

# Integrated Development Plan

March 2010



## Greater Mapungubwe TFCA



Facilitated by:



*Cover and other Photographs by:*

Johan Verhoef

Justin Otten

Koos van der Lende

Southern African Natural History Unit

Stefan Cilliers

Tim Hauf

Willem van Riet Jnr

## ***Greater Mapungubwe Transfrontier Conservation Area***

# ***Integrated Development Plan***

Draft for Review, March 2010

Compiled for:

Trilateral Technical Committee

Facilitated and prepared by:

Peace Parks Foundation



*Copies of this Report can be obtained from:*

**International Coordinator: Greater Mapungubwe Transfrontier Conservation Area**

Dr Johan Verhoef

Tel: +27(0)12-420 3030

Mobile: +27(0)83-630 4565

Fax: +27(0)12-420 4622

E-mail: [johan.verhoef@up.ac.za](mailto:johan.verhoef@up.ac.za)

### **Citation**

GMTFCA TTC. 2010. Greater Mapungubwe Transfrontier Conservation Area Integrated Development Plan, February 2010. vii + 126pp.

## APPROVALS

---

Honourable Kitso Mokaila (MP)

Minister of Environment, Wildlife and Tourism of Botswana

---

Honourable Buyelwa Sonyika (MP)

Minister of Water and Environment Affairs of South Africa

---

Honourable Francis Nhema (MP)

Minister of Environment and Natural Resources Management of Zimbabwe

## TABLE OF CONTENTS

Approvals .....	i
Table of Contents .....	ii
List of Appendices.....	iii
List of Figures.....	iii
List of Maps .....	iv
List of Tables.....	vi
Abbreviations/Acronyms .....	vii
<b>SECTION 1. INTRODUCTION .....</b>	<b>1</b>
1.1 BACKGROUND AND LOCATION .....	1
1.2 SIGNIFICANCE .....	1
1.3 PURPOSE OF THE DOCUMENT.....	1
1.4 THE TFCA IDP PLANNING FRAMEWORK.....	5
<b>SECTION 2. THE PLACE .....</b>	<b>6</b>
2.1 BIOPHYSICAL ENVIRONMENT.....	6
2.1.1 Geology and Geomorphology.....	7
2.1.2 Elevation.....	8
2.1.3 Soils.....	8
2.1.4 Climate.....	15
2.1.5 Hydrology.....	15
2.1.6 Vegetation and Wildlife.....	15
2.2 CULTURAL AND HISTORICAL ENVIRONMENT .....	21
2.3 ECONOMIC ENVIRONMENT.....	24
2.3.1 Tourism Access and Accommodation Facilities .....	24
2.3.2 Mining.....	24
2.3.3 Agriculture.....	25
2.3.4 Tenure and Land Use .....	25
2.4 GOVERNANCE ENVIRONMENT.....	29
2.4.1 Spheres of Government.....	29
2.4.2 Legal Framework.....	30
2.4.3 Protected Areas .....	31
2.4.4 Current TFCA Conservation Administrative Arrangements.....	32
2.5 SENSITIVITIES: UNDERSTANDING THE PLANNING ENVIRONMENT .....	33
<b>SECTION 3. THE PEOPLE .....</b>	<b>42</b>
3.1 STAKEHOLDERS AND ROLE PLAYERS .....	42
3.2 NEEDS AND EXPECTATIONS.....	44
<b>SECTION 4. THE PLAN .....</b>	<b>45</b>
4.1 INTRODUCTION .....	45
4.2 CHALLENGES – THREATS AND ISSUES .....	45
4.3 STRATEGIC GUIDELINES .....	46
4.3.1 Vision, Mission and Broad Objectives.....	46
4.4 STRATEGIC BUSINESS PLAN .....	47
4.4.1 Joint Planning.....	51
4.4.2 Institutional Arrangements and Legal Status.....	60
4.4.3 Sustainable Financing.....	62
4.4.4 Policy Harmonisation.....	64
4.4.5 Sustaining Landscape Dynamics.....	66
4.4.6 Integrated Management .....	68
4.4.7 Integrated Regional Development .....	70
4.5 CONCEPT DEVELOPMENT PLAN .....	73
4.5.1 Dynamic Modeling.....	73



4.5.2	Current Environmental Character .....	75
4.5.3	Future Desired State .....	75
4.5.4	Masterplan .....	78
4.5.5	Detailed Concept Development Plans .....	87
READING LIST .....		93
APPENDICES .....		94

## LIST OF APPENDICES

APPENDIX 1.	TOURISM ACCOMMODATION .....	94
APPENDIX 2.	SENSITIVITY ANALYSIS .....	97
APPENDIX 3.	TOURISM DEVELOPMENT PROTOCOL .....	111
APPENDIX 4.	LIMPOPO VALLEY AIRFIELD INFORMATION .....	114
APPENDIX 5.	VEHICLE ACCESS .....	117
APPENDIX 6.	ENTRANCES AND IMMIGRATION .....	118

## LIST OF FIGURES

Figure 1: Significance of GMTFCA .....	2
Figure 2: How the Document Works .....	2
Figure 3: Planning Diagram .....	5
Figure 4: Biophysical Environment .....	7
Figure 5: South West to North-East Profile .....	12
Figure 6: Cultural and Heritage Resources .....	22
Figure 7: TFCA Administrative Arrangements, 2010 .....	32
Figure 8: Sensitivity Analysis .....	33
Figure 9: TTC Structures and Representation .....	43
Figure 10: Challenges and Threats .....	45
Figure 11: Process Based Management System .....	47
Figure 12: Governance KPAs .....	48
Figure 13: Approach to Addressing Audit Gaps .....	48
Figure 14: TFCA Critical Path, 2010-2014 .....	50
Figure 15: GMTFCA Core Area – Phase 1 .....	53
Figure 16: GMTFCA Expansion – Phase 2.1 .....	53
Figure 17: GMTFCA Expansion – Phase 2.2 .....	54
Figure 18: GMTFCA Expansion – Phase 2.3 .....	54
Figure 19: GMTFCA Expansion – Phase 2.4 .....	55
Figure 20: GMTFCA Expansion – Phase 2.5 .....	55
Figure 21: GMTFCA Expansion – Phase 2.6 .....	56
Figure 22: GMTFCA Expansion – Phase 2.7 .....	56
Figure 23: GMTFCA Expansion – Phase 2.8 .....	57
Figure 24: GMTFCA Expansion – Phase 2.9 .....	57
Figure 25: GMTFCA Expansion – Phase 2.10 .....	58
Figure 26: GMTFCA Expansion – Phase 2.11 .....	58
Figure 27: GMTFCA Expansion – Total Phase 2 (2.1 – 2.11) .....	59
Figure 28: GMTFCA Expansion - Phase 3 .....	59
Figure 29: Dynamic Model .....	74
Figure 30: Border Posts, Gates and Checkpoints .....	79
Figure 31: GMTFCA Access Concept Phase 1 .....	84
Figure 32: GMTFCA Access Concept Phase 2 .....	84
Figure 33: GMTFCA Use Concept Phase 1 .....	85

Figure 34: GMTFCA Use Concept Phase 2.....	85
Figure 35: GMTFCA Development and Infrastructure Concept Phase 1 .....	86
Figure 36: GMTFCA Development and Infrastructure Concept Phase 2.....	86
Figure 37: Fossil Trail .....	87
Figure 38: Pioneer Route .....	88
Figure 39: Mapungubwe Iron Age Trail .....	89
Figure 40: Wilderness Hiking Trail .....	90
Figure 41: Mountain Bike Trail .....	91
Figure 42: NOTUGRE Day-Visitors.....	92
Figure 43: Limpopo Valley Airfield .....	116
Figure 44: Botswana Entrance Card .....	118
Figure 45: South African Entrance Card.....	119
Figure 46: Zimbabwe Entrance Card.....	119
Figure 47: Limpopo Valley Airfield Entrance Card .....	120
Figure 48: Rear of Entrance Cards .....	121
Figure 49: Entrance Permit .....	122
Figure 50: Residence Permit .....	123
Figure 51: Vehicle Registration Permit .....	123
Figure 52: Concession Card .....	125

## LIST OF MAPS

Map 1: Lowveld Context .....	3
Map 2: Ecological Planning Domain .....	4
Map 3: Geology – Description .....	9
Map 4: Geology – Rock Type.....	10
Map 5: Geology – Lithology .....	10
Map 6: Geology – Eras .....	11
Map 7: Elevation.....	11
Map 8: Soil Types .....	12
Map 9: Soil texture.....	13
Map 10: Soil Depth.....	13
Map 11: Soil Drainage .....	14
Map 12: Soil Colour .....	14
Map 13: Summer Temperatures .....	16
Map 14: Winter Temperatures.....	16
Map 15: Summer Rainfall .....	17
Map 16: Winter Rainfall .....	17
Map 17: Catchment Context - Limpopo .....	18
Map 18: Catchment Context – Middle Limpopo.....	18
Map 19: Hydrology.....	19
Map 20: Vegetation .....	20
Map 21: Cultural Heritage Spheres.....	21
Map 22: Sites of Cultural and Heritage Significance .....	23
Map 23: Prospecting Licences and Drilling Activities .....	26
Map 24: Fences within the GMTFCA.....	26
Map 25: Tenure.....	27
Map 26: Land Cover.....	28
Map 27: Government Boundaries.....	29
Map 28: Proclamation Status.....	31
Map 29: Habitat Value.....	35
Map 30: Landscape Sensitivity .....	36

Map 31: Cultural Sensitivity .....	37
Map 32: Geology Sensitivity .....	38
Map 33: Ecosystem Sensitivity .....	39
Map 34: Simplified Ecosystem Sensitivity.....	40
Map 35: Land Use Propensity .....	41
Map 36: Audio-visual Impacts .....	75
Map 37: CEC for GMTFCA .....	76
Map 38: GMTFCA Future Desired State .....	77
Map 39: GMTFCA Master Plan, Phase 1 .....	82
Map 40: GMTFCA Master Plan, Phase 2.....	83
Map 41: Local Conservation Status .....	99
Map 42: Local Protection Status.....	100
Map 43: Habitat Rarity .....	100
Map 44: Transformation Adjuster.....	101
Map 45: Topographic Sensitivity (Slope) .....	104
Map 46: Hydrological Sensitivity .....	105
Map 47: Clay Content.....	105
Map 48: Soil Erodibility .....	106
Map 49: Vegetation Resilience .....	106
Map 50: Cultural Sensitivity .....	107
Map 51: Annual Crops .....	109
Map 52: Perennial Crops.....	110
Map 53: Grazing Potential .....	110



## LIST OF TABLES

Table 1: Performance Audit .....	49
Table 2: Joint Planning Audit Scores .....	51
Table 3: Aligned Protected Area Plans .....	51
Table 4: Detailed IDP Roll Out .....	52
Table 5: Institutional Arrangements and Legal Status Audit Scores .....	60
Table 6: Treaty Finalisation .....	60
Table 7: Establishment of JMB .....	60
Table 8: Establish Legal Entity .....	61
Table 9: Sustainable Financing Audit Scores .....	62
Table 10: Financial Sustainability Strategy .....	62
Table 11: Implementation Plan .....	63
Table 12: Financial Mechanisms .....	63
Table 13: Policy Harmonisation .....	64
Table 14: Legal and Policy Database .....	64
Table 15: Legal and Policy Assessment and Review .....	64
Table 16: Legal and Policy Law Reform .....	65
Table 17: Harmonised Policies .....	65
Table 18: Sustaining Landscape Dynamics Audit Scores .....	66
Table 19: Joint Plan for Sustaining Landscape Dynamics .....	66
Table 20: Operationalisation and Monitoring .....	67
Table 21: Integrated Management Audit Scores .....	68
Table 22: Joint Management Decision .....	68
Table 23: Joint Management Strategy .....	68
Table 24: Integrated Regional Development Audit Scores .....	70
Table 25: Regional Development Strategies and Plans Analysis .....	70
Table 26: Fencing Requirements .....	81
Table 27: Tourism Accommodation .....	94
Table 28: Local Conservation Status .....	98
Table 29: Local Protection Status .....	98
Table 30: Habitat Rarity .....	98
Table 31: Topographical Sensitivity .....	102
Table 32: Hydrology Scores .....	103
Table 33: Clay Content .....	103
Table 34: Soil Erodibility .....	103
Table 35: Resilience .....	104
Table 36: Geological Sensitivity .....	108

## ABBREVIATIONS/ACRONYMS

AUDI	Access, Use, Development and Infrastructure
CDP	Concept Development Plan
CEC	Current Environmental Character
CHM	Cultural Heritage Management
FDS	Future Desired State
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
MCL	Mapungubwe Cultural Landscape
MOU	Memorandum of Understanding
MPNP	Mapungubwe National Park
NGO	Non-governmental Organisation
NOTUGRE	Northern Tuli Game Reserve
PA	Protected Area
SADC	Southern African Development Community
SANParks	South African National Parks
TFCA	Transfrontier Conservation Area
TTC	Trilateral Technical Committee
UNESCO	United Nations Education, Scientific and Cultural Organisation
WHS	World Heritage Site
WMA	Wildlife Management Area

# SECTION 1. INTRODUCTION

## 1.1 BACKGROUND AND LOCATION

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. The GMTFCA represents the western extremity of the lowveld, extending from the contact zone between Mozambique, South Africa and Zimbabwe, along the Limpopo Valley (refer Map 1).

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) met with approval by a Ministerial Committee of the 3 countries, the TFCA is now known as GMTFCA, with Mapungubwe meaning "the place of the many jackals". 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 buffer area of the TFCA. This includes communal land, private land and State land components (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 Figure 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.

## 1.3 PURPOSE OF THE DOCUMENT

This document provides context for the GMTFCA and provides a structured description of the study area - the place and its people - and the plan for managing and developing the TFCA. The aim of the Integrated Development Plan (IDP) for the Greater Mapungubwe Transfrontier Conservation Area is to provide clear guidelines for attaining the objectives of the TFCA by addressing the various aspects related to the governance of the TFCA, which include institutional arrangements, joint planning, integrated management and development, policy harmonisation, the sustaining of landscape dynamics, and sustainable financing of TFCA related activities. Additionally, the spatial planning of the GMTFCA is also addressed by spatially representing the concept development plans required to unlock the inherent ecotourism potential of the conservation area in a sustainable and equitable manner. The aspect provides insight into the access, use, development and infrastructure requirements of both the Transfrontier Park (core area) and the Transfrontier Conservation Area (buffer area).

The structure of the IDP for the GMTFCA (refer Figure 2) 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 master plan reflecting the Access, Use, Development, and Infrastructure requirements for both the Park and the TFCA.



