & Riverbed	
Riparian Woodland (Alluvium)	
Jubernardia Woodland (Granophyre)	5 – 10 %
Limpopo Ridge Bushveld	
Riparian Shrubland (Alluvium)	10 – 15 %
Guibourtia Mixed Woodland	> 15 %
Mopani Woodland (Granophyre)	

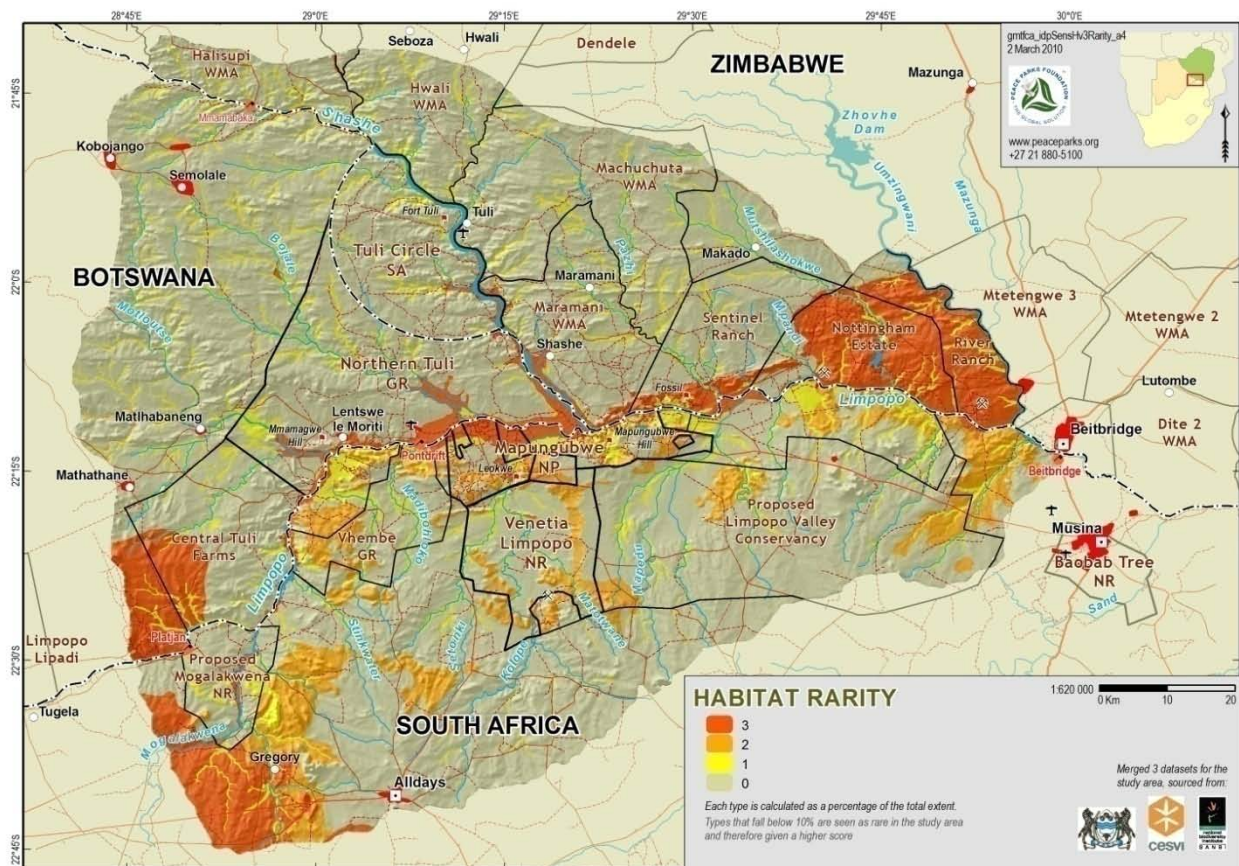
Table 44: Transformation Adjuster

Category	Classes
Built-up: major roads (Main, Secondary)	-5
Built-up: industrial	Taken to zero
Built-up: commercial	Taken to zero
Cultivated, commercial, dryland	-4
Cultivated, commercial, irrigated	Taken to zero
Dams	-3
Degraded forest and woodland	-2
Mines and quarries	Taken to zero

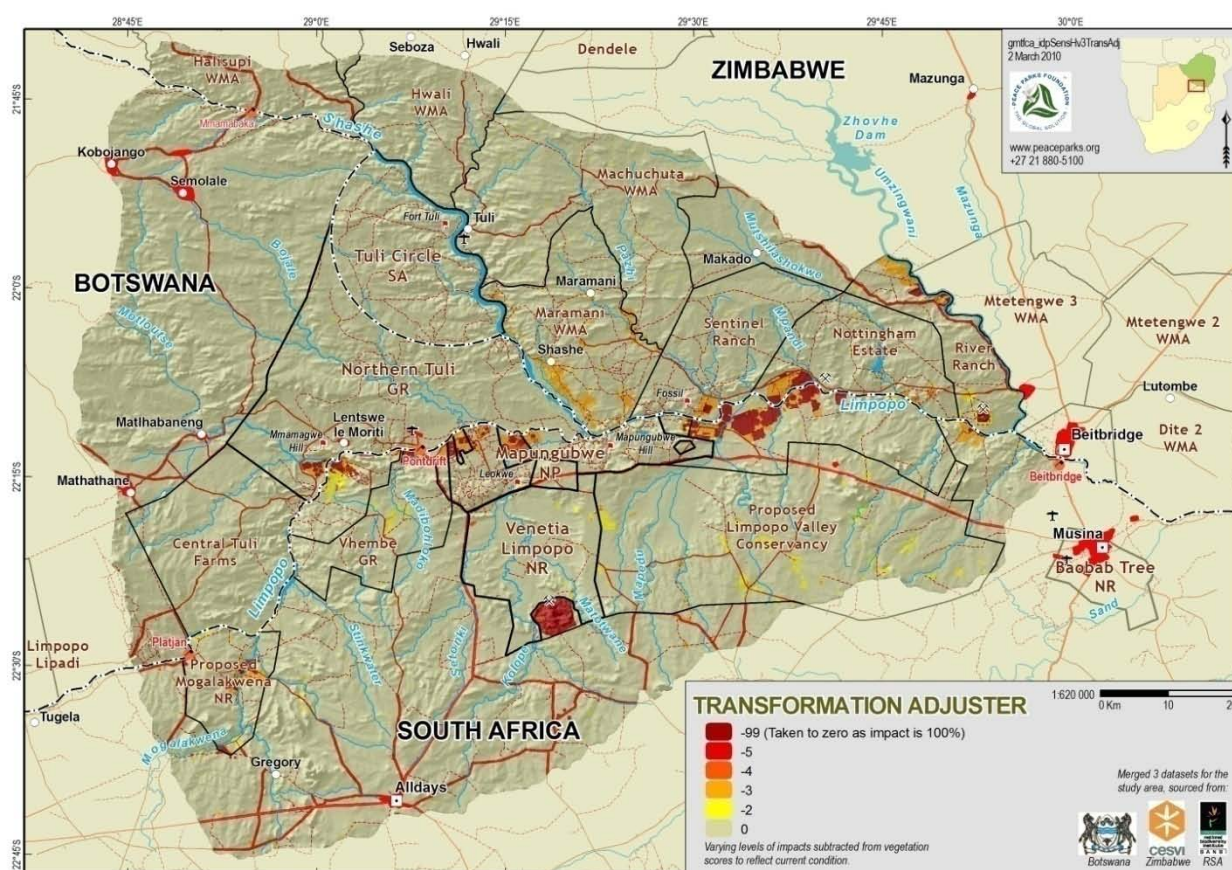

Map 45: Local Conservation Status



Map 46: Local Protection Status

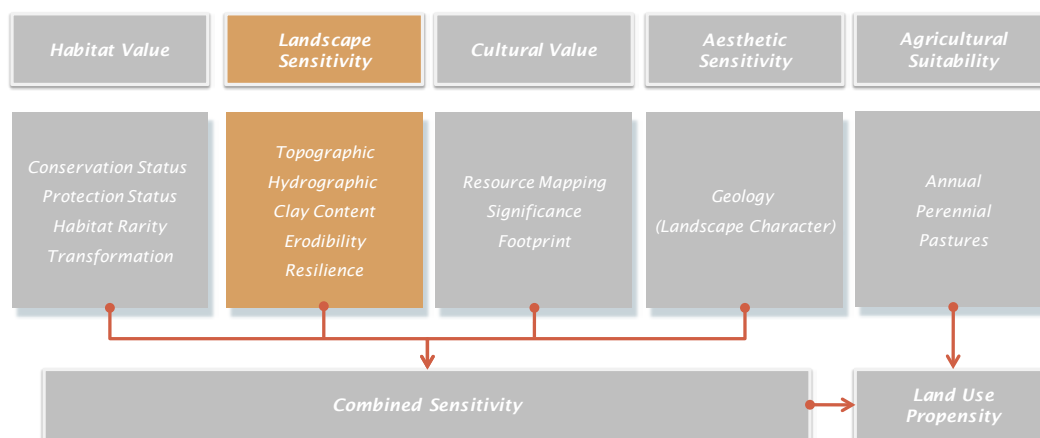


Map 47: Habitat Rarity



Map 48: Transformation Adjuster

Landscape Sensitivity



This portion of the sensitivity analysis examines the vulnerability of landscapes to a variety of different disturbances and impacts. It analyses soil types in terms of their proneness to soil erosion following mechanical disturbance and unsustainable land use practices as well as potential for construction problems due to clay content. It also identifies areas important for maintaining hydrological processes where inappropriate infrastructure could be damaged by fluvial action as well as examining the vulnerability of vegetation at a physical disturbance.