Biodiversity and Scenic Beauty



Cultural Importance



Tourism

Figure 1: Significance of GMTFCA

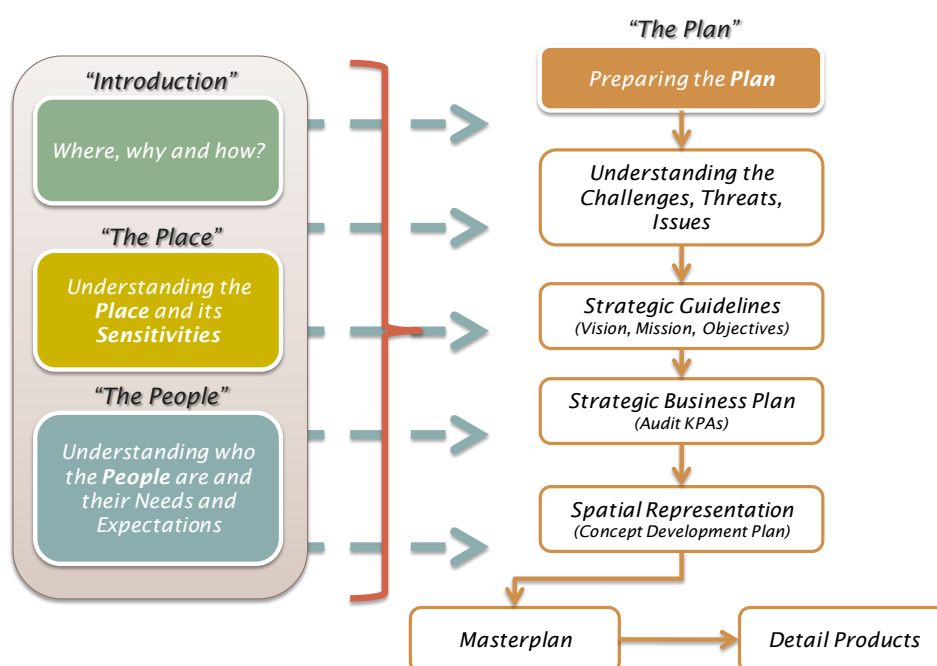
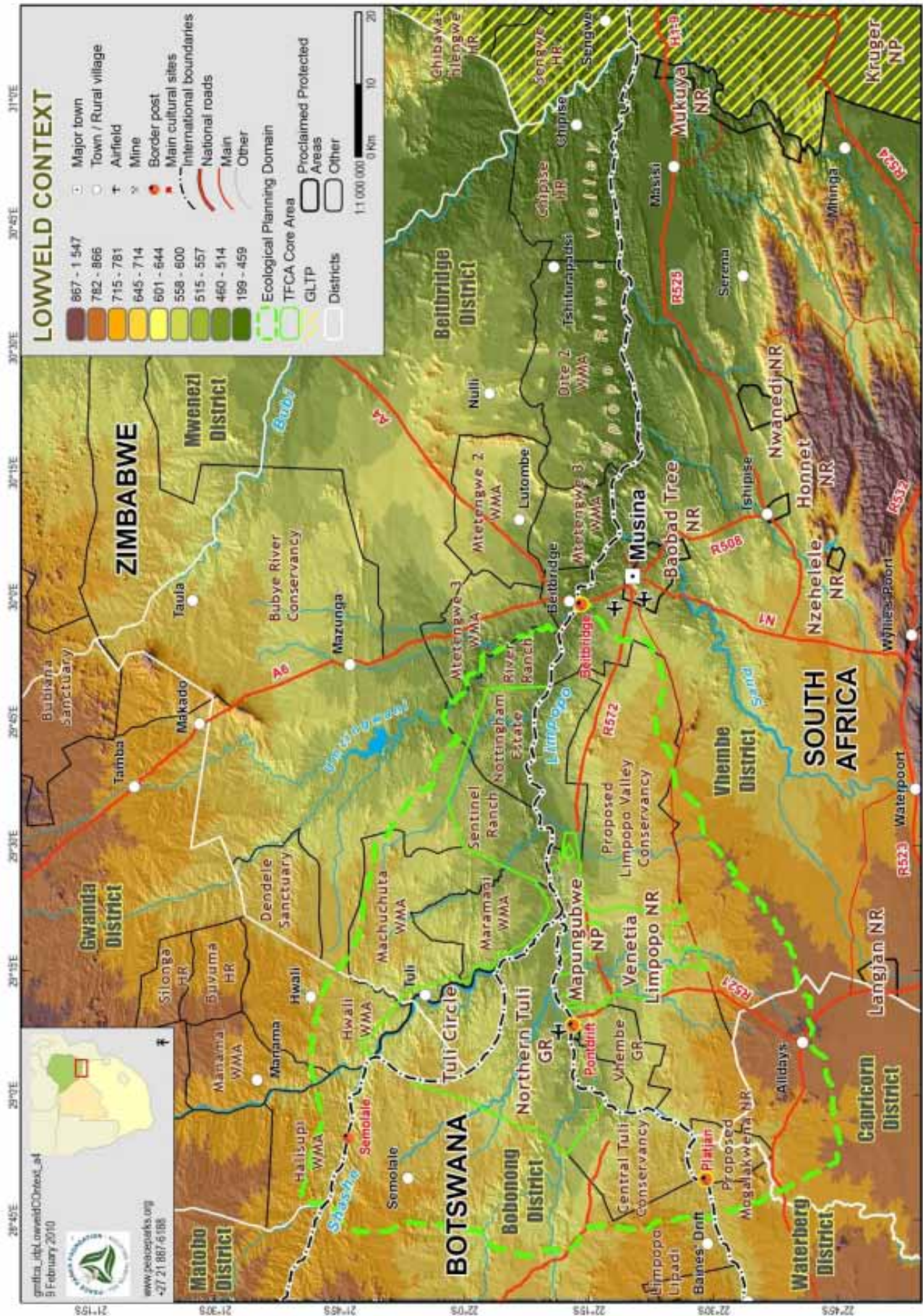


Figure 2: How the Document Works





Map 1: Lowveld Context







## 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, as well as perusal of numerous reports prepared for and by the TTC. 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.

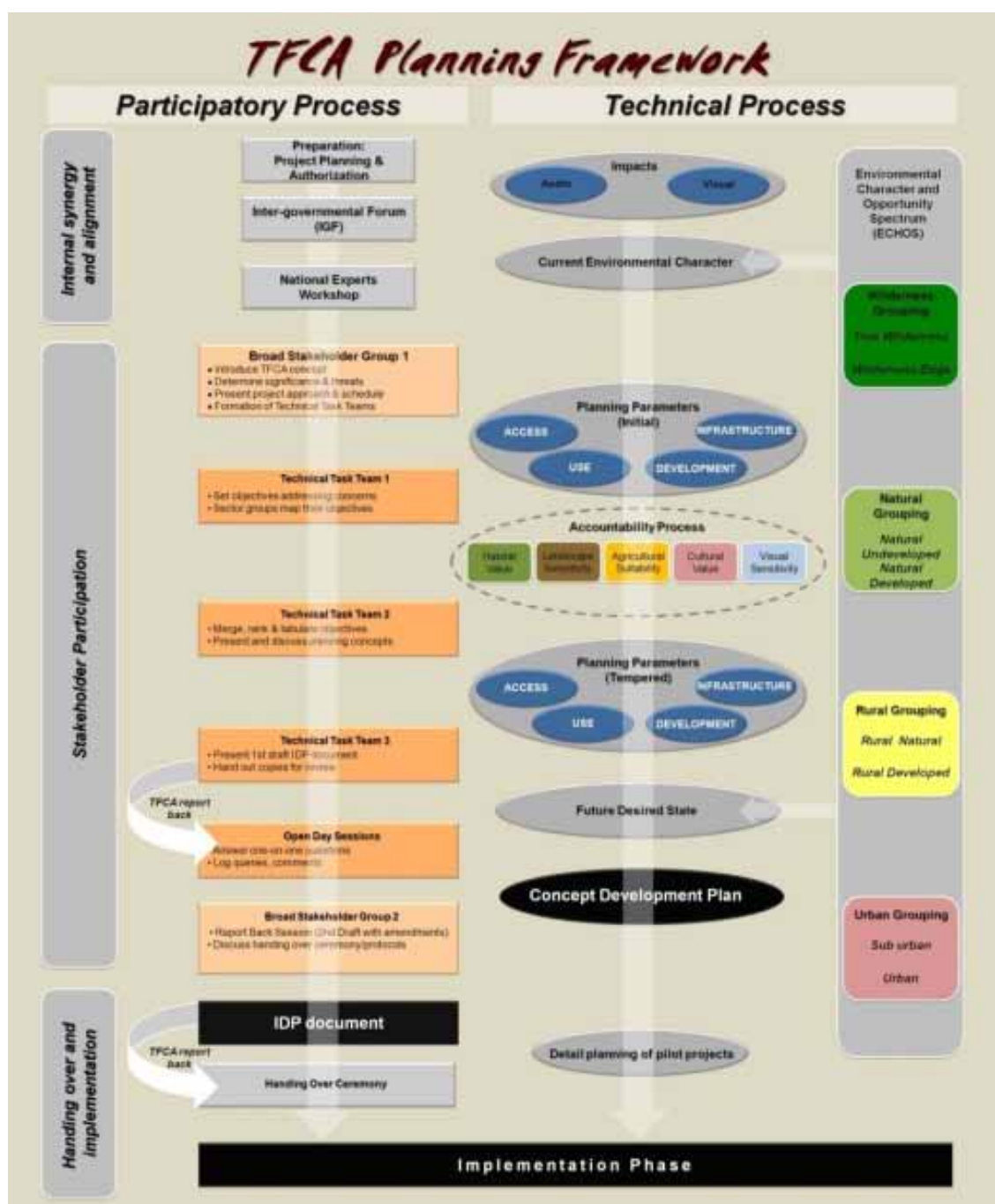


Figure 3: Planning Diagram

## SECTION 2. THE PLACE

### 2.1 BIOPHYSICAL ENVIRONMENT

Within this section on the biophysical environment of the GMTFCA the following characteristics are discussed (refer to Figure 4 below):

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



*Limpopo-Shashe Confluence (Upstream)*



*Limpopo-Shashe Confluence (Downstream)*



*Sandstone Cliffs along Limpopo*



*Sandy Riverbed*



*Mapungubwe Hill*



*Sandstone Outcrops*





*Baobab Tree*



*Hyphaene Shrubland*



*Mopane Woodland and Dry Tributaries*



*Riparian Woodland*



*Kolope/Maloutswa Wetlands*



*Riparian Frindge with Acacia Shrubland*

**Figure 4: Biophysical Environment**

### 2.1.1 Geology and Geomorphology

GMTFCA comprises an attractive semi-arid landscape with varied geology including extremely old archaean rocks, metamorphics 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 3-6).

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 7 and Figure 5).

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 45, 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 8-11)-

- 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 course 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 12.







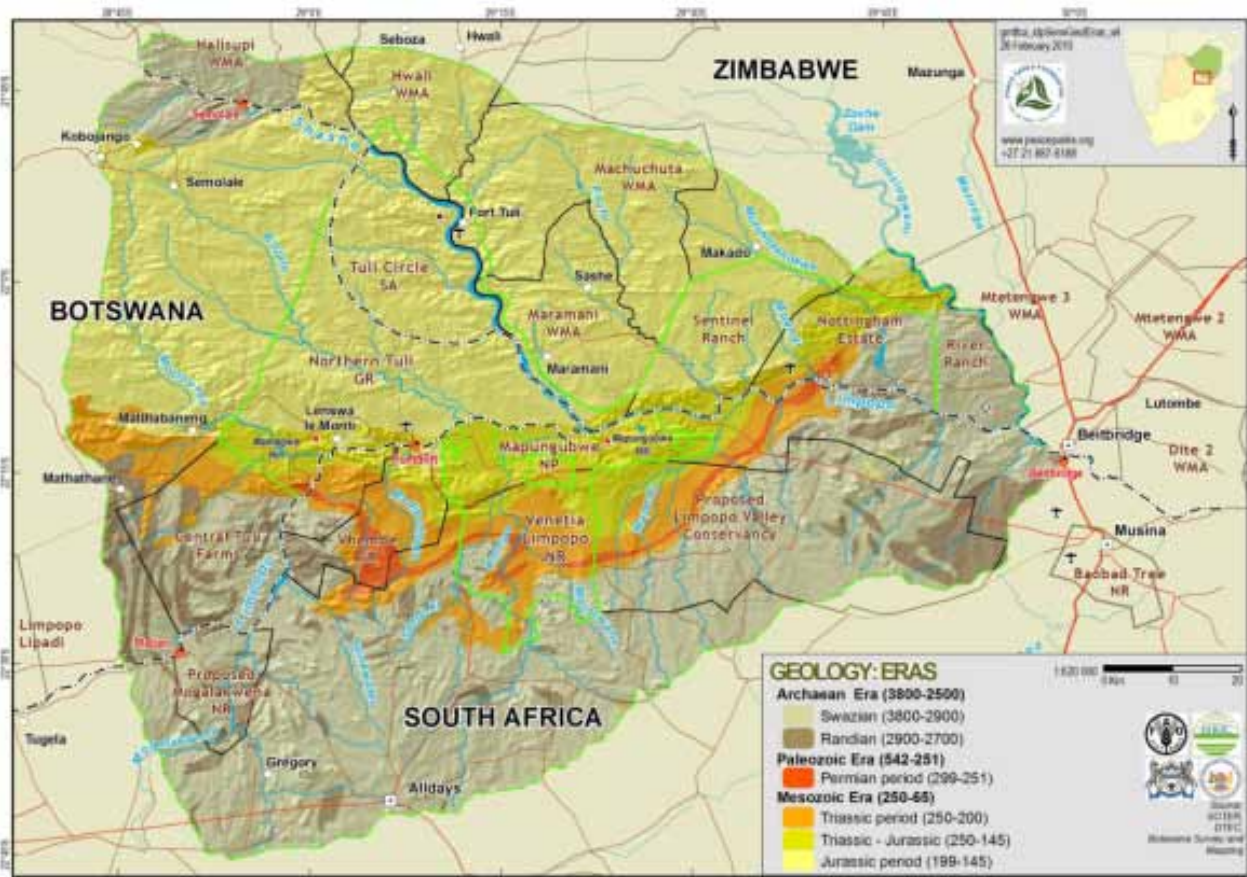


Map 4: Geology - Rock Type



Map 5: Geology - Lithology





Map 6: Geology - Eras



Map 7: Elevation



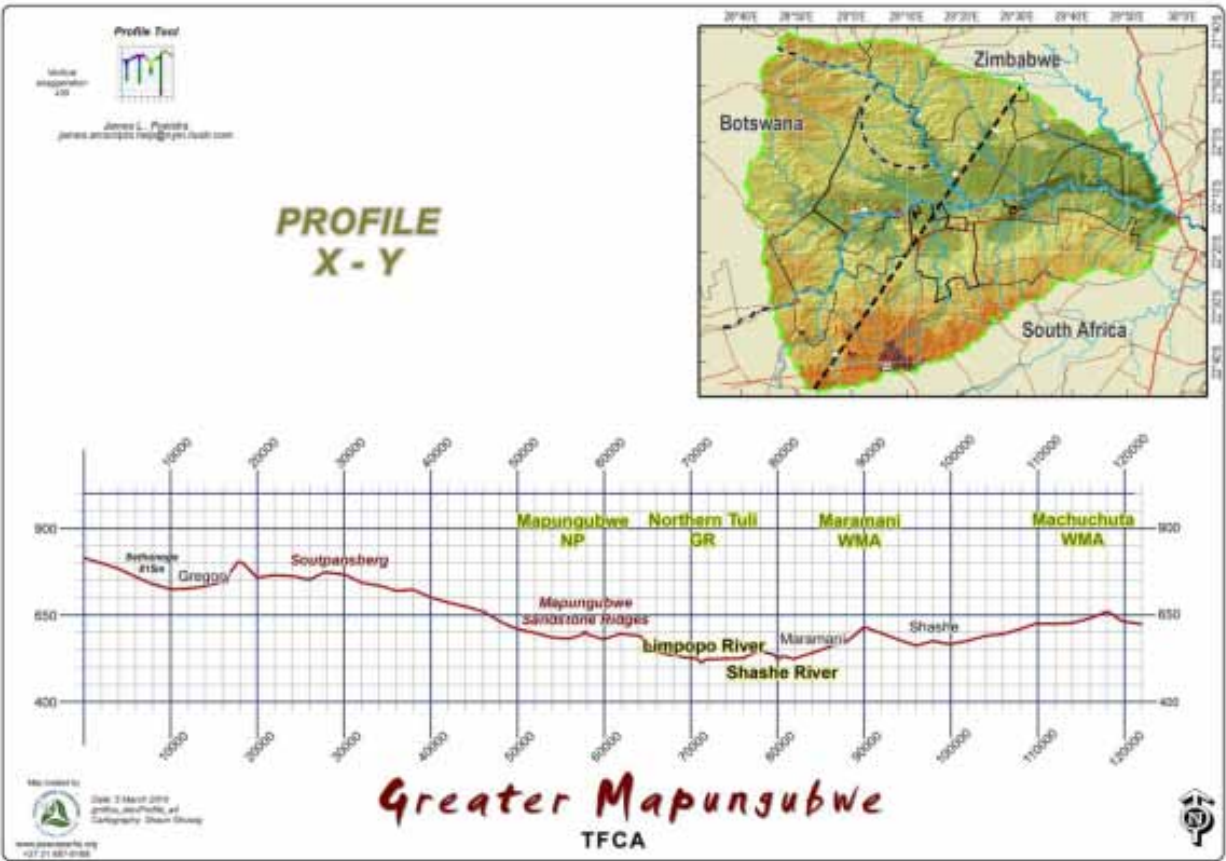
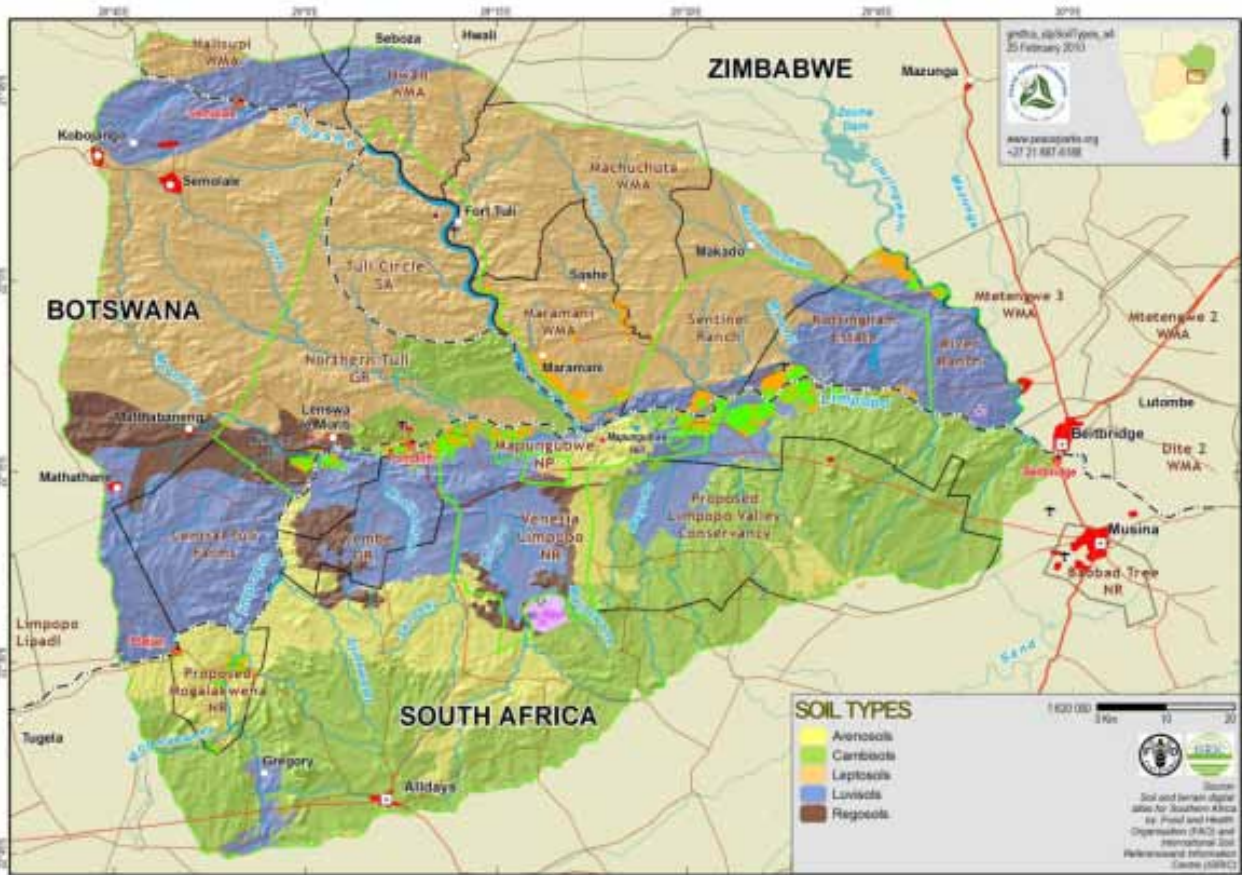


Figure 5: South West to North- East Profile



Map 8: Soil Types





Map 9: Soil texture

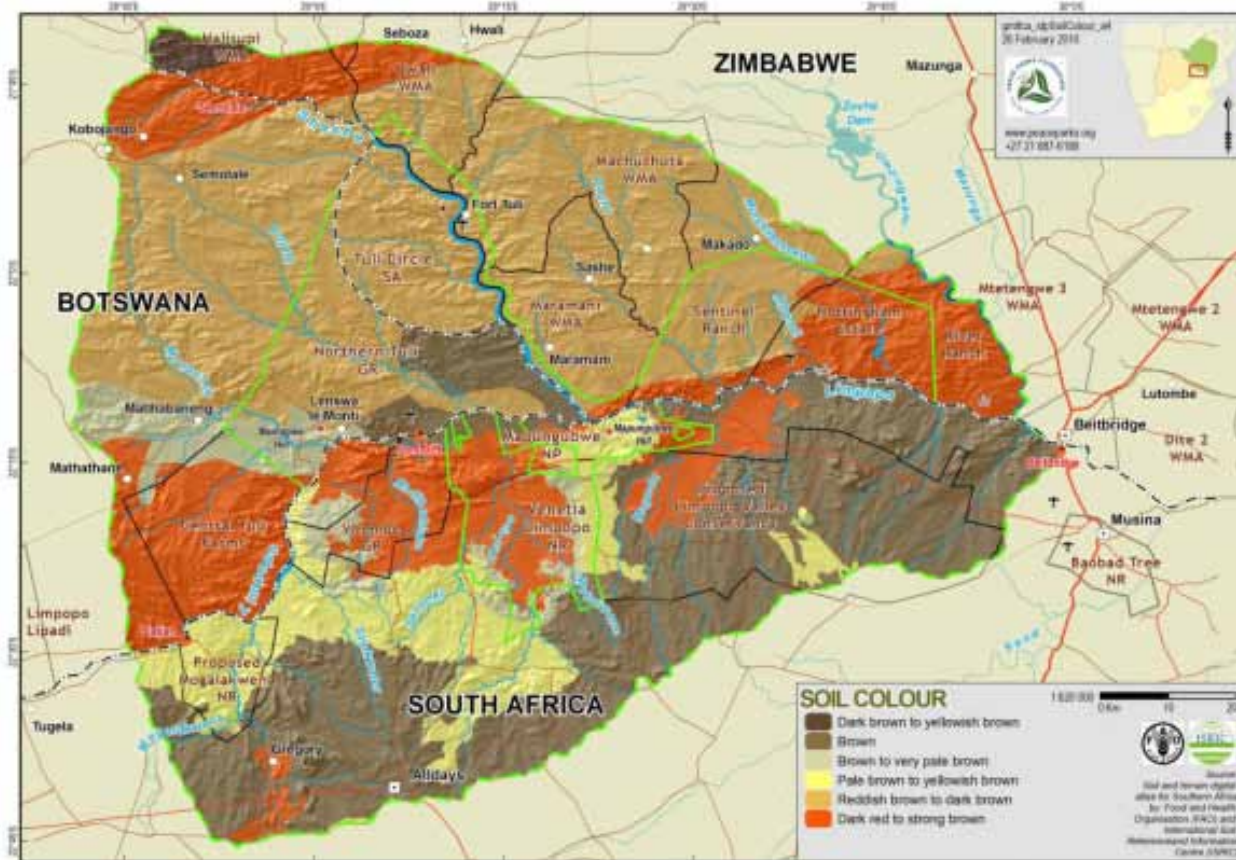


Map 10: Soil Depth





Map 11: Soil Drainage



Map 12: 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 13-16).

### 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 Magalakwena, and in Zimbabwe the Pazhi and Mutshilashokwe.

The catchment context at various scales is illustrated in Maps 17-18 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 Kolope/Maloutswa wetland upstream of the confluence (refer Map 19).

### 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 20) – 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:

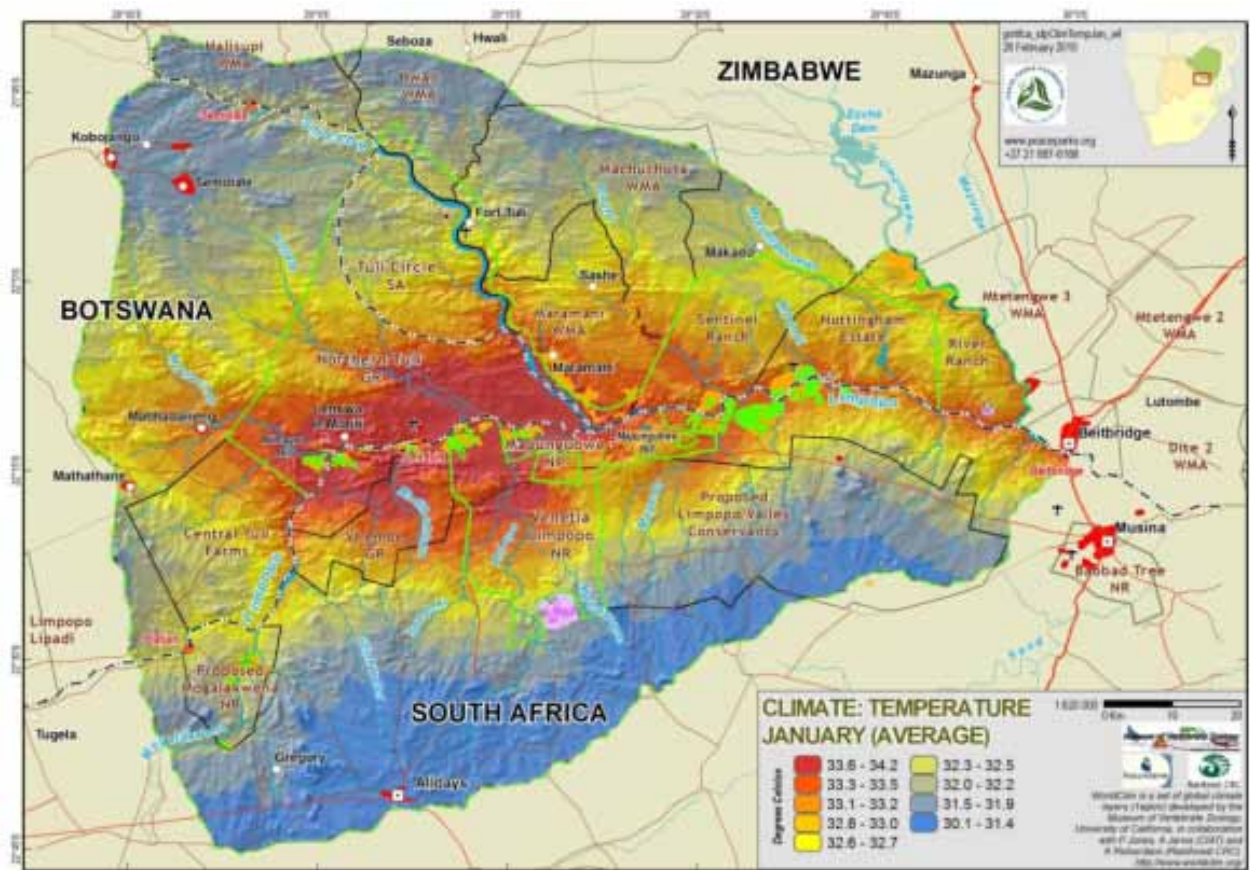
■ Eland (common)	■ Kudu (common)
■ Blue Wildebeest (common)	■ Zebra (common)
■ Waterbuck (common)	■ Impala (common)
■ Bushbuck (common)	■ Klipspringer (common)
■ Duiker (common)	■ Steenbok (common)
■ Red Hartebeest (rare)	■ Gemsbok (common)
■ Giraffe (common)	■ Bush pig (common)
■ Warthog (common)	■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

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

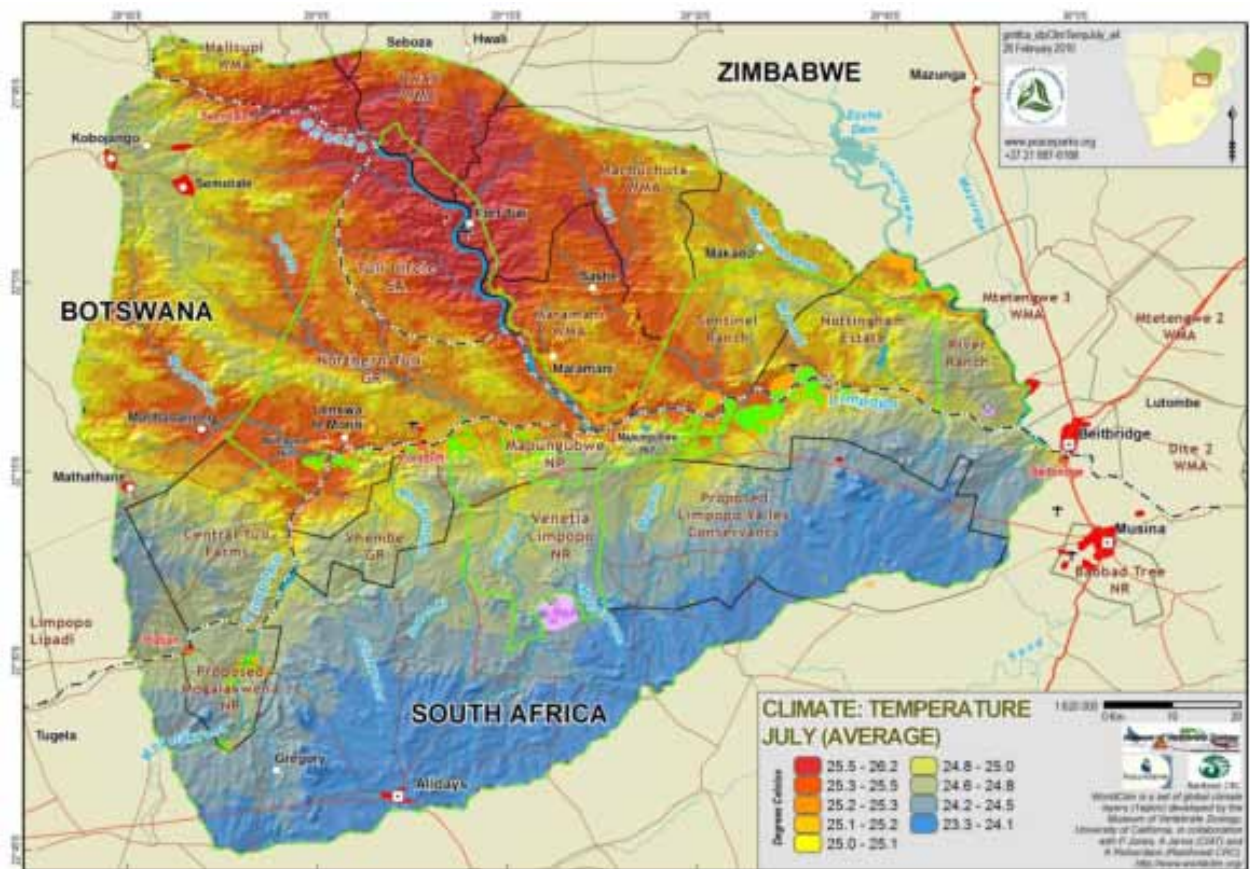
There is a varied reptile fauna. Pythons and Black mambas are common. Insect and other arthropod life is diverse. From November to March the beautiful Mopane Moth can be seen flying around. At least nine scorpion species have been identified.