Topography

Major incisive action of primary rivers, slower eroding Sandstone ridges occurs in the study area. The sandstone ridges in the TFCFA core are clearly visible on the slope map as well as the active drainage areas of the Limpopo and Shashe Rivers. Slope values in degrees were chosen as they affect suitability for construction in the protected areas environment. Slopes above 12 degrees are the cut-off point for construction where developments will cause destabilisation of slopes as well as lead to eyesores caused by cut-and-fill techniques.

The ideal slope for construction is between 2 and 6 degrees with a caution flagged for areas with no slope in terms of lack of good drainage (refer Table 45 and Map 49).

Table 45: Topographical Sensitivity

Category	Reason for Sensitivity
0-2°	Virtually no slope to make runoff possible
2-6°	Ideal slope for construction as runoff possible but not destructive
6-12°	Moderate risk of erosion following disturbance, no cut and fill
12-25°	Critical cut-of point in terms of construction. High risk of erosion following disturbance, potential slope instability, increased engineering
>25°	Effectively off-limits for construction as impacts and engineering requirements excessive.

Hydrology

This layer has two purposes: To identify areas important for maintaining hydrological processes and Identify areas where inappropriate infrastructure could be damaged by fluvial action. The identification of areas of hydrological sensitivity can either be undertaken on a catchment basis or a buffering basis. The footprint within which hydrological sensitivity is determined is defined by buffering river and wetland features by pre-determined distances. The advantage of this method is its ease of application and broad availability of acceptable quality datasets. The Primary Rivers of the Limpopo and Shashe Rivers with their floodplains and wetlands score the highest while the Secondary Rivers such as the Pazhi, Mogalakwena, Motloutse, Mapedu, Madibohloko and Mutshilashokwe also stand out (refer to Table 46 and Map 50).

Table 46: Hydrology Scores

Water Bodies	Rating	Buffering
Primary rivers	10	150
	8	300
Secondary rivers	8	150
	6	250
Tertiary rivers	6	100
	4	150
Quaternary rivers	4	100
Artificial water bodies	4	100
Perennial and non-perennial pans	8	100
	6	200
Wetlands and floodplain	10	200
	8	300

Clay Content

Each soil type is scored according to its clay content (refer Table 47 and Map 51).

Table 47: Clay Content

Category	Reason for Sensitivity
Clayey soils	Certain to lead to problems after construction
Fine loamy to clayey soils	Potential to lead to problems after construction
Fine loamy soils	No problems regarding this issue
Coarse loamy soils	
Sandy to coarse loamy soils	

Soil Erodibility

The basic soils types are scored by soil scientists according to their probability to cause erosion problems once impacted by developments. A general trend in the study area is for soils in Botswana and Zimbabwe to be more prone to erosion than in South Africa (refer Table 48 and Map 52).

Table 48: Soil Erodibility

<i>Soil Types</i>	<i>Score</i>
Eutric Leptosols	9
Cutani-Profondic Luvisols	8
Chromic Luvisols	
Haplic Luvisols	
Eutric Arenosols	6
Calcari-Fluvic Cambisols	
Calcaric Cambisols	5
Chromic Cambisols	
Eutri-Arenic Regosols	
Leptic Regosols	
Rhodic Cambisols	
Rubic Arenosols	

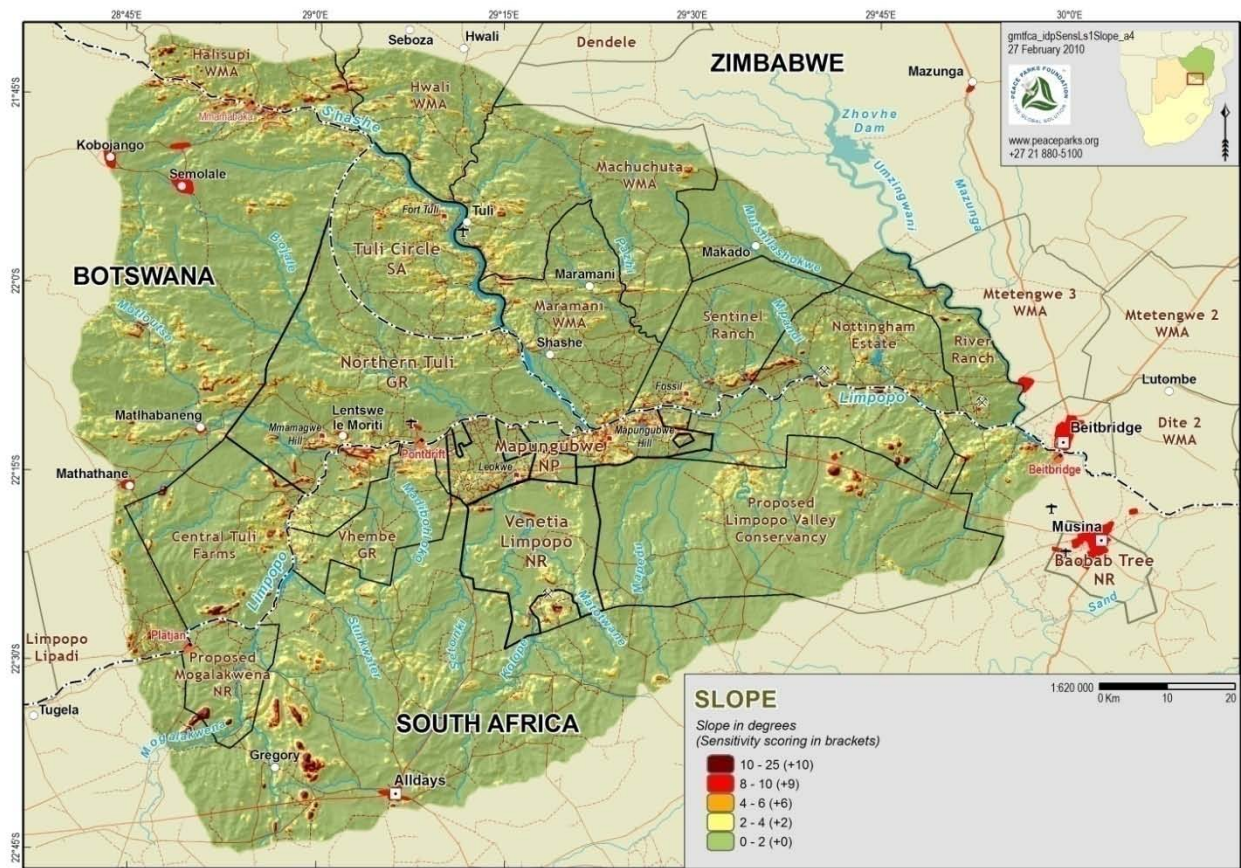
Resilience

This layer examines the vulnerability of vegetation at a physical disturbance. The type of disturbance that is typically considered is a 4x4 vehicle driving through the habitat, but depending on circumstances it may be appropriate to consider an alternative disturbance such as pedestrian traffic. The key questions asked are: How quickly does this vegetation type recover after disturbance and what is the rehabilitation potential of this area? Drier landscapes take longer to recover once impacted, whereas wetter areas recover quicker.

The Riparian Shrubland is generally more resilient due to availability of water while the Guibourtia Mixed Woodland also scores more resilient than the Mopane types(refer Table 49 and Map 53).

Table 49: Resilience

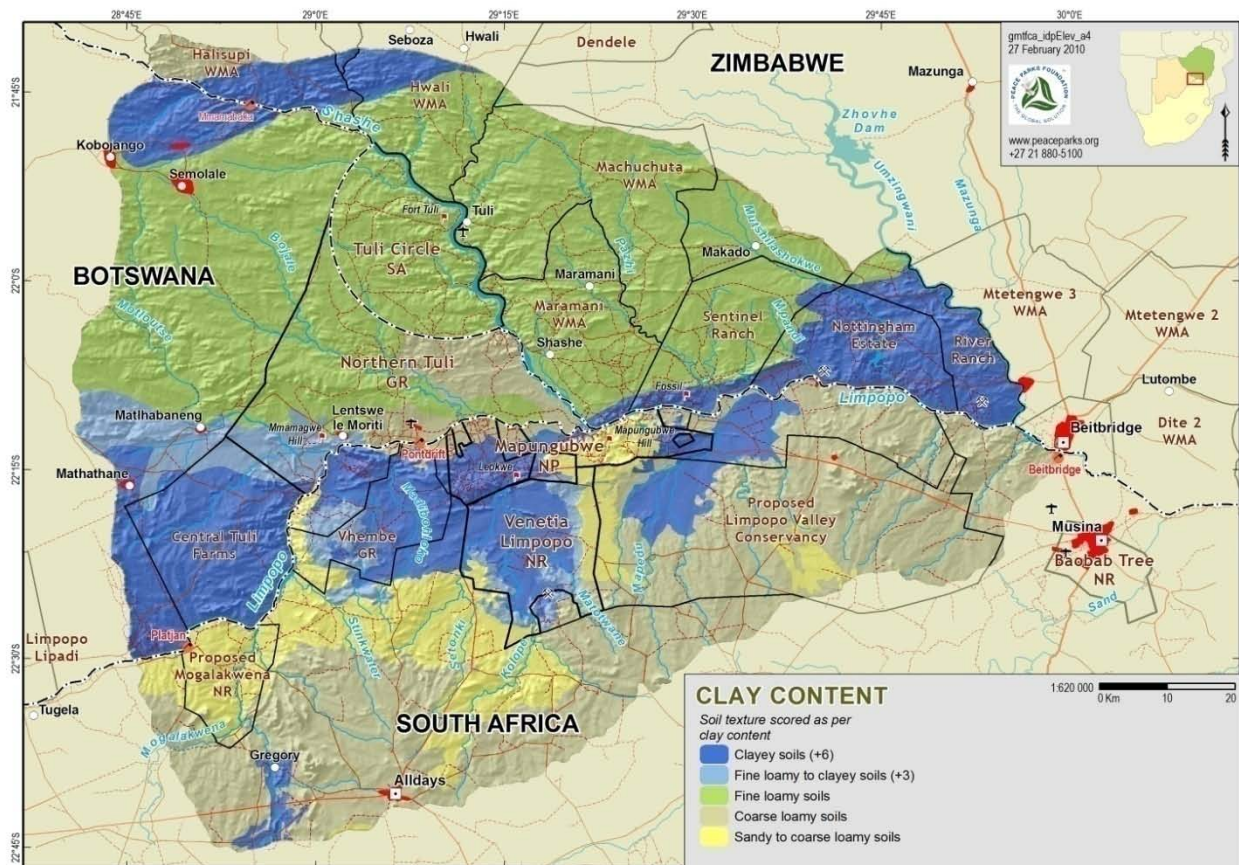
<i>Landscape Component</i>	<i>Score</i>
Riparian Woodland (Wetland)	7
Riparian Woodland (Alluvium)	8
Riverbed	2
Riparian Shrubland (Alluvium)	6
Sandbanks	7
Guibourtia Mixed Woodland	7
Jubernardia Woodland (Granophyre)	7
Limpopo Ridge Bushveld	8
Mopani Woodland (Granophyre)	8
Brachystegia Woodland (Granite)	7