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



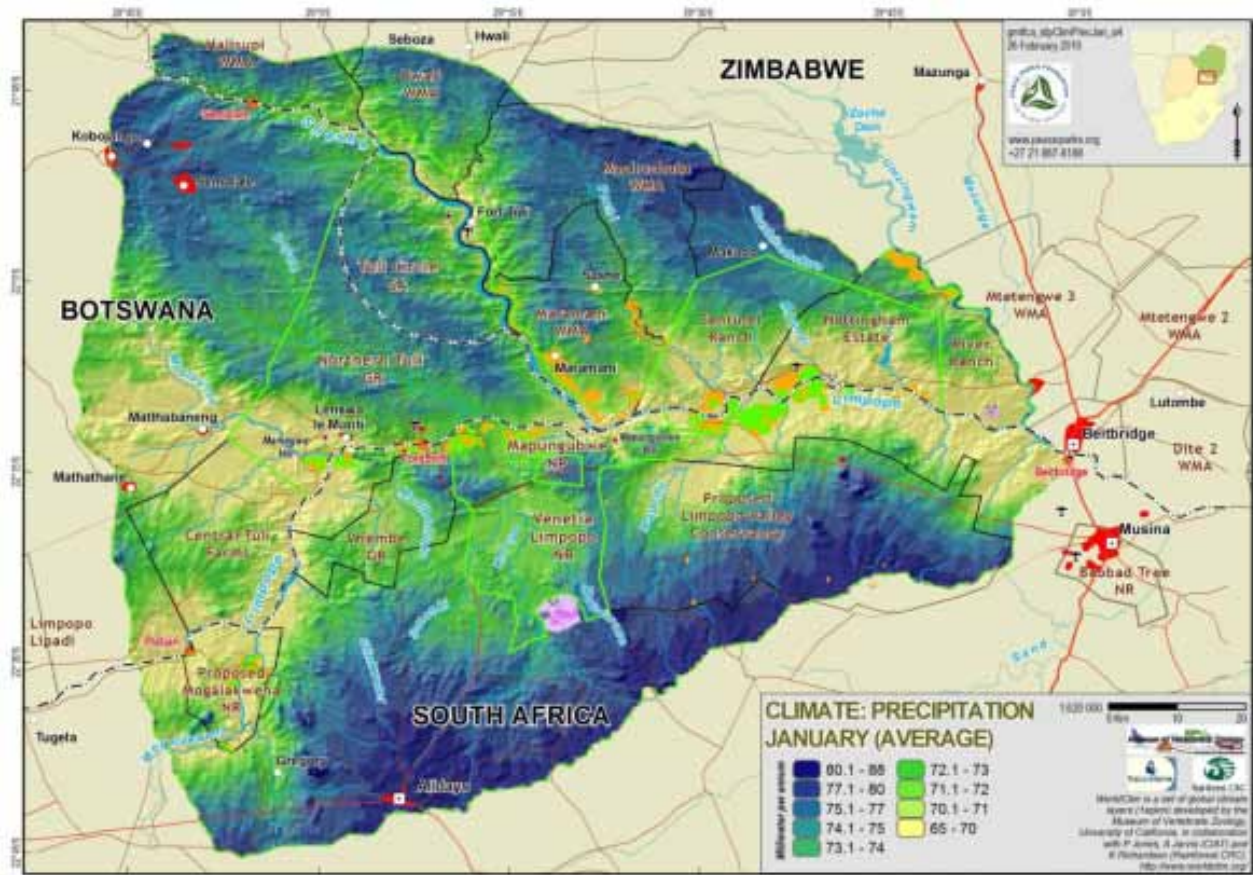


Map 13: Summer Temperatures

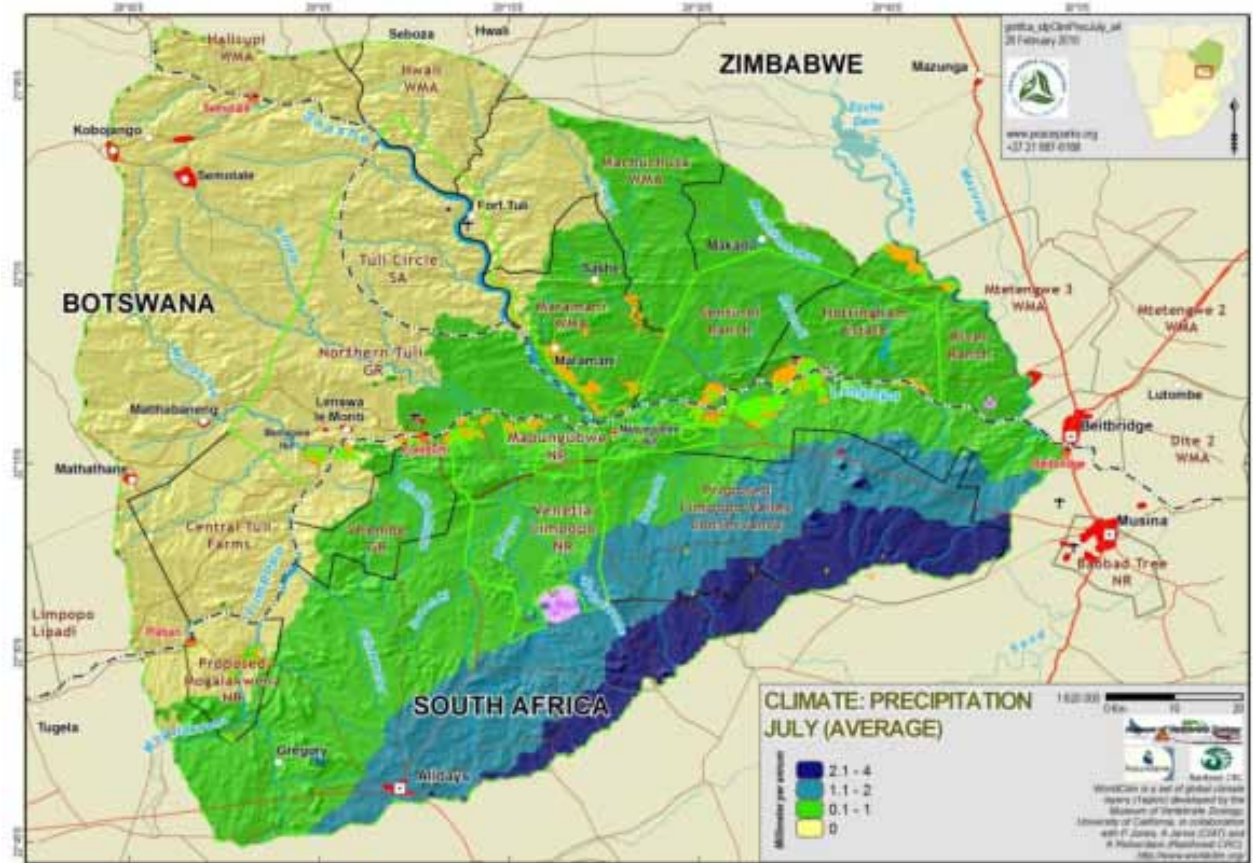


Map 14: Winter Temperatures



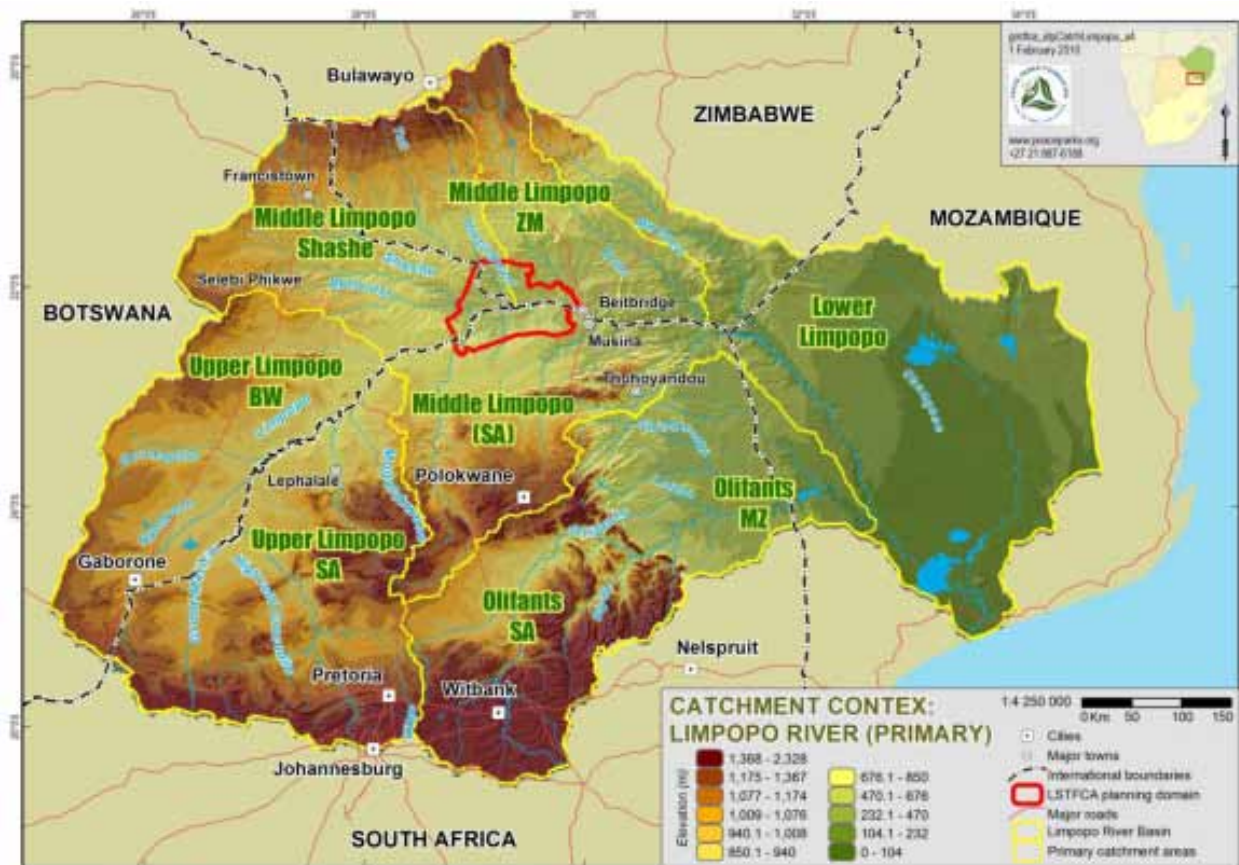


Map 15: Summer Rainfall



Map 16: Winter Rainfall



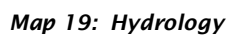


Map 17: Catchment Context - Limpopo

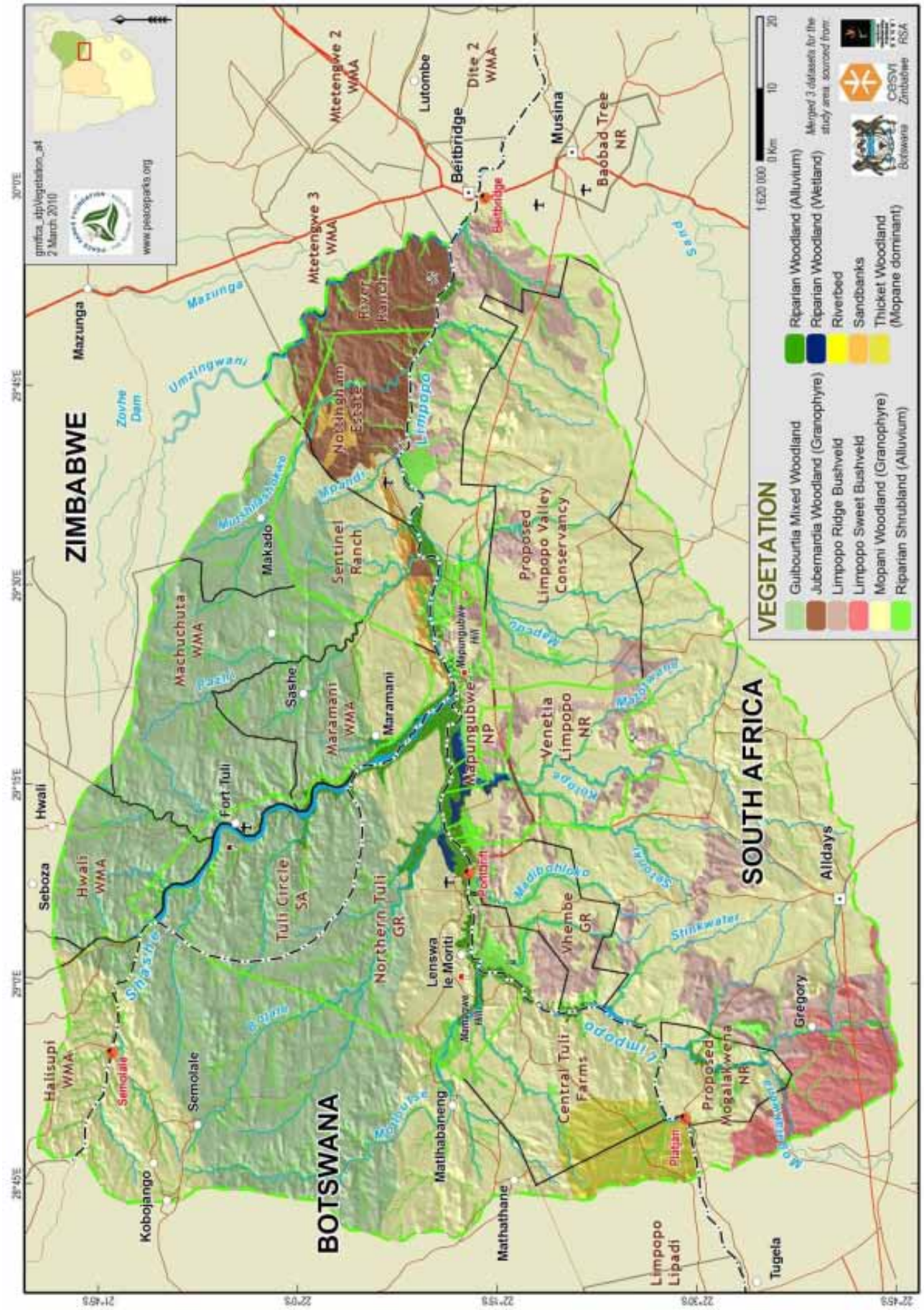


Map 18: Catchment Context - Middle Limpopo









Map 20: Vegetation

## 2.2 CULTURAL AND HISTORICAL ENVIRONMENT

The GMTFCA is an area rich in cultural and historical resources, the anchor of which is the Mapungubwe Cultural Landscape (MCL). Inextricably linked to the region is the pioneer history, as well as the history of conservation within the Limpopo Valley (refer Map 21 and Figure 6).

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.

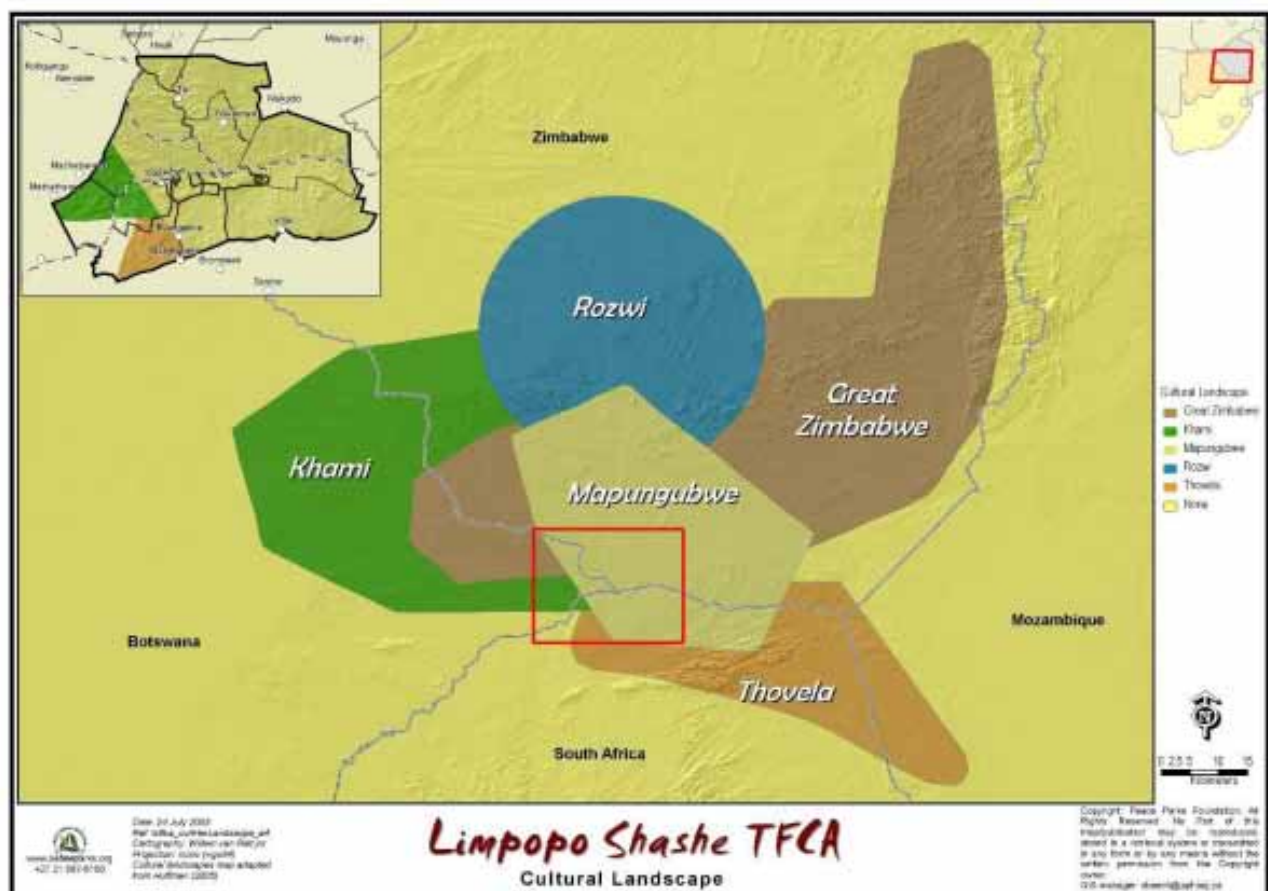
The main archaeological sites within in the TFCA include K2, Mapungubwe and Schroda and other sites such as Mmamagwe, Mapela Ruins, Motloutse River, Leokwe Hill and Fort Tuli.

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 (refer Map 22).

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 Rhodesdrift and Poacher's Corner. More recent military history is illustrated in the extensive border fences erected by Apartheid Government of South Africa.



Map 21: Cultural Heritage Spheres





Mapungubwe Rhino



Giraffe Figurine



San Paintings



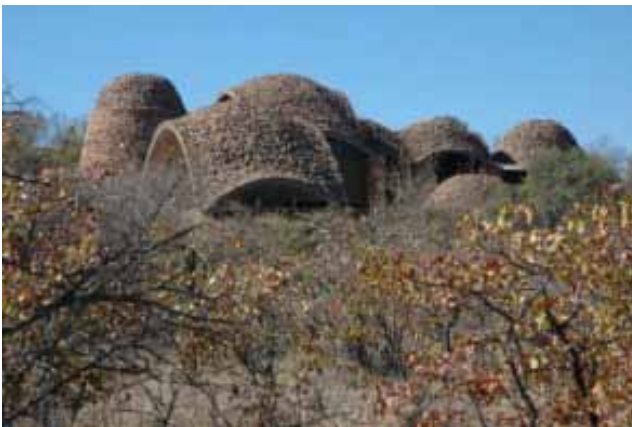
Gold Bowl



Gold Sceptre



Mafuvha Stone Game Board on Mapungubwe Hill



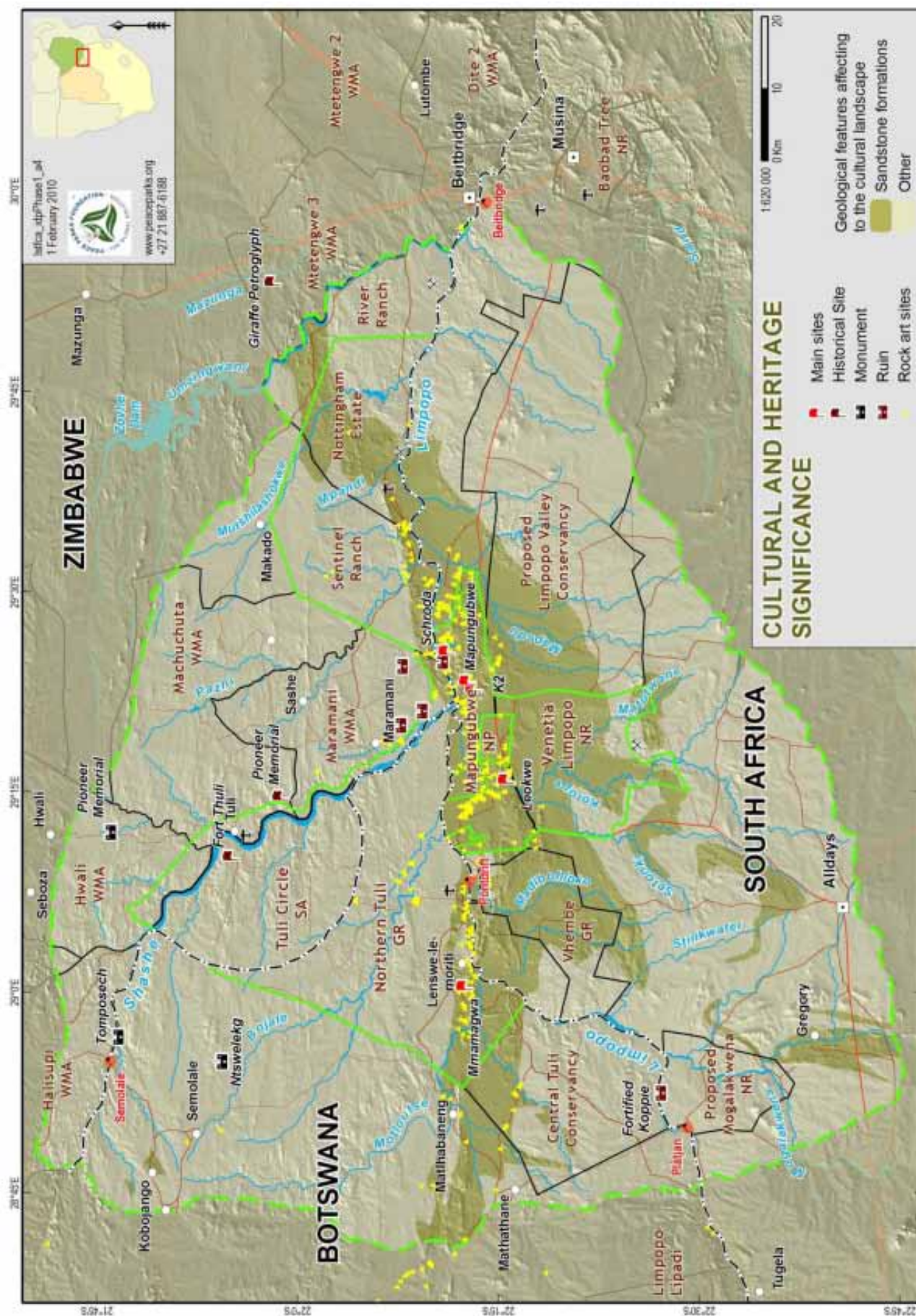
Mapungubwe Interpretative Centre



Trade Glass Beads

Figure 6: Cultural and Heritage Resources





**Map 22: Sites of Cultural and Heritage Significance**

## 2.3 ECONOMIC ENVIRONMENT

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 buffer 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 MPNP 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.

### 2.3.1 Tourism Access and Accommodation Facilities

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 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 27 (refer Appendix 1) and depicted in [Map XXX](#). This does 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 MPNP. Few amenities are available in the Zimbabwe component.

Approximately 500 tourist beds are available in the study area of which most are high spend facilities (refer Annexure 1).

### 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. 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 also being undertaken throughout large portions of the area (refer Map 23).



### **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.

### **2.3.4 Tenure and Land Use**

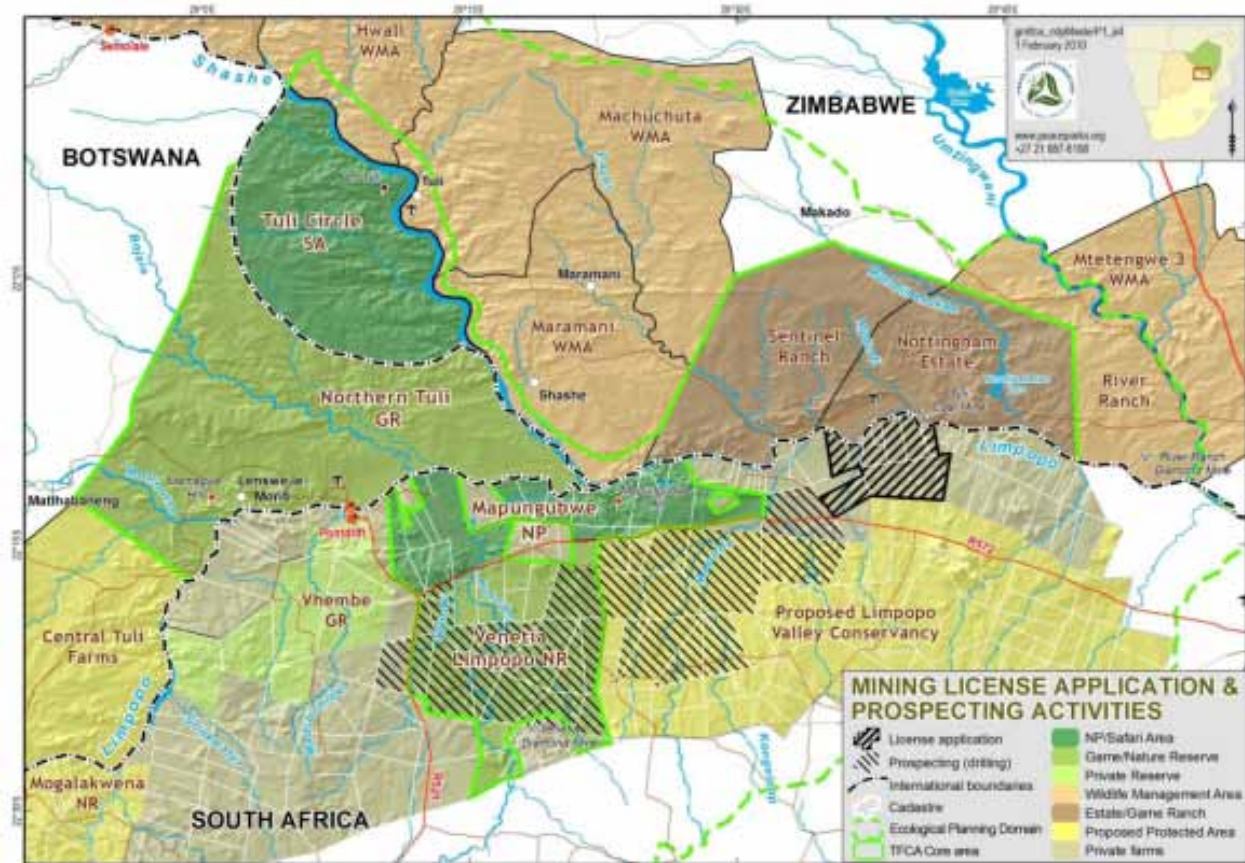
Tenure within the GMTFCA includes State land, private land and communal land (refer Map 25). Land uses within the GMTFCA mainly focus on conservation and tourism, yet mining and agriculture are also practiced and do have an impact on the area (refer Map 26).

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.

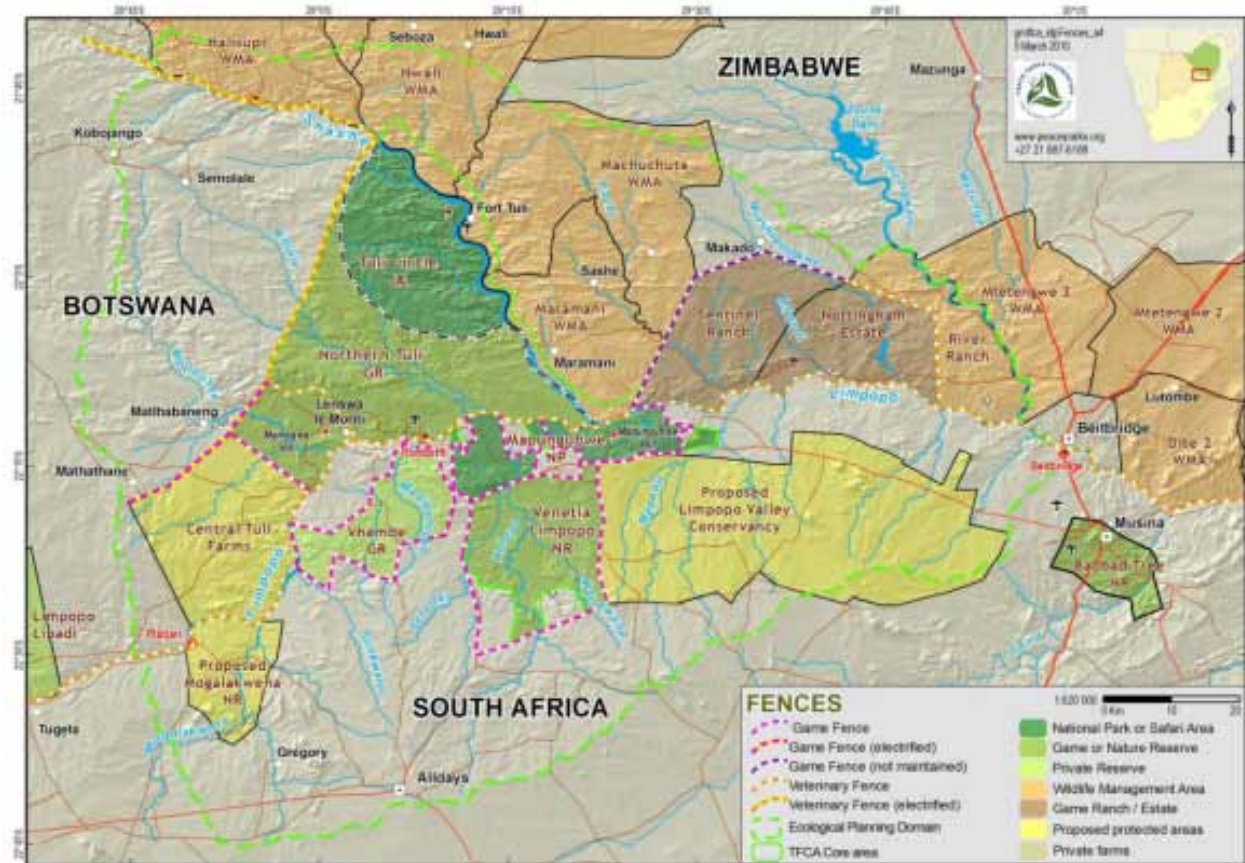
Built-up and cultivated land thus occur mainly along watercourses in the study area, predominantly the Limpopo and Shashe Rivers, with opencast mining taking place at Venetia, River Ranch and Nottingham Estate.

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 24 shows the location of fences within the GMTFCA.