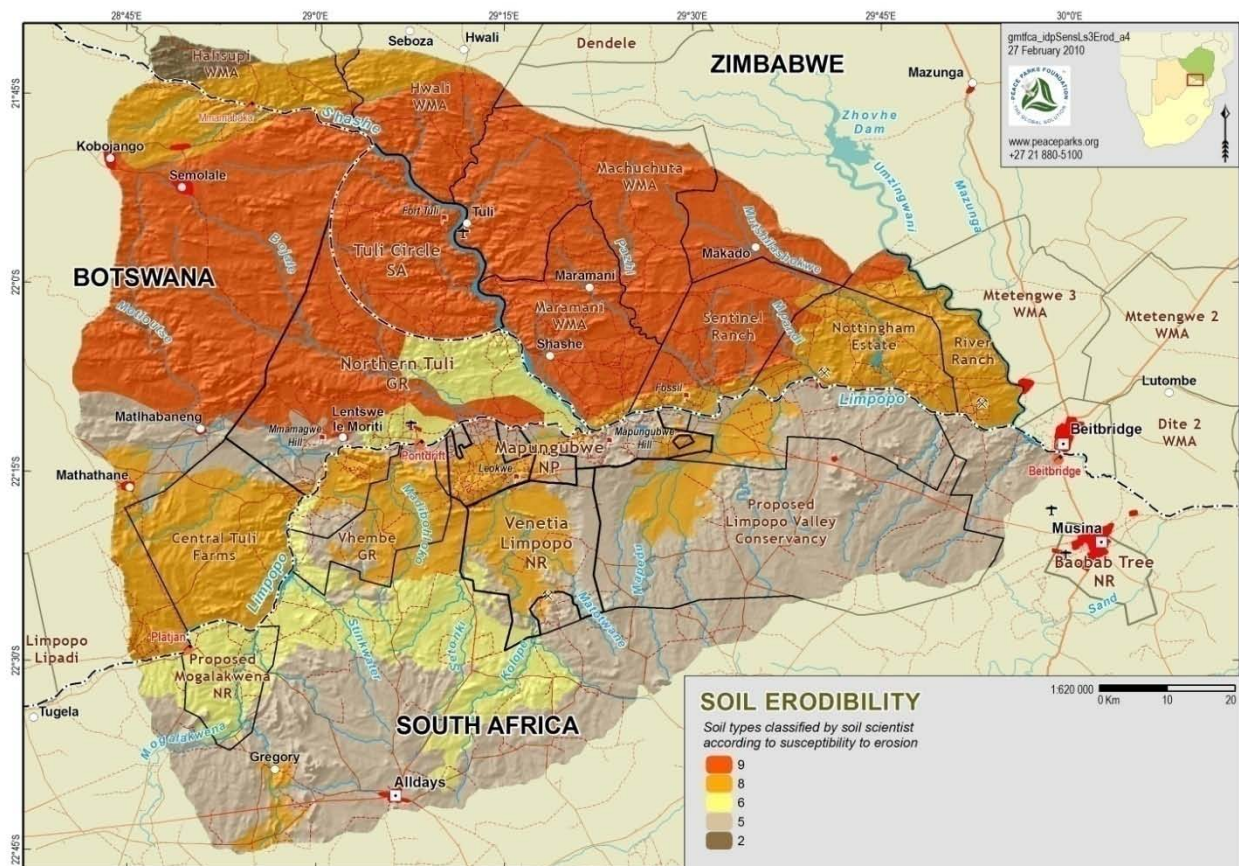
Map 49: Topographic Sensitivity (Slope)



Map 50: Hydrological Sensitivity



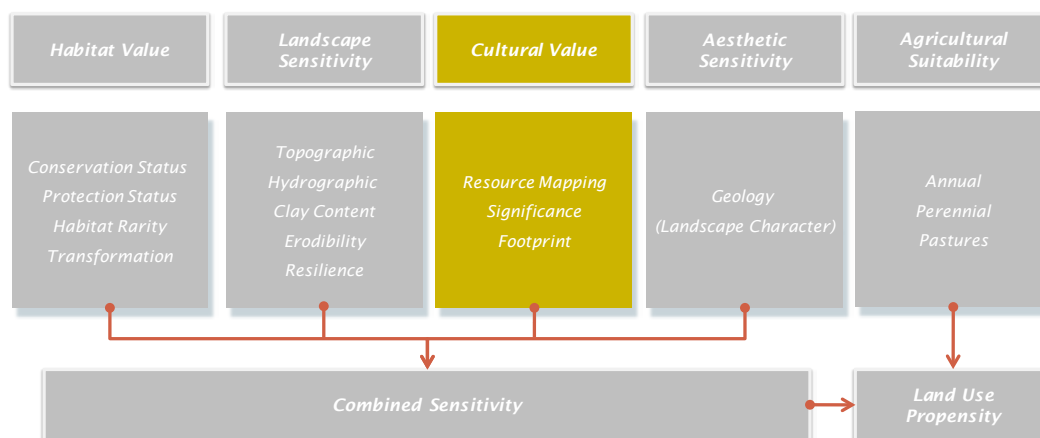
Map 51: Clay Content



Map 52: Soil Erodibility

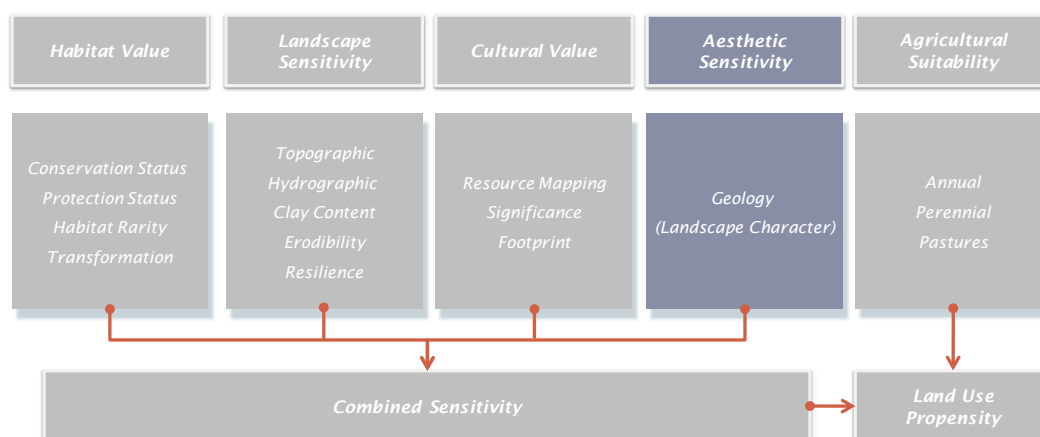


Cultural Value



Main cultural sites (K2, Leokwe, Mapungubwe, Mamagwe, Schroda) were buffered by 1000m with a score of 10, and by 5000m with a score of 6. All other excavation sites and rock art sites were buffered by 500m with a score of 10 and 1000m with a score of 6. In order to start debating the expansion of the current World Heritage Site to a Cultural Landscape for the entire TFCA, a 5km buffer is given to all sites of cultural importance. Geological features affecting to the cultural landscape is also shown in the sandstone belt running through the TFCA in an east-west alignment (refer Map 33).

Aesthetic Sensitivity



This layer flags areas with special aesthetic value. In the case of GMTFCA, the biophysical layer that influences this aspect the most is geology. The various types were scored according to their level of influence. Reasons were also given for the relevant aesthetic sensitivity.

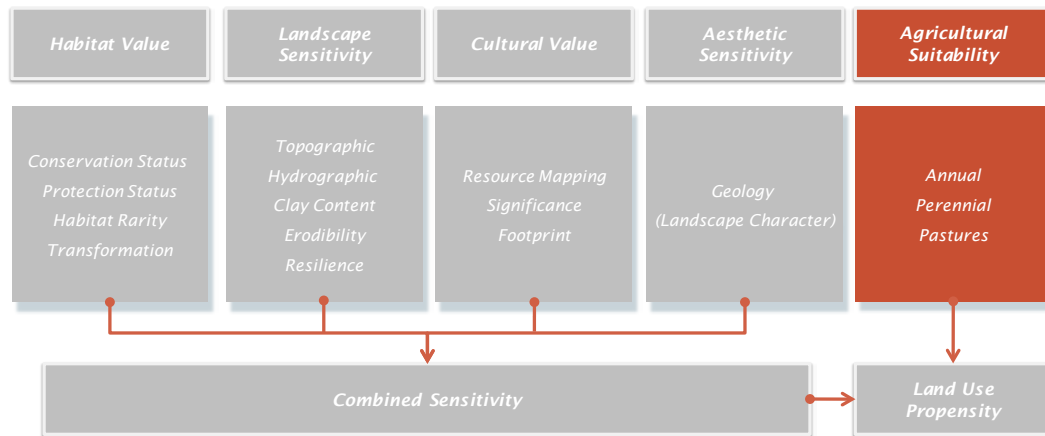
Geology

Siliciclastic or Sandstone ridges are the definitive aspect of the character of the GMTFCA landscape, giving rise to its natural aesthetic qualities and sense of place. These ridges were used by especially the San as living areas as confirmed by the rock art (refer Table 50 and Map 34).