Map 23: Prospecting Licences and Drilling Activities



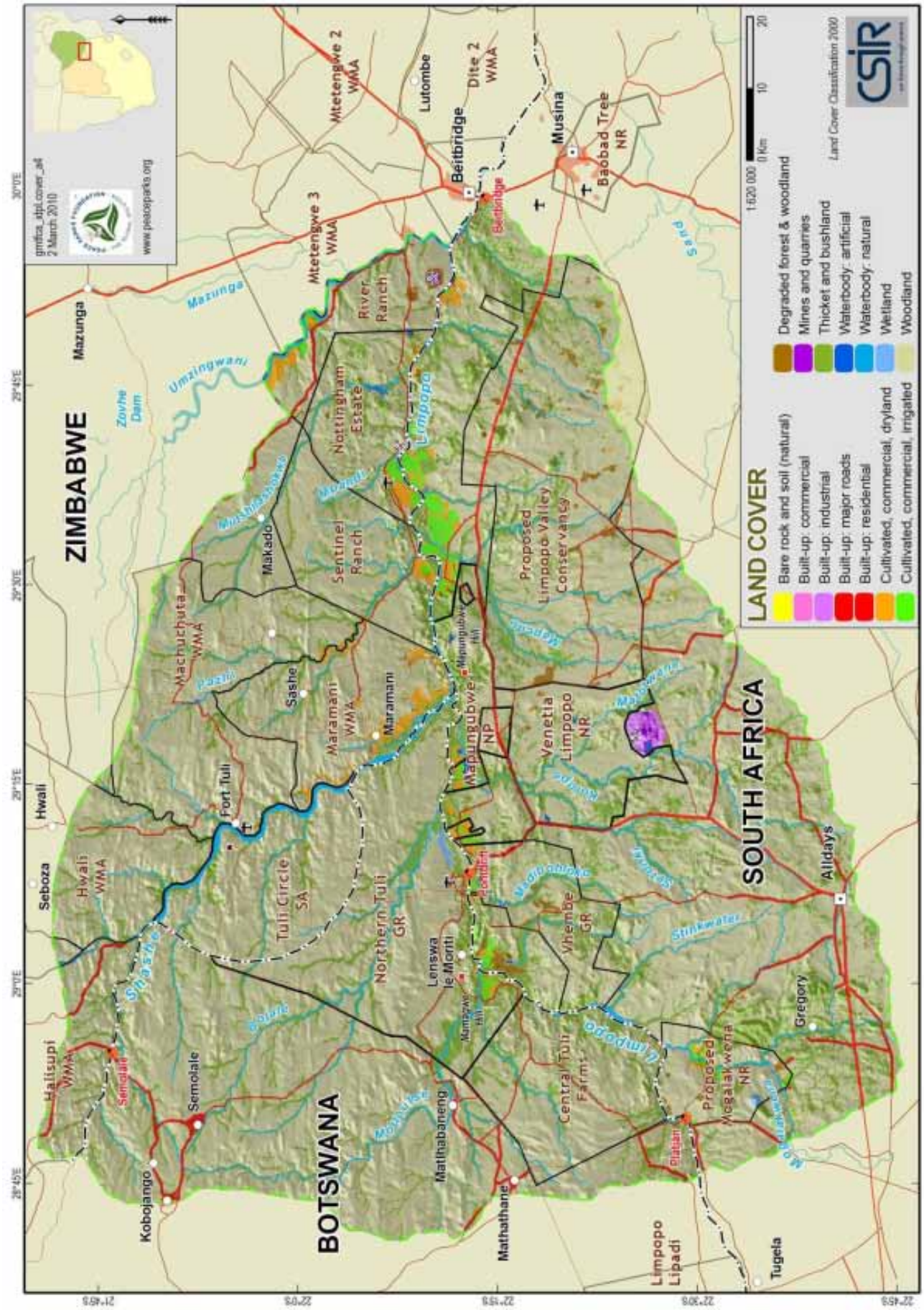
Map 24: Fences within the GMTFCA





**Map 25: Tenure**





Map 26: Land Cover



## 2.4 GOVERNANCE ENVIRONMENT

### 2.4.1 Spheres of Government

Government at all three spheres are involved within the Government structures within the GMTFCA, and 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 27).



Map 27: Government Boundaries

## 2.4.2 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
- 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
- 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

*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
- 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, 2005 (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
- Agreement for the Establishment of the Vhembe/Dongola National Park, 1996

*Zimbabwe* relevant legislation includes:

- 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
- Communal Land Forest Produce Act of 1928



TFCA specific policy and legal framework include:

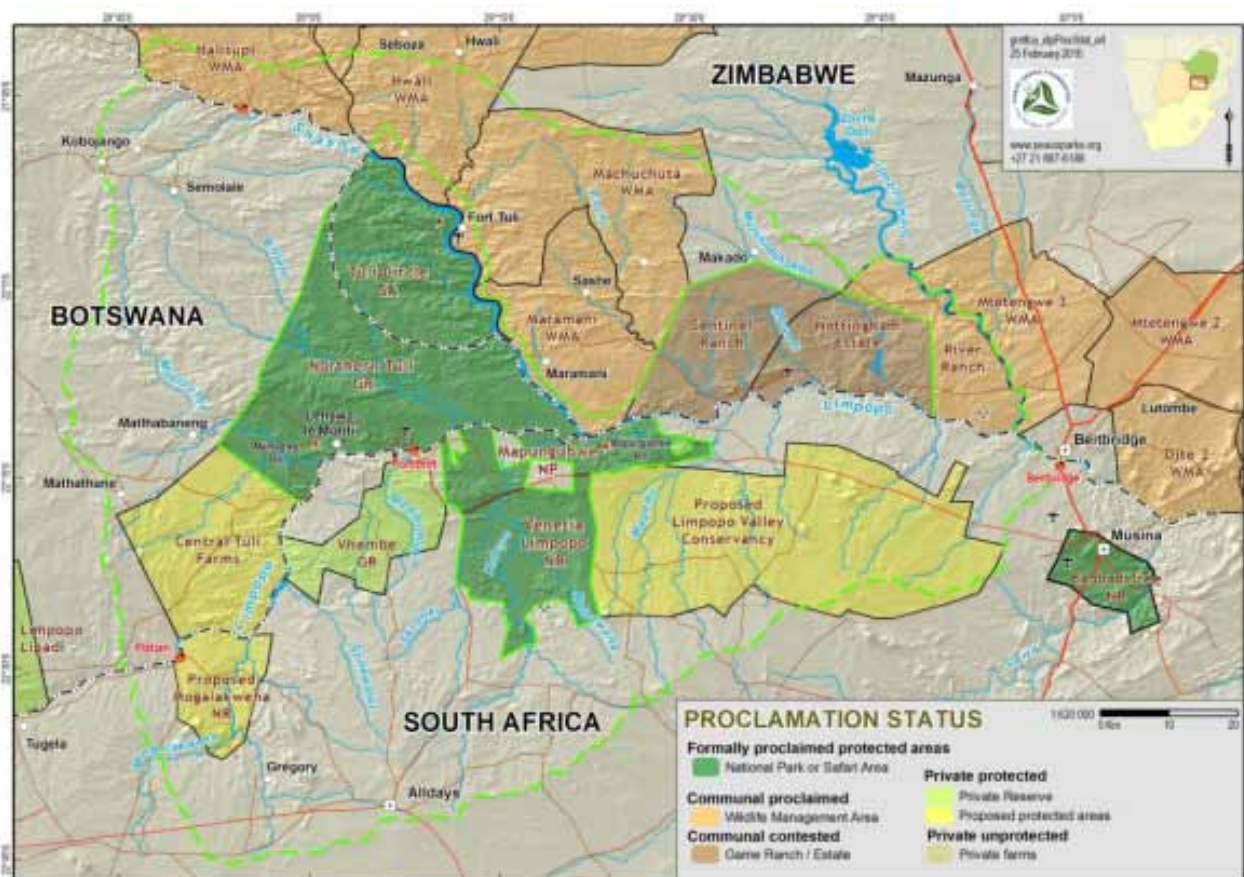
- Commitment to regional cooperation, SANParks, Limpopo Province and DEAT (signed 1996)
- Memorandum of Understanding, Botswana, South Africa, Zimbabwe: NOTUGRE, Mapungubwe National Park, Tuli Circle and South Africa, 2006
- Draft Treaty, July 2009

### 2.4.3 Protected Areas

Within the area the following formally proclaimed protected areas (refer Map 28) occur ranging from international through to community conservation status:

- Tuli Circle Safari Area;
- Maramani Wildlife Management Area;
- Machuchuta Wildlife Management Area;
- Hallsupi Wildlife Management Area;
- 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.



Map 28: Proclamation Status

## 2.4.4 Current TFCA Conservation Administrative Arrangements

The current TFCA institutional arrangements consist of the following and are illustrated in Figure 7:

- 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.

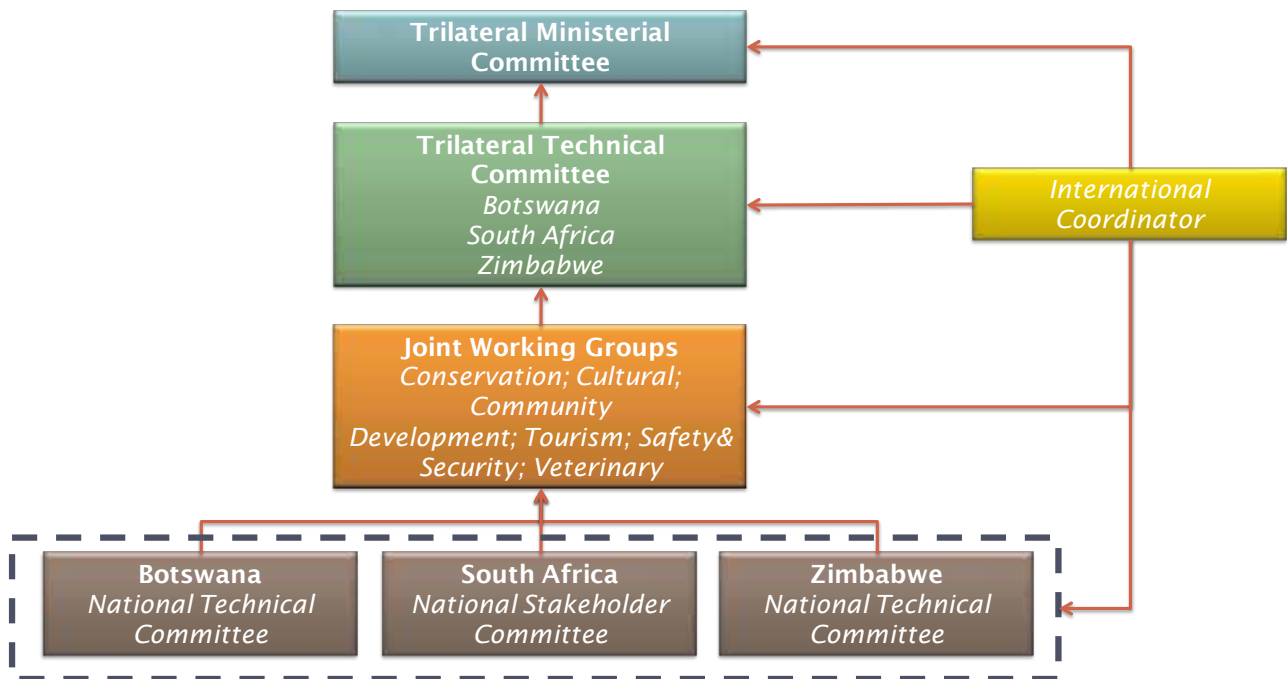


Figure 7: TFCA Administrative Arrangements, 2010



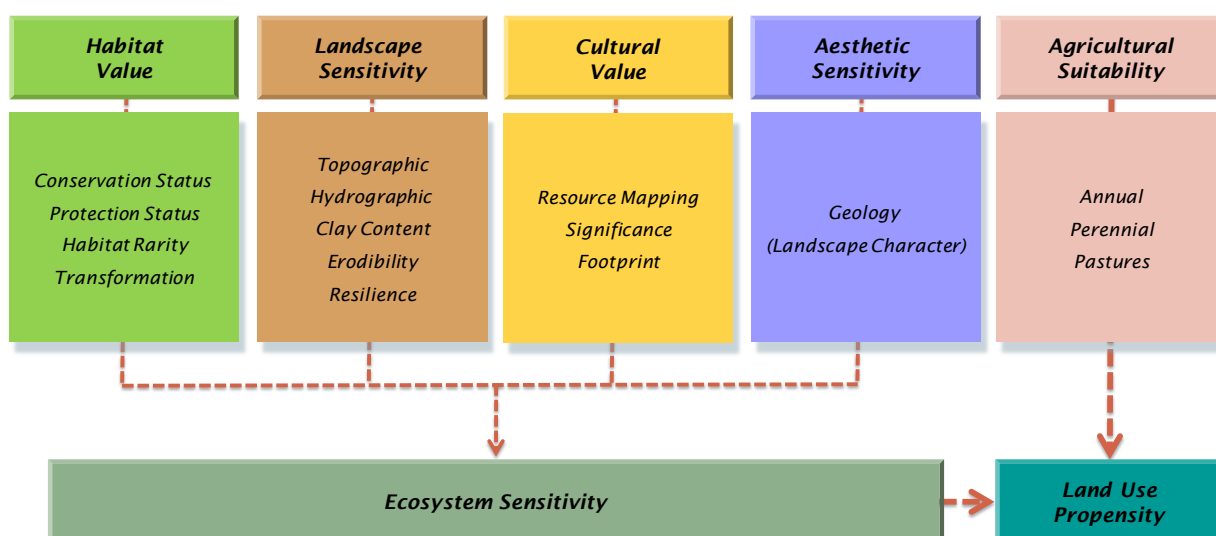
## 2.5 SENSITIVITIES: UNDERSTANDING THE PLANNING ENVIRONMENT

To ensure accountability regarding decisions pertaining 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 8).

*Ecosystem Sensitivity* is determined by examining:

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

Agricultural Suitability combined with *Ecosystem Sensitivity* establishes *Land Use Propensity*.



**Figure 8: 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 29).

### Landscape Sensitivity:

Similar to Habitat Value, geology and hydrology are the main determining factors regarding Landscape Sensitivity (refer Map 30). The riparian vegetation and associated river floodplains are most sensitive as are the tributaries to the main rivers. The Semolale 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 31).

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 32). 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.

### Ecosystem Sensitivity:

Regarding the key findings of the combined ecosystem sensitivity analysis three main aspects necessitate clarification (refer Maps 33 and 34). 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 Semolale 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 (refer Maps 51-53, Appendix 2).

### Land Use Propensity:

By combining the ecosystem sensitivity and agricultural suitability indices it is possible to compile a land use propensity map, showing the most suitable and appropriate land use options (refer Map 35).