Table 50: Geological Sensitivity

Category	Era (mya)	Reason for Sensitivity
Granite gneiss (Archaean amphibolite)	Archaean Era (3800-2500)	Diversity in soil types giving rise to vegetation diversity. Inselbergs (boulders) contribute to natural character
Granulite (from siliciclastic rocks), gneis with ferro-magnesium		
Granulite (from siliciclastic rocks), gneis with migmatite		
Marble, calc-silicate rocks		Unique microclimate (inselbergs, calcrete hill tops) giving rise to vegetation and animal diversity
Karoo, siliciclastic rocks, Solitude Fm	Paleozoic Era (542-251)	Definitive aspect of character of landscape contributing greatly to the sense of place and natural character of the region (Less than Upper Karoo). Sandstone based rocks accounting for about 50 - 60% of the world oil and gas exploration.
Upper Karoo flood basalt (extrusive volcanic rock), sedimentary interbeds	Mesozoic Era (250-65)	
Upper Karoo, siliciclastic rocks, sandstone and siltstone		Definitive aspect of character of landscape giving rise to sense of place, natural/wilderness qualities (Used by ancient people as shelters, places of religious significance and rock art)
Lower Karoo, siliciclastic rocks, interbedded coal and siltstone		Definitive aspect of character of landscape contributing greatly to the sense of place and natural character of the region (Less than Upper Karoo)

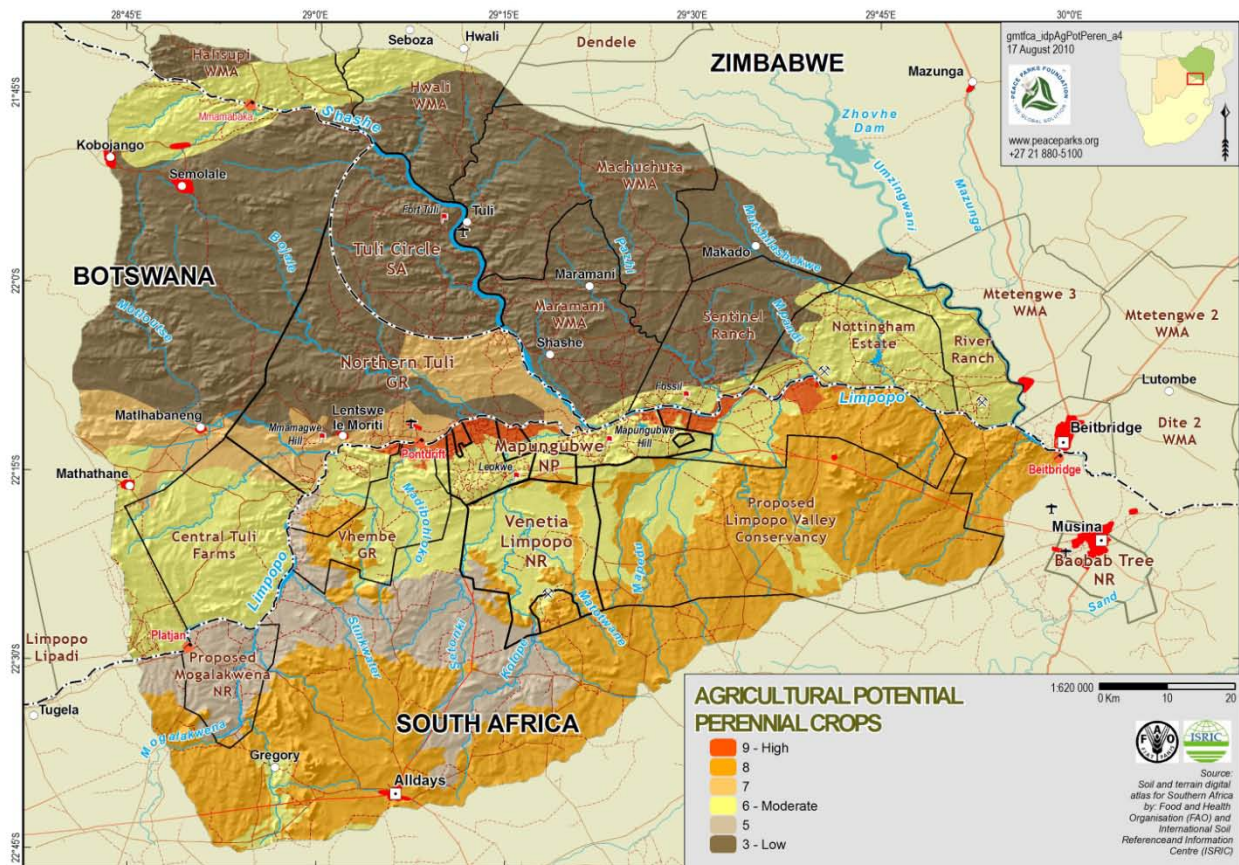
Agricultural Suitability



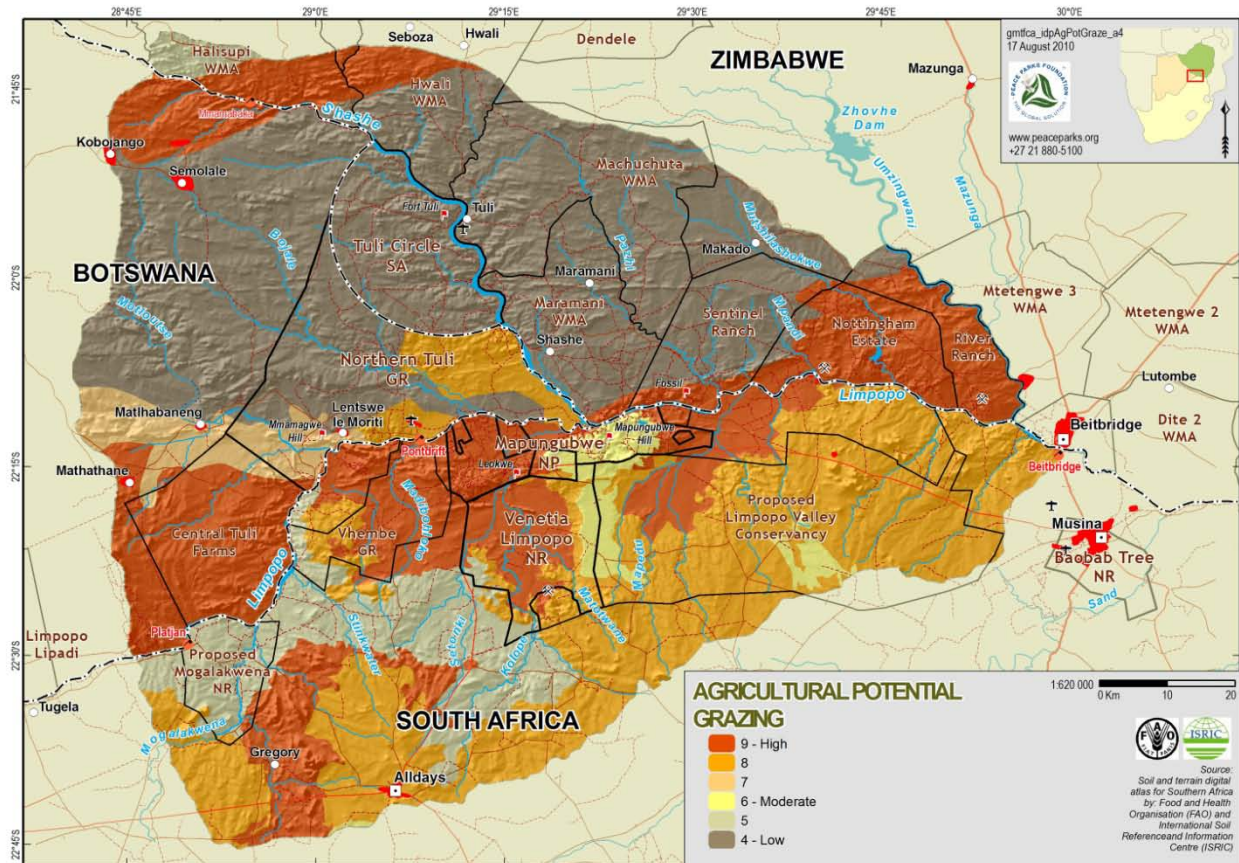
The basic soils types are delineated according to their suitability for various crops - Annual, Perennial, and Pastures (Grazing). It is important to note that this reflects the potential for these crops and not the actual occurrence patterns (refer Maps 54-56).



Map 54: Annual Crops



Map 55: Perennial Crops



Map 56: Grazing Potential

APPENDIX 3. DEVELOPMENT PROTOCOL

One of the first roles of the Tourism Working Group (TWG) was the development of a Tourism Development Protocol which, it was hoped (and it remains hopeful), that it will appear as either an annexure to the Treaty to be signed by all three countries or alternatively in the GMTFCA Integrated Management Plan that will be accepted by the Honourable Ministers of all three countries.

Opportunistic and misplaced tourism development is probably responsible for more unhappiness in ecologically sensitive areas than hunting. Disrespect for neighbours invariably is the motivating factor for such unhappiness and this has been borne out on numerous occasions in the Northern Tuli Game Reserve in Botswana.