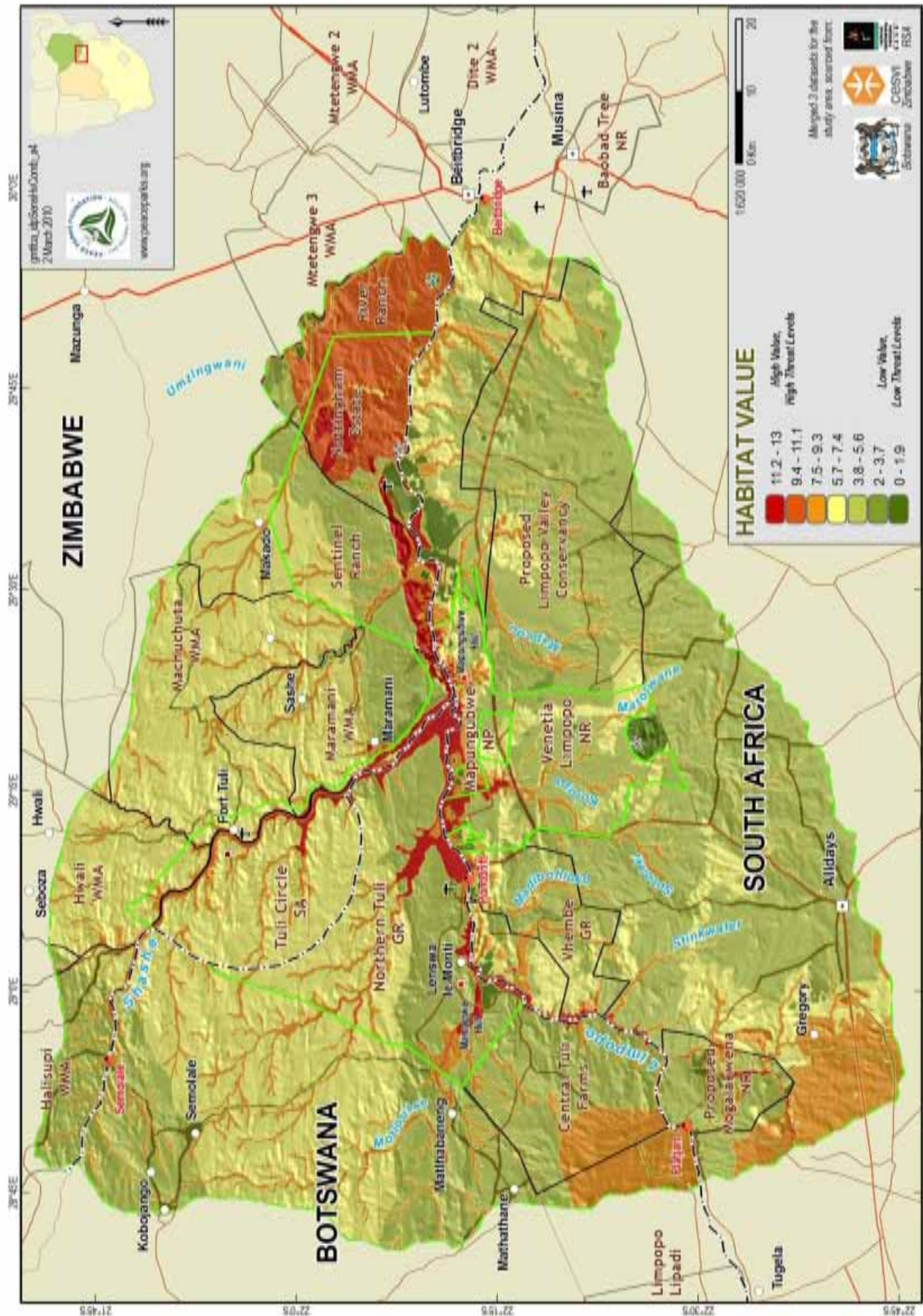
The areas along the Limpopo and Shashe Rivers as well as most of the tributaries show excellent potential for use as conservation areas focusing on biodiversity and culture with portions adjoining this showing secondary value. These include the Central Tuli, Vhembe, Nottingham and River Ranch Areas.

Large portions of NOTUGRE, Tuli Circle and the various WMAs in Zimbabwe show biodiversity and cultural value, while some areas to the far north and south of the study area show lower value for conservation.

From a land use planning perspective it is recommended that most of the GMTFCA be used for ecotourism and wildlife, with some areas which can be used for multiple land use options, yet with a strong focus on ecotourism.

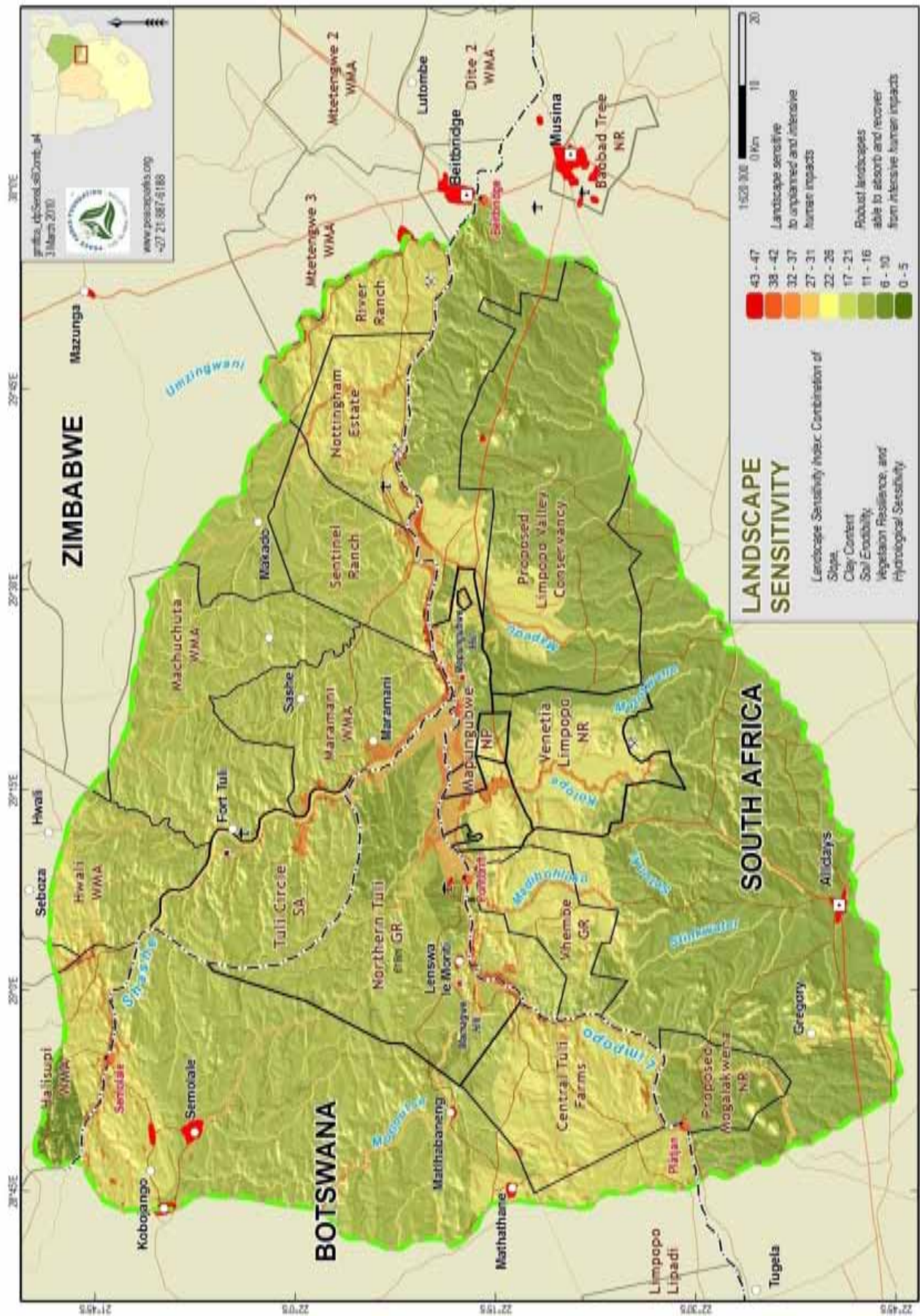
A few areas, all intensive, are suitable for a continuation of current activities – mining and agriculture – yet it is recommended that the impact of these activities be monitored and that the footprints not be allowed to expand. Areas suitable for resource utilisation occur on the northern and southern extremities of the GMTFCA.