The attitude of the TWG remains one of:

Development in the TFCA - for any human density or infrastructural development of any kind in the TFCA:

- the TFCA should be consulted as Interested and Affected Parties to any proposed development and a Scoping Report should be compiled of the proposed development detailing location, impact, 'pollution' (light, sound, visual, and environmental), irrespective of the distance from the neighbour. Written consent from immediate neighbours must be the precursor to construction commencing.
- Neighbours – "Neighbour" and "neighbours" shall mean those who own property adjacent to that of the applicant as well as those who own land in the TFCA from which a person may hear or see or in any way be adversely affected by the proposed development;
- 'Buildings' shall include timber structures, tents and mobile or portable homes, offices and the like other than those used on an *ad hoc* basis for strictly limited, short durations of time;
- Other human development will include boreholes, dams, weirs and bridges
- Environmental Impact Assessments – Should the technical committees of the TFCA tasked with monitoring development deem a full Environmental Impact Assessment necessary, then the developer will proceed with such a study at his expense.

Detailed specifications for environmental and cultural resource management should also be considered in these phases of tourism development planning. However much of this will require the 'watchdog' of tourism namely the Environmental and Conservation Working Group complimented by other Working Groups to guide policy in this regard with input from the TWG.

As a minimum the following issue groups need to be addressed:

- Noise
- Visual intrusion of development
- Management of ecological integrity and biodiversity
- Waste management
- Water management
- Socio-economic development
- Cultural resource management

Tourism Protocol for GMTFCA

Preamble

The stakeholders included within the GMTFCA are aware and agree that by associating together to conserve the fauna, flora and heritage of the TFCA and to promote sustainable development, there will be certain reciprocal rights and duties towards each other. It is acknowledged and agreed that the benefits of being part of the GMTFCA necessitates a common, acceptable and environmentally responsible use of the area. Considering the complexities and diversities of this TFCA, the creation and acceptance of a more prescriptive tourism development plan is not feasible at this stage, hence a protocol will guide tourism development and operations in the GMTFCA.

Objectives

1. To achieve orderly tourism development of the GMTFCA
2. To assure that such development is sustainable

Guiding Principles

1. Each partner country decides and regulates its own tourism development and operation and agreements will only be sought if such affects the region or impacts on neighbours.
2. Tourism Development and operations is not to affect the conservation of flora, fauna and heritage of the TFCA.
3. Tourism development and operations must, as much as possible be beneficial to local communities.

The Protocol

Tourism Development

1. Development to facilitate tourism will only be considered if it is sustainable, responsible, viable, diversified, encourages increased stays in the region and does not impact negatively on neighbours
2. All development must be considerate of environmental and visual pollution with special consideration to solid waste disposal, water extraction, and power and communication transmission networks
3. All design and development must adhere to the appropriate rules and regulations of the partner country in which it takes place.
4. The design and development of tourism facilities must be out of sight, sound, smell and may not have any other negative direct or indirect impact. Should this not be the case, consultation with international neighbours must take place and consent obtained prior to commencement of the development.
5. It is noted that direct and indirect impact includes, but is not limited to, water extraction, tourism flows, air traffic, rights of way etc.
6. No regulation of development, density, policy or any other matter shall apply retrospectively from date of signature of this protocol by the relevant authorities of the partner countries.
7. The partner countries are encouraged to harmonise any past developments with the provisions of this protocol.

Operation

1. Accommodation will be graded in terms of the laws of the countries in which such destinations are domiciled
2. Access into the TFCA will be restricted and admissible either by way of a levy or permit system.
3. Security personnel will be stationed at the various entrance points into the TFCA at the respective Government's expense whose role will be to ensure that necessary customs and immigration formalities are satisfied.
4. A minimum stay of one night in the TFCA will apply to anyone crossing international borders within the TFCA. This provision will not apply to any person who departs the TFCA through that person's point of entry.

5. A tourism access policy will be developed and must be easy to implement, available to all stakeholders and ensure safety and security.
6. Tourism activities, including but not limited to, hot-air ballooning, microlighting, quad-biking, camping outside designated areas etc may not impact negatively on international neighbours unless their prior consent has been acquired.
7. Any access into or transport within the GMTFCA may be regulated if it impacts negatively on international neighbours.
8. Tourism operations will, as much as possible, acquire goods and services from communities within and along the immediate periphery of the TFCA.

Marketing

1. The main marketing themes for the TFCA will be Living Culture, Archaeology, Palaeontology, Rock Art and Ecology with adventure tourism as an added attraction. The TFCA should be promoted and marketed on the basis of these attractions.
2. Theme specific developments will take place in each of the partner countries. Wherever possible, joint marketing initiatives will be undertaken for the benefit of the TFCA.

Arbitration

Should any conflict arise in the implementation of this protocol, such matters shall be submitted to the Trilateral Technical Committee or its successor for resolution. In the event that a resolution cannot be agreed upon, the matter shall be referred to the Trilateral Ministerial Committee for arbitration whose decision shall be final and binding.

EIA's and development parameters should remain subject to the respective country's' legislation but that provisions of the Tourism Development Protocol in respect of neighbourly consultation in terms of sight, sound and smell should be a requirement.

APPENDIX 4. LIMPOPO VALLEY AIRFIELD INFORMATION

Common Immigration Point at Limpopo Valley Airfield in Botswana for Immigration Officials from South Africa and Zimbabwe

EXECUTIVE SUMMARY

1. Limpopo Valley Airfield is situated on Mashatu Game Reserve in The Northern Tuli Game Reserve in the Bobirwa District of Botswana.
2. The facility is a Botswana gazetted International Airport of Entry with Botswana Customs and Immigration personnel present on the facility.
3. The Tri-lateral Technical Committee of the Greater Mapungubwe Transfrontier Conservation Area has resolved that:
 - Limpopo Valley Airfield will become the International Port of Entry into the cross border park.
 - It should be effective on 1 June 2010 ahead of the Soccer World Cup in South Africa.
 - South Africa and Zimbabwean Immigration Officials will be present on the airfield to affect immigration formalities on arriving air passengers.
4. There is nothing in Botswana legislation that contradicts this resolution save for what is provided in law in terms of Administration and Procedure.
5. This application requests the Honourable Minister to:
 - Consider this application with the urgency required for Botswana to capitalise on increased tourism both during and after the Soccer World Cup 2010.
 - Approve the Administration and Procedure to give effect to this concession.
 - Ensure that the necessary Government Gazettes are expedited to facilitate such concession.
6. This is a temporary arrangement until such time as the Treaty for the Greater Mapungubwe TFCA is signed by the Tri-lateral Ministerial Committee comprising the Honourable Ministers of all three participating countries.
7. This concession will permit tourists arriving at Limpopo Valley Airfield by air transport from either South Africa or Zimbabwe, to travel to Zimbabwe or South Africa without having to clear into Botswana en route.
8. It is expected that South African immigration officials will position themselves immediately at Limpopo Valley Airfield but that Zimbabwean officials will only do so when tourism to Zimbabwe increases.

ORIENTATION

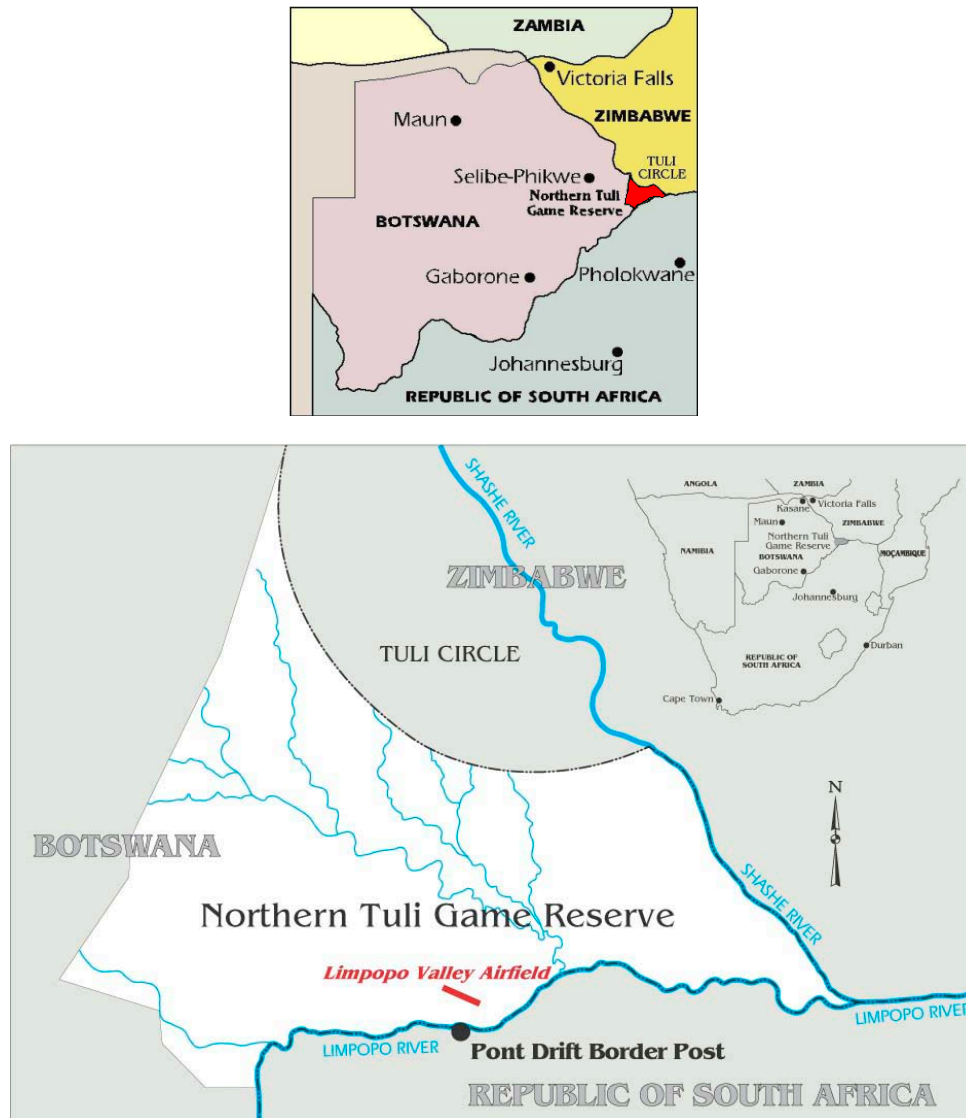


Figure 61: Location of Limpopo Valley Airfield

1. The South African border is a mere 2km from Limpopo Valley Airfield.
2. At present to fly into Limpopo Valley Airfield to access South Africa requires 4 passport movements namely:
 - a) Depart an international airport in South Africa by clearing immigration.
 - b) Arrive Limpopo Valley Airfield and clear into Botswana + arrivals card.
 - c) Travel 2km to Pont Drift Border Post and clear out of Botswana + departures form.
 - d) Arrive at the South Africa border post and clear into South Africa.
3. This is depressing tourism to the region and contradicts the spirit of the Transfrontier Conservation Area Tourism model.
4. The processing of a Botswana Arrivals and Departures form almost simultaneously in order to visit South Africa is misleading tourism numbers to Botswana.

South Africa and Zimbabwean Immigration facilities on Limpopo Valley Airfield

- a) The Trilateral Technical Committee of the Greater Mapungubwe Transfrontier Conservation Area has approved an arrangement whereby Botswana, South Africa and Zimbabwean immigration officials will be present at Limpopo Valley Airfield to affect immigration procedures for all three countries.

- b) This would mean that domestic South African and Zimbabwean flights could fly into Limpopo Valley Airfield and tourists travelling into the Botswana, South Africa, or Zimbabwe components of the TFCA can clear immigration on arrival.
 - c) All Immigration officials will reside at Pont Drift Border Post where South Africa and Botswana immigration officials presently reside.
 - d) As at present with officers from Customs and Immigration in Botswana, all immigration officials from all three countries will be transported by Limpopo Valley Access (Pty) Ltd to the airfield on a daily basis.
 - e) Only charter flights will operate initially with this changing as and when scheduled operators elect to do so. In this instance, security will be upgraded to facilitate such services.
 - f) In the interim, and whilst only charter flights operate, Botswana Police and Customs are free to provide services at the airfield.
5. Limpopo Valley Airfield is not a busy airfield at present (approximately 1 flight per day) but with this concession, it is expected that demand for tourism to Greater Mapungubwe Transfrontier Conservation Area is expected to increase almost immediately.
 6. Bar the physical movement of Immigration Officials from both countries (as is the case with Botswana at present), the functions of the officials will be consistent with those performed at their respective border posts.

A MODUS OPERANDI

1. Domestic Arrivals from Botswana

These arrivals will be treated in the normal way as is the modus operandi provided in Botswana legislation.

2. International Arrivals from South Africa and Zimbabwe destined for Botswana

On arrival at Limpopo Valley Airfield, these arriving tourists will process by way of an exit at the relevant 'home' office situated at Limpopo Valley Airfield (Zimbabwean flights to the Zimbabwean Immigration Office etc) before approaching the Botswana Immigration Office for immigration formalities and the completion of the arrivals forms.

Departures will involve the same standard procedure.

3. South Africa immigration at Limpopo Valley Airfield

Flights from South Africa will be domestic and if travelling to Mapungubwe National Park or elsewhere in South Africa, tourists will require a 'transit card' to be affixed to passport facilitating movement to the South African border post at Pont Drift, a distance of 2km. Such transit card must be approved by South Africa and Botswana.

Air departures from South Africa through Limpopo Valley Airfield will involve the same standard procedure.

Modus Operandi for tourists arriving by air at Limpopo Valley Airfield and destined for South Africa

A tourist arriving at Limpopo Valley Airfield destined for South Africa from South Africa, will complete a 'Transit Card' to be affixed in the tourist's passport and permitted a road transfer to Pont Drift through Botswana and South Africa immigration. No Botswana Arrivals forms will be completed.

A passenger arriving at Pont Drift from South Africa and wanting to fly out of Limpopo Valley Airfield will complete a 'Transit Card', be stamped by Botswana immigration and permitted to fly out of Limpopo Valley Airfield without an entry into his/her passport. No Botswana Arrivals/Departures forms will be completed.

Transit Card

As is the case on arrival in the United States of America, it is proposed that the Transit Card is a similar document whereby the 'Arrival Port of Entry' retains the information and the holder an abridged version which is removed by the receiving office on departure of the tourist.



Limpopo Valley Airfield
Republic of Botswana

Transit Card

Full Names
 Date of Arrival Time
 Passport/ID Number
 Mode of travel Flight/Reg No.....

By signing below, I confirm that I understand the contents listed on the reverse side of this card and I agree to adhere thereto in order to qualify as a Transit Passenger on route to/from South Africa and Limpopo Valley Airfield.

Signed Date

To be retained by issuing border post

Transit Receipt

Full Names
 Date of Arrival Time
 Passport/ID Number



Botswana Immigration Stamp

To be retained by the receiving border post

Transit Card
Terms of use

This Transit Card, is sanctioned by the Department of Immigration of Botswana. This document serves to afford the holder hereof unencumbered transit to Pont Drift Border Post from Limpopo Valley Airfield and from Pont Drift Border Post to Limpopo Valley Airfield.

Please note:

- Should, the holder hereof fail to pass through the receiving Immigration point within the allocated time of 30 minutes, such holder should then report back to the issuing office for reissue.
- This Transit Card is only valid if stamped by the issuing office.
- This Transit Card is to be presented at the receiving office.

Transit Card
Terms of use

This Transit Card, is sanctioned by the Department of Immigration of Botswana. This document serves to afford the holder hereof unencumbered transit to Pont Drift Border Post from Limpopo Valley Airfield and from Pont Drift Border Post to Limpopo Valley Airfield.

Please note:

Should, the holder hereof fail to pass through the receiving Immigration point within the allocated time of 30 minutes, such holder should then report back to the issuing office for reissue.

This Transit Card is only valid if stamped by the issuing office..

This Transit Card is to be presented at the receiving office.

Figure 62: Transit Card

Limpopo Valley Airfield

The Limpopo Valley Airfield is owned by Limpopo Valley Access (Pty) Ltd, a Botswana registered company owned as to 100% by Mashatu Nature Reserve (Pty) Ltd. Mashatu Nature Reserve (Pty) Ltd is in turn owned as to 30% by Botswana Development Corporation and 70% by Mashatu Investments (Pty) Ltd, which is in turn owned by MalaMala Ranch (Pty) Ltd, a South African registered company.



Plate 7: Limpopo Valley Airfield

Situated 2 km to the north of Pont Drift Border Post, the airfield is licensed to the following **specifications**:

HEIGHT OF AIRCRAFT	21 000kgs
GEOGRAPHICAL POSITION:	22 11 21 S 29 07 37 E
LENGTH OF RUNWAY (METERS):	1500m
WIDTH OF RUNWAY (METERS):	30m
ELEVATION (AMSL):	539m (1770ft)
MAGNETIC DIRECTION OF RUNWAY:	12 / 30
TYPE OF SURFACE:	13mm Stone Chip and Spray and Slurry Seal
BEARING STRENGTH (P.C.N):	9 / F / A / W / T
LENGTH OF STOPWAY(S):	50m
SURFACE OF STOPWAY(S):	30m Surfaced and 20m Gravel
APRON (LOCATION AND SIZE):	CH1300 , 7548m ²
SIGNAL AREA LOCATION:	Non Directional Beach – 254Khz
AERODROME IDENTIFICATION SIGN AND LOCATION:	CH14 Limpopo Valley

Facilities provided:

Fire Fighting:	YES
Communications:	YES
Customs and Immigration:	YES
Terminal Building:	YES
Night Operation	NO
Refuelling	NO

Contact Details:

LIMPOPO VALLEY ACCESS (PTY) LTD
P.O. BOX 26,
LENTSWE LE MORITI,
BOTSWANA
TEL: +267 264 5321
FAX: +267 264 5263

Existing Operational Procedure at Limpopo Valley Airfield

- The airfield is advised of arrivals 24 hours in advance by fax on +267 2645263. Should the fax be unreachable telephonically to Limpopo Valley Access on +267 2645321.
- Information to be provided includes:
 - ~ Date of arrival
 - ~ Estimated time of arrival
 - ~ Aircraft type
 - ~ Registration number
 - ~ Number of Passengers
 - ~ Origin of aircraft
 - ~ Customs & Immigration required
 - ~ Final destination of aircraft
 - ~ Destination of passengers
- 30 minutes from the airfield, aircraft are obliged to notify "Limpopo Valley" on 118,9 MHz.
- A Passenger Service Charge of P 50.00 per passenger is levies on landing.
- A landing fee is charged, pro rata the weight of the aircraft.
- Customs and Immigration is provided by Limpopo Valley Airfield.

Pilots will be reminded that the above does not replace the normal clearance request to the Department of Civil Aviation in Botswana.

CONCLUSION

1. It is intended that the arrangement above will be fine tuned once the Treaty for the formation of the Greater Mapungubwe TFCA is finalised and signed by Botswana, South Africa and Zimbabwe. This is expected to be in the next 12 months or so. In the interim, Soccer World Cup and increasing tourism to the region requires an arrangement of Transit Cards to ensure that:
 - Tourism to the region can grow ahead of the final formation of the Greater Mapungubwe TFCA.
 - That Limpopo Valley Airfield, an international airport in Botswana can grow passenger numbers which will ultimately see a scheduled air carrier flying into the facility.
2. The Integrated Development Plan of the Greater Mapungubwe Transfrontier Conservation Area has identified Limpopo Valley Airfield in the Botswana component of the TFCA as the designated airport of entry into the TFCA.
3. Limpopo Valley Airfield (2km north of Pont Drift) and the Limpopo Valley Region are contiguous and have an affinity in terms of name identification that it would make sense to bind the regions for the benefits of tourism.
4. The success of the various eco-tourism and culturally significant attractions in Botswana and South Africa hinges on an arrangement of this nature.
5. It is believed that, given the fait accompli of the Greater Mapungubwe TFCA, Botswana will grant consent to an arrangement of this nature.
6. Whether passengers pass through the Pont Drift Border Post or the Limpopo Valley Airfield is immaterial on condition that Officials from the respective Departments of Immigration are on site at Limpopo Valley Airfield.
7. Limpopo Valley Access (Pty) Ltd will provide the transport and infrastructure necessary for the appropriate officials; this being consistent with the service provided for officials from Botswana at present.

APPENDIX 5. VEHICLE ACCESS

Consistent with the SIVEST report, the transport strategy needs to encourage travel by road by ensuring that the regional road networks are tarred and maintained. Some roads will require upgrading in some cases to facilitate easier tourist access.

A loop road is proposed linking the three nodes in each country as well as other points of interest along the route to enable the flow of tourists throughout the TFCA to be maximised.

1. Save for the Tuli Circle crossing which is not characterised by river borders, all three other crossings will only be possible within the TFCA during low water periods only.
2. The Limpopo River bed when the river is dry which is the situation for approximately 9 months of the year.
3. Pontdrift will have a low level causeway restricted to 5 tons vehicles. Bridges exist at Platjan and Beit Bridge Border Posts for use for larger vehicles and during high water periods of flow in the Limpopo River.
4. The Pontdrift crossing has a cable car managed and operated by Limpopo Valley Access (Pty) Ltd for human carriage only.
5. The Homba Port of Entry will be a low level crossing, similar to Pontdrift, to link South Africa and Zimbabwe.
6. As access roads generate noise and sight pollution and therefore impact on the enjoyment of tourists in their camps, it is proposed that immigration be granted at times outside of the traditional game viewing times hence 9.00am to 3.00pm.
7. All travellers passing through the TFCA are obliged to produce confirmation of reservations at one or more of the camps therein
8. Access is restricted to vehicles of less than 5 tons (overland tourist vehicles are 5-tonners). Supply vehicles will be excluded from this but this will really only apply to construction vehicles (tourism development) and fuel deliveries
9. Vehicles transporting freight will NOT be permitted a thoroughfare. All non-tourist traffic, in particular heavy vehicles will be diverted on alternative routes.
10. Access will be permitted along the agreed thoroughfares only
11. The speed limit within the GMTFCA will be 50kph on paved roads and 40kph on all others.
12. Other than proclaimed access roads there will be no registered servitudes on roads through GMTFCA. Access on roads other than proclaimed roads will be by agreement only and will be marked as courtesy roads.
13. The road west from Beit Bridge through Sentinel and Nottingham Estate to Maramani should be maintained as wide dirt roads.

When erecting, extending or refurbishing the Border Posts, the architecture should accurately reflect the border post's status as the gateway to the respective country's game reserve which is, by nature of a TFCA and World Heritage Site, is of national significance. It is imperative that the Border Posts digress away from the typical, ugly government buildings, which they are want to build. A more African bush style facility would be more in keeping with the TFCA.

APPENDIX 6. ENTRANCES AND IMMIGRATION

Entrances and Levies

Phase 1 of GMTFCA

1. Entrance roads into the TFCA have temporary entrance booms at which entrance fees are collected and TFCA entrance permits are handed to visitors.
2. It is at these points that veterinary legislation will be strictly enforced.
3. The three immigration points will be within the park and at the point where vehicles cross the international border (Pontdrift, Homba and Mmamadaka).
4. Should there be additional entry roads warranting additional entrance gates, then these will be accepted during TTC deliberations in the future.

It is the proposal of the TWG that commensurate with the collection of entrance levies into the GMTFCA that a permit is obtained for such entry which will serve to:

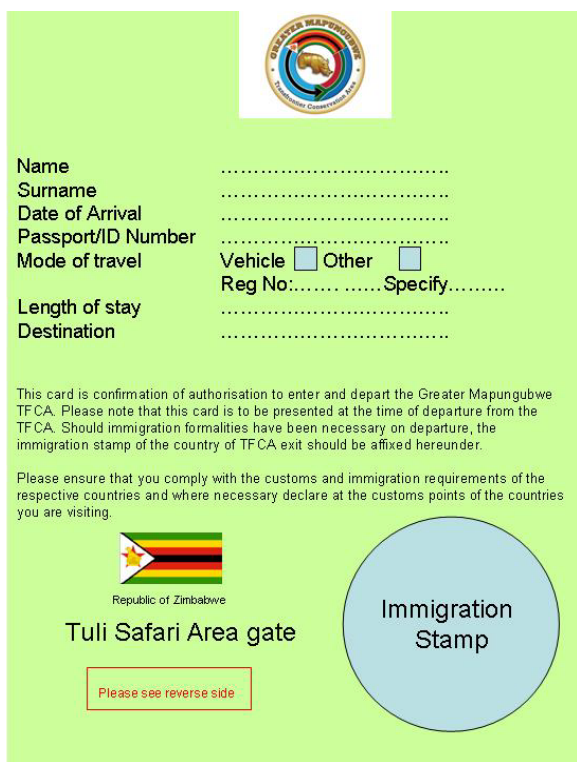
- Prove that entrance fees have been paid
- Confirm which entrance gate the tourist entered.
- Identify the individual and their passport/identity number
- Confirm that such individual, by entering the TFCA will stay over for at least one night in the TFCA.
- Confirm that where applicable, immigration formalities have been complied with.

This permit card is consistent with the United States of America Department of Immigration and there is no reason to question why it would not work in the Greater Mapungubwe TFCA (refer mock-up examples, Figures XXX-XXX).

It will be carried on the tourist visiting the TFCA and presented for inspection and/ or collected on departure from the TFCA.

Figure 63: Botswana Entrance Card

Figure 64: South African Entrance Card



Greater Mapungubwe Transfrontier Conservation Area

Name
Surname
Date of Arrival
Passport/ID Number
Mode of travel Vehicle ☐ Other ☐
Reg No: Specify:

Length of stay
Destination

This card is confirmation of authorisation to enter and depart the Greater Mapungubwe TFCA. Please note that this card is to be presented at the time of departure from the TFCA. Should immigration formalities have been necessary on departure, the immigration stamp of the country of TFCA exit should be affixed hereunder.

Please ensure that you comply with the customs and immigration requirements of the respective countries and where necessary declare at the customs points of the countries you are visiting.

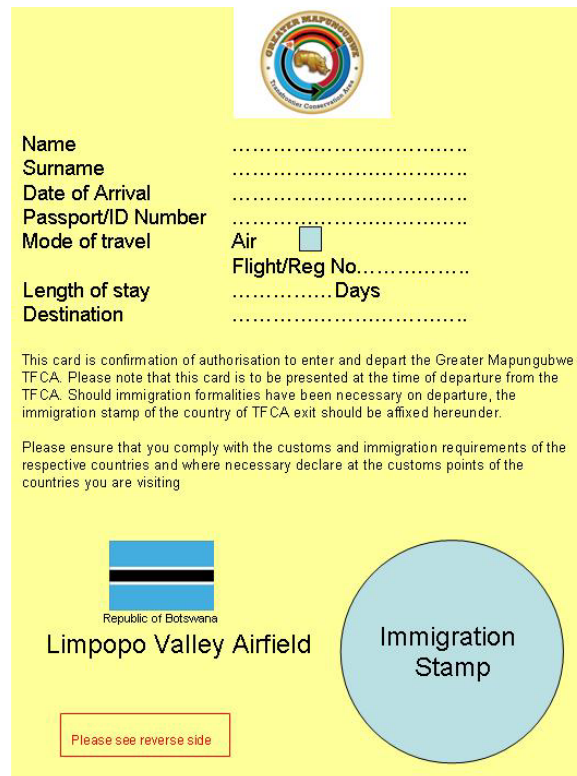

Republic of Zimbabwe

Tuli Safari Area gate

Immigration Stamp

Please see reverse side

Figure 65: Zimbabwe Entrance Card



Greater Mapungubwe Transfrontier Conservation Area

Name
Surname
Date of Arrival
Passport/ID Number
Mode of travel Air ☐
Flight/Reg No:
Length of stay Days
Destination

This card is confirmation of authorisation to enter and depart the Greater Mapungubwe TFCA. Please note that this card is to be presented at the time of departure from the TFCA. Should immigration formalities have been necessary on departure, the immigration stamp of the country of TFCA exit should be affixed hereunder.

Please ensure that you comply with the customs and immigration requirements of the respective countries and where necessary declare at the customs points of the countries you are visiting.


Republic of Botswana

Limpopo Valley Airfield

Immigration Stamp

Please see reverse side

Figure 66: Limpopo Valley Airfield Entrance Card



Greater Mapungubwe TFCA

I, acknowledge that in exchange for this permit to enter the Greater Mapungubwe TFCA, I will:

- Conduct myself and those accompanying me with respect and courtesy of this Transfrontier Conservation Area, its flora, fauna, citizens, officials and employees.
- identify myself when requested to do so.
- present this permit on request
- if departing from a country different to that which I entered, overnight in the TFCA at a destination of my choice.
- Agree to indemnify all members of this TFCA in the event that I suffer death, injury, loss or damage through any act of negligence or otherwise caused by an official or employee of this TFCA.

Signed Date

Please note that any person departing from a country different to that which he/she entered:

1. Will be required to overnight in the TFCA at a destination of one's choice.
2. It is incumbent on the holder of this permit to ensure that immigration formalities have been complied with **before** arrival at the exit gate.
3. The transport of any products, animal or otherwise, should comply with the legislation of the respective countries through which one will travel.

Whilst on your way to your destination within the Greater Mapungubwe TFCA, you will encounter many animals on route. Some of these animals should be considered dangerous especially lion, leopard and elephant). Please drive carefully and adhere to the following regulations:

- Travel to your destination on dedicated access and courtesy roads only.
- Do not leave these dedicated roads.
- Do not leave your vehicle - remain in your vehicle at all times unless authorised to do so.
- Remain at a respectable distance from wild animals.
- Remember that all wild animals are potentially dangerous
- Obey the speed limits
- Do not feed animals
- Retain your entrance permit for presentation on your departure
- PLEASE DO NOT LITTER

Figure 67: Reverse of Entrance Cards

The above should also include "Country of residence".

In respect of these permits:

1. The permit will be completed in triplicate:
 - The original for the tourist
 - A copy for administrative purposes that will be submitted with the collected levies for reconciliation purposes.
 - A copy retained at the point of entrance to back-up those issued.

It is likely that permits will be mislaid from time to time and it will therefore be necessary to have records at entrance gates for ratification purposes.

2. Each country will have a uniform country colour.
3. Each entrance gate will be clearly identified.
4. Where immigration formalities have been processed, the immigration stamp will appear where provided for.
5. The rear of each permit will feature regulations, times of access, vet and animal health restrictions, speed limit, emergency contact number and an indemnity waiver.

Please note:

1. Any person taking advantage of the tourist immigration points in the TFCA will be obliged to overnight within the confines of the TFCA at a destination of his or her choice.
2. Where a day visit is arranged, such entrance and exit should be via the same country and after payment of the appropriate entrance fees.
3. Tourists will only need to clear immigration if they exit the TFCA through a different country than that which they entered.
4. Where you exit from a different country to that which you entered, there will be the following checks:
 - That the Immigration stamp has been placed on the
 - entry/exit card before it is removed
 - In terms of the Tourism Development Protocol
 - all people exiting the TFCA must have overnights within the TFCA before exiting the TFCA.
 - The card is removed from the departing person, retained by the official present at the exit gate and reconciled against the entry as part of an administrative function.

1. Any person or group of people who attempt to exit the TFCA from a different country to that which they entered without the required confirmation of immigration in the form of the stamp on the form and the passport will be returned to the nearest immigration point to complete immigration formalities before being allowed to exit.

2. With the entrance card in your passport you are granted unencumbered and immigration-free passage through the TFCA on condition that you exit the TFCA through the same country that you entered irrespective of the exit gate.

3. In the absence of the UNIVISA system, any nationalities who have a visa for one constituent of the TFCA may travel unhindered to other components of the TFCA without a visa on condition that they return immediately to the country of visa on departure from the GMTFCA.

Residence and Employee Permits

It is recognised that the dynamics and characteristics of this TFCA mean that there will be an increased daily movement of people through the entrance gates. As indicated earlier in this document:

- the fact that communities reside on the immediate periphery of GMTFCA (in Botswana and Zimbabwe specifically) it is expected that as tourism grows, so too will employment opportunities in the TFCA. With many employees residing at their homes in the communities and commuting to work in the TFCA, a solution needs to be found to this as entrance fees cannot be paid daily.
- The fact that GMTFCA is characterised by communities residing within the TFCA, such communities will also require a solution to the entrance fee matter in order for them to travel in and out of the TFCA.

It is proposed that a permit be carried by such employees and residents that grant them free movement in and out of the TFCA but subject to the gate times imposed by the TFCA.

Permits for Daily Movement in/out GMTFCA

These are permits issued to employees and residents within the TFCA only.

Employees will receive a card with their photo included thereon and which will expire on an annual basis. New technology (as below) allows for inexpensive reprinting of same and a simple laminator can ensure that they last 12 months.

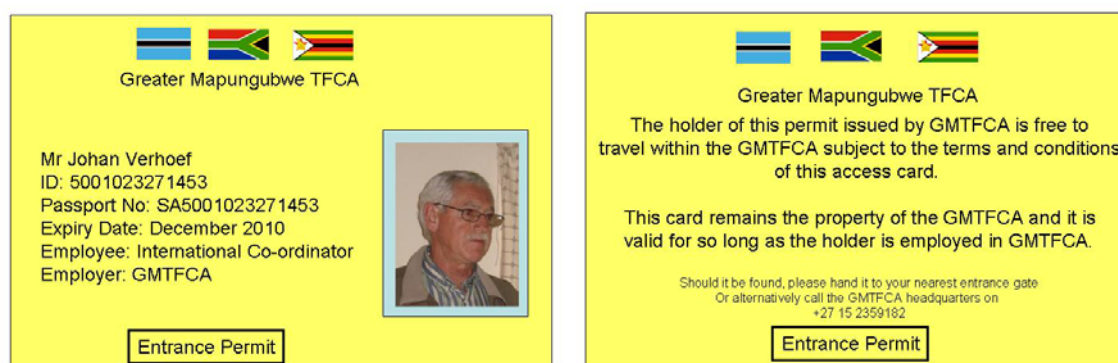


Figure 68: Entrance Permit

The above should reflect an 'Employees Entrance Permit'. Cost will be equivalent to \$10.00. Renewable annually.



Figure 69: Residence Permit

This will be a 'Resident's Permit'. Expiry every 5 years. Issued to everyone over 12 years of age. 100% subsidiary. \$2.00 lost card.

The Residents' permit will be along similar lines and will be issued to all bona fide residents of villages included in the TFCA.



Figure 70: Vehicle Registration Permit

A vehicle permit for unrestricted access in and out of the TFCA for both resident, employee and official vehicles. It is the view of the TWG that roads will require ongoing maintenance caused by damage to roads from usage and that perhaps vehicle permits should be purchased on an annual basis, the proceeds being directed to a fund responsible for road maintenance throughout the TFCA. It is proposed that a vehicle permit should cost of the order of US\$ per annum each. A vehicle permit should look something like the example below:

The vehicle permit is required for all vehicles that enter and exit the TFCA. Any vehicles that remain on their respective properties within the TFCA do not need a permit.

Customs

It is the proposal of the TWG that entrance gates will not have the infrastructure to levy customs duties and given that the respective border posts will be tourism posts only:

1. All duty on goods coming into the TFCA will be paid at source.
2. Police Services can be present at:
 - Homba
 - Pontdrift
 - Mmamadaka

Although it is proposed that actual immigration formalities take place at Limpopo Valley Airfield for both air and vehicle tourists, police can be stationed at Pontdrift to monitor the vehicles that cross the Limpopo River at Pontdrift between Botswana and South Africa.

Similarly, cross border charges should be avoided where the TFCA's are the only destination. In this regard therefore:

- Carbon taxes
- Road Levies
- Customs Duties and levies

Will not apply to vehicles entering the TFCA. Those countries wishing to impose such duties at the exit of the TFCA may do so at their discretion.

The proposal is that there will be a restriction of 5 ton vehicles across the TFCA immigration points. Large scale supplies will need to be sourced from within the country of destination or route through immigration points where duties can be levied.

Many overland vehicles are 5 ton trucks hence the 5 ton limit on all vehicles.

Security and Policing

Security concerns and the remoteness of the TFCA will necessitate consideration of the provision of police points within the TFCA area. It is suggested that satellite police stations be established at each of the Interpretive Centre development nodes within the TFCA. It is felt by the Tourism Development Working Group that this is a Security and Policing Working Group matter but subscribes to the principle.

Entrance Fees

It is the view of the TWG that in respect of entrance fees:

1. They should be fair and equitable to all three countries.
2. Such entrance fees should be competitive with those charged by other TFCAs and National Parks in southern Africa.
3. Concessions in respect of entrance fees such as the Wild Card should not prejudice neighbouring components. Instead a concession card will be made available exclusive to GMTFCA.
4. In the case of GMTFCA the entrance fee will be a once off and not a conservation fee
5. Community members residing in the TFCA, employees working in the TFCA and officials of the TFCA should be the only permit carrying individuals who are absolved of the obligation to pay entrance fees to the TFCA.
6. Entrance fees are divisible between the countries irrespective of where they are collected.
7. Such division of the fees will be proportionate to the total land committed to the TFCA by the respective countries for a period of 5 years after which the equity of this will be reviewed and adjusted if necessary.
8. Such income to the respective countries will be used to fund each country's TFCA operating costs.
 - It is proposed that the entrance fee for the calendar year to end 2010 should be:
 - R100 per vehicle
 - R100 per person
 - R50 per child under the age of 12 years.
9. Save for officials, employees and permanent residents in the TFCA, as well as GMTFCA concession card this entrance fee will be paid without exception.

Concession Entrance Card

As there are numerous private landowners included in the TFCA, it is only right that they should receive a concession in respect of entrance fees whilst at the same time contributing to the costs of operating the TFCA.

This concession card will apply to anyone who is:

- not a resident in the TFCA
- not an employee of the TFCA or commercial operations

This concession card will not waive the obligation of a vehicle permit which in any case replaces the road transport levy and carbon taxes imposed by the countries concerned.

The annual cost of the card will be USD50.00 per person as a once off.



Figure 71: Concession Card

In brief,

1. Vehicles exceeding 5 tons will be not be permitted to cross the international border posts. Overland trucks and small supply vehicles will be permitted access to the TFCA subject to the payment of the necessary entrance fees.
2. International crossing points (Pontdrift and Poacher's Corner) will be restricted to 8am-4pm.
3. Limpopo Valley Airfield will be restricted to flight operations and immigration between 9am and 3pm daily
4. Entrance gates will need a 5am – 11pm time of operation to allow for employees and residents access.
5. Anyone not in possession of a prior issued permit in her/her possession will be levied the appropriate fees without exception.
6. Concession cards for other parks will not apply in GMTFCA.