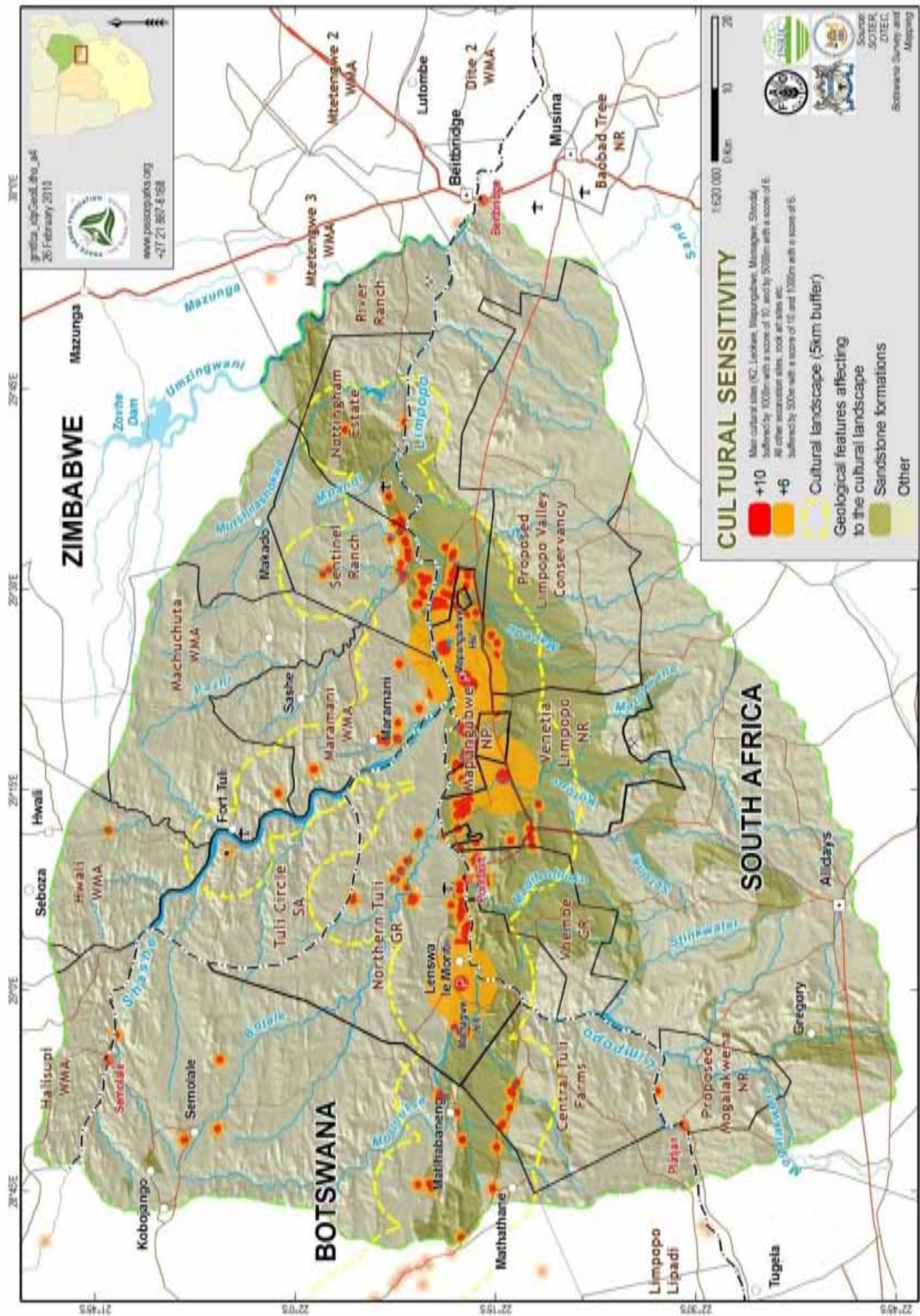
Map 29: Habitat Value





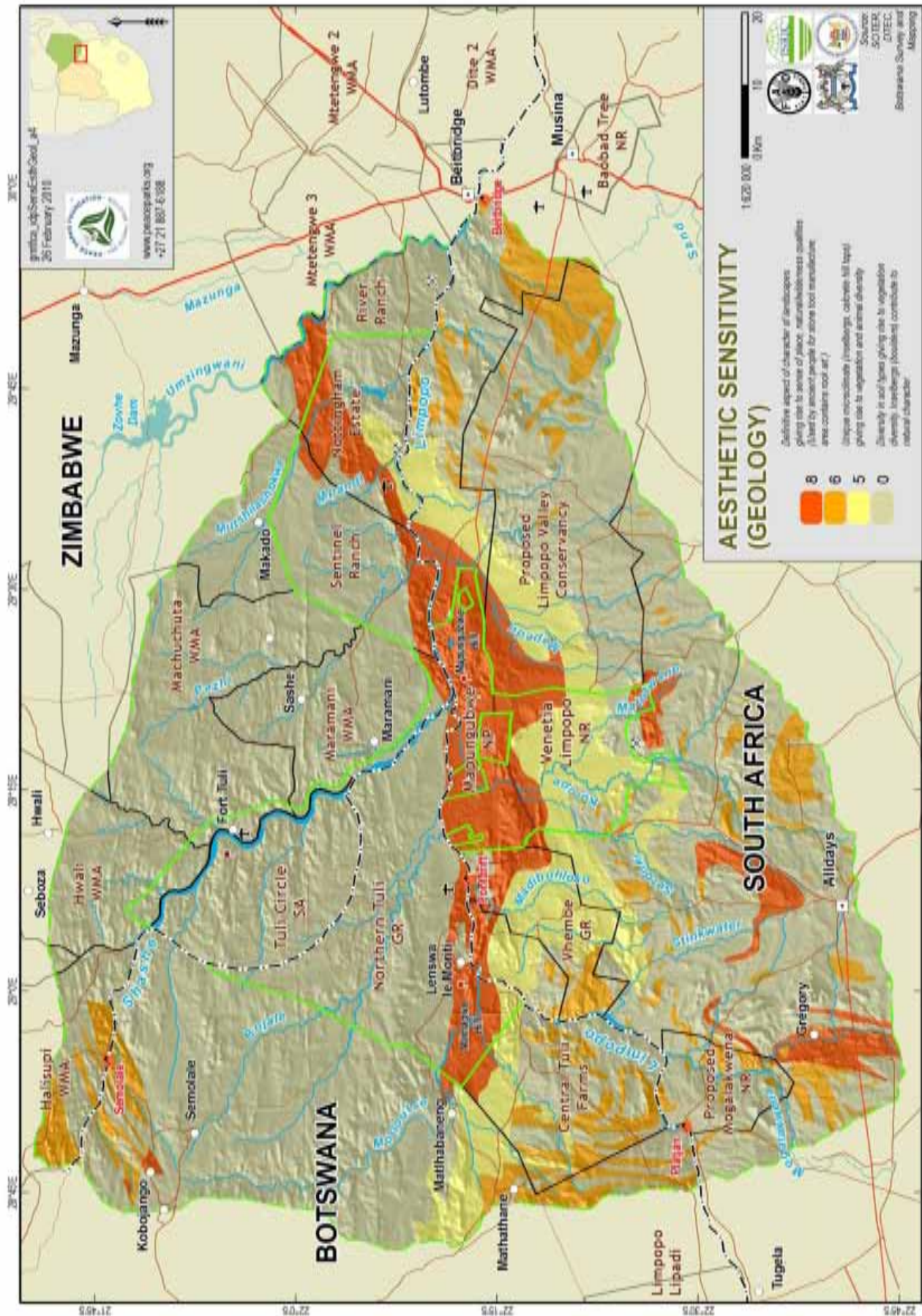
Map 30: Landscape Sensitivity





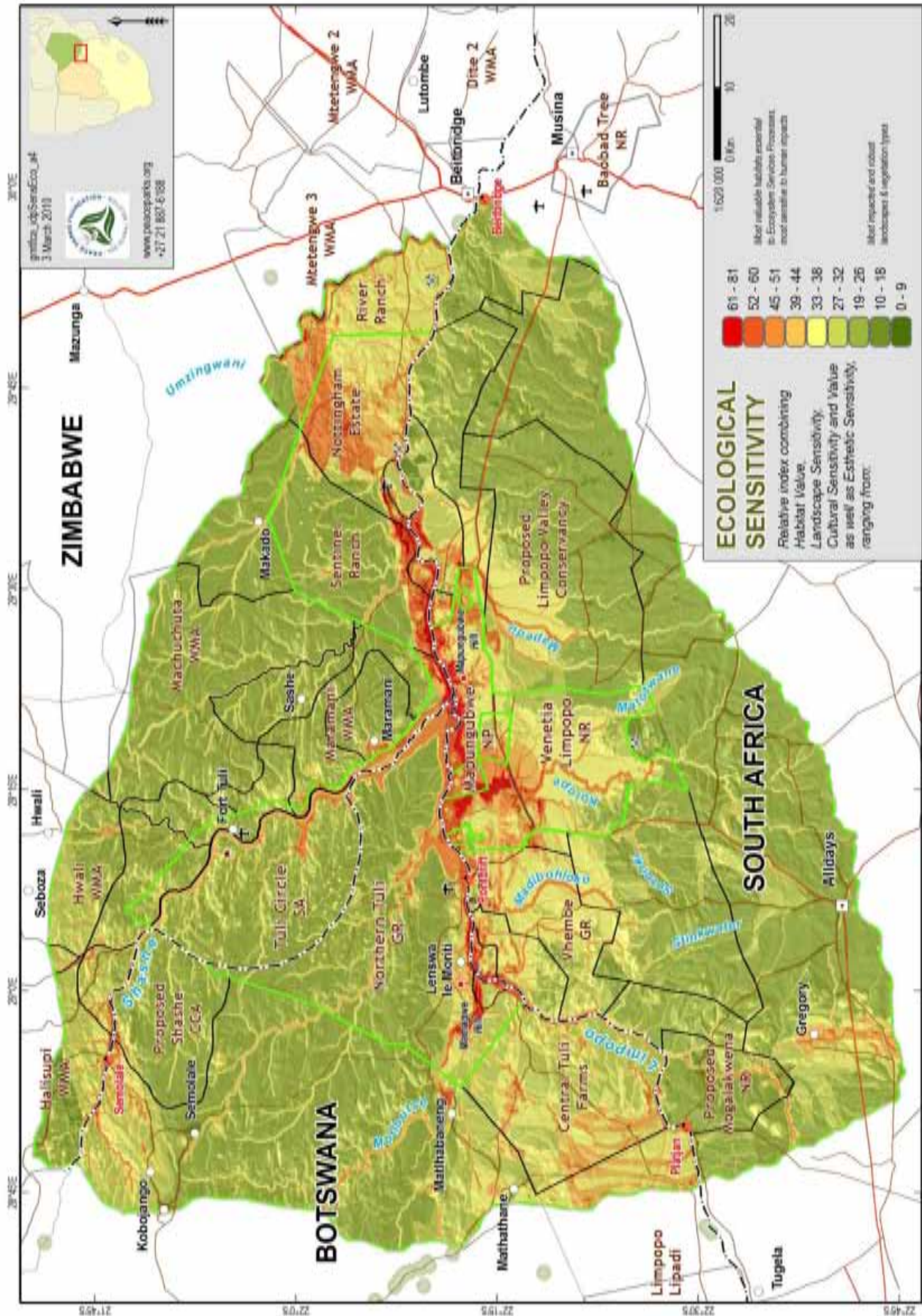
Map 31: Cultural Sensitivity





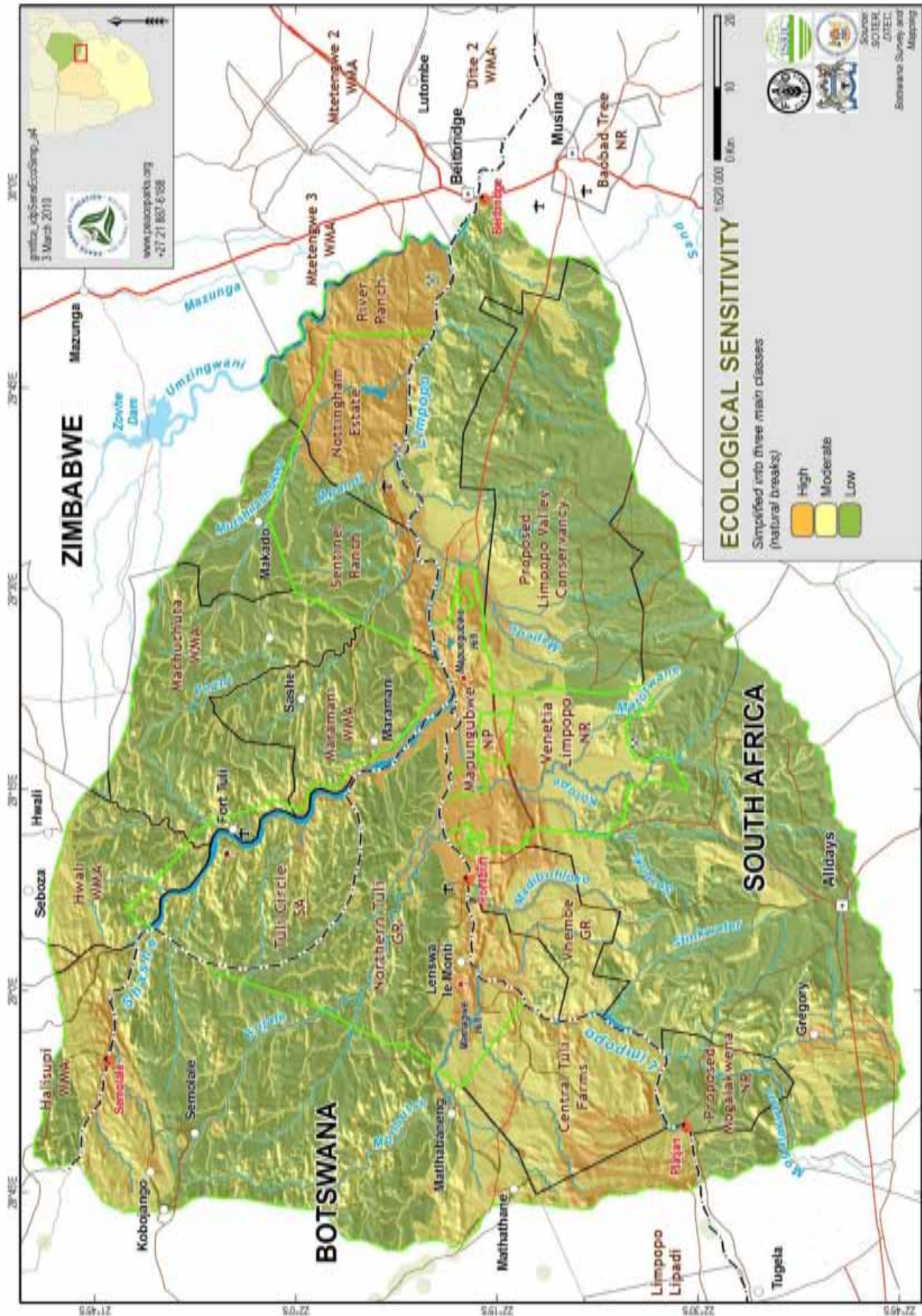
Map 32: Geology Sensitivity





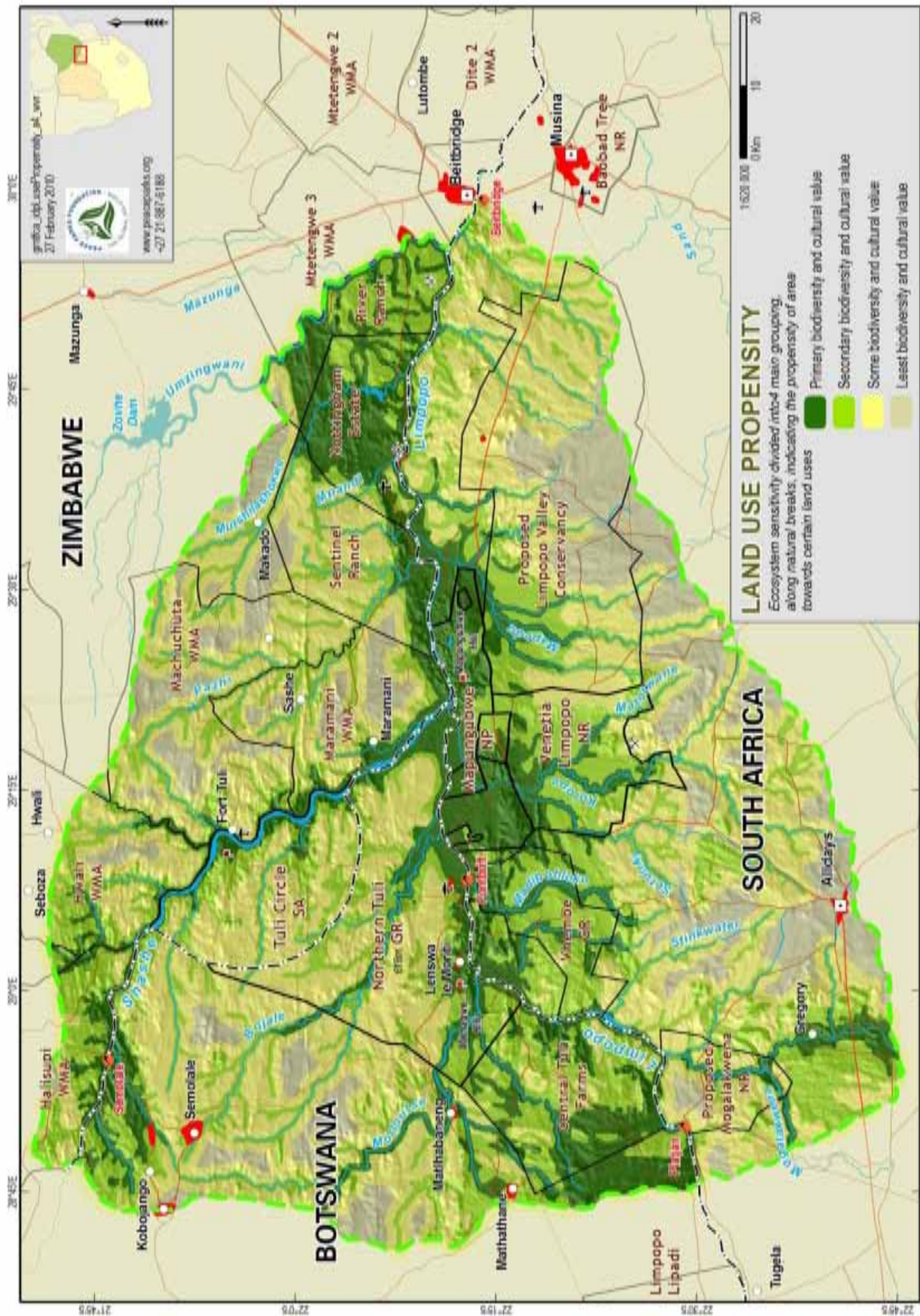
Map 33: Ecosystem Sensitivity





Map 34: Simplified Ecosystem Sensitivity





Map 35: Land Use Propensity

## SECTION 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 Wildlife Management Areas) as well as River Ranch. Each of these have active TFCA Committees, represented on the TTC by the BBRDC or the national representative.



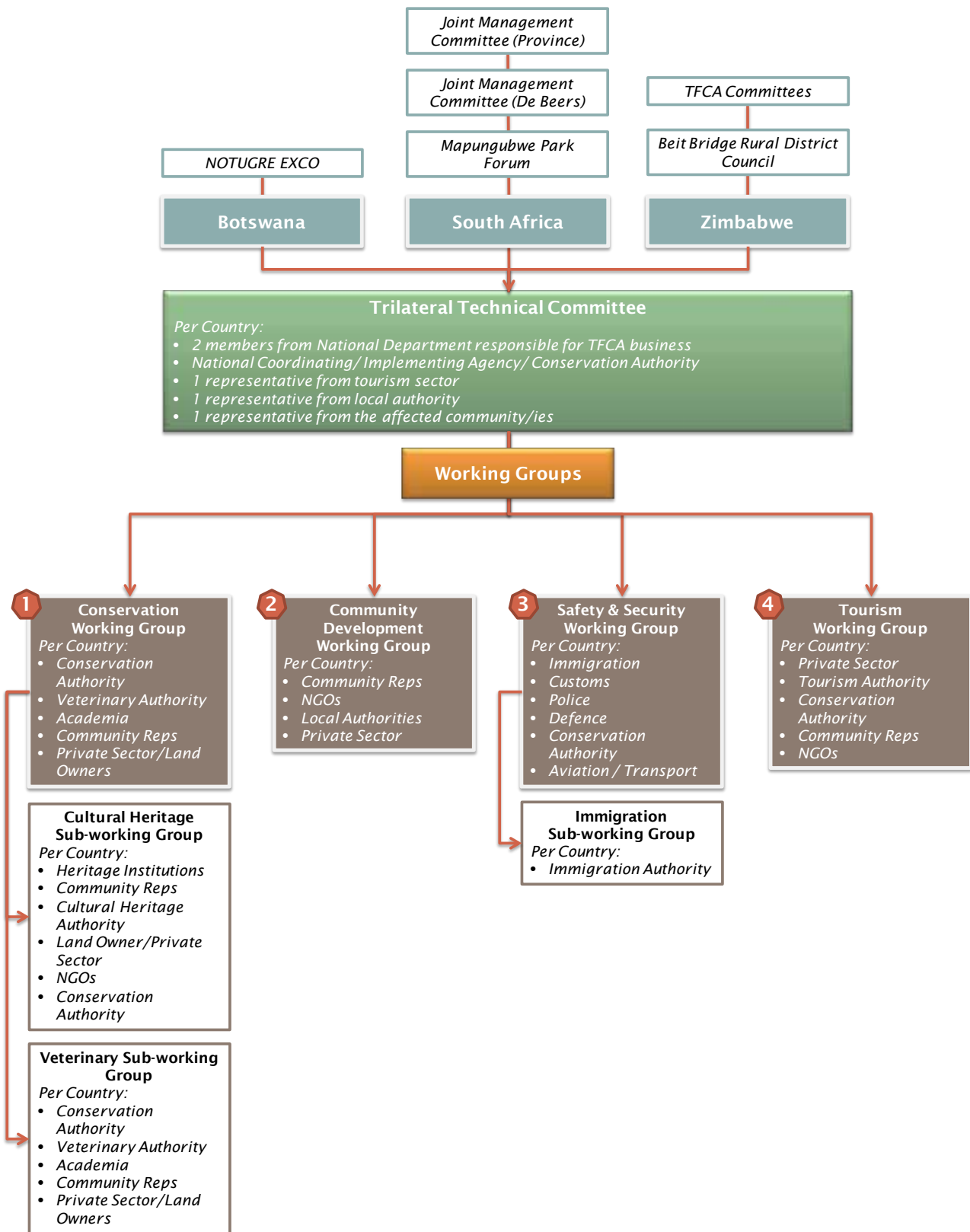


Figure 9: TTC Structures and Representation

## 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 as well as at various Needs and Expectations Workshops held in Botswana, South Africa 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; and
  - ~ Veterinary Control Plan (Veterinary Control Fences, Gates and Procedures).
  
- Tourism:
  - ~ Tourism Access facilities;
    - Border Posts;
    - 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; and
  - ~ Beneficiation programme.



## SECTION 4. THE PLAN

### 4.1 INTRODUCTION

Within this section the challenges and threats are addressed, 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 7 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 suitabilities of the receiving environment. These concepts are then combined into a Masterplan for the GMTFCA.

### 4.2 CHALLENGES – THREATS AND ISSUES

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 Figure 10).

*Agricultural activities* target the alluvial areas which over time have become severely threatened and which are on a national and regional scale areas 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. This change will be permanent and irreversible.



*Habitat Fragmentation*



*Mining*



*Agriculture*

**Figure 10: Challenges and Threats**

## 4.3 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.

### 4.3.1 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 through by establishing ecotourism as a key economic activity; and
- Ensuring a healthy and safe environment;
- Managing benefits from conservation and ecotourism to the region and its people.

These objectives are aligned with the SADC 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.



## 4.4 STRATEGIC BUSINESS PLAN

To guide the attainment of the stakeholder needs and expectations, a process based management system approach is followed (refer Figure 11). Through implementation of the strategic guidelines it will be possible to progress from the current state towards a future desired state.

The success of TFCAs is directly related to the *governance* of these internationally recognised transboundary conservation areas. Even though conservation relies on resources protection, the unlocking of economic potential, and the management of benefits emanating from conservation and related economic activities, the governance of these aspects across international borders determines the extent of success that TFCAs can claim.

The main and critical aspects or Key Performance Areas (KPA) related to the governance of TFCAs have been identified as follows (refer Figure 12):

- Joint Planning;
- Legal status and institutional arrangements;
- Sustainable Financing;
- Policy Harmonisation;
- Sustaining Landscape Dynamics;
- Integrated Management; and
- Integrated Development Strategies.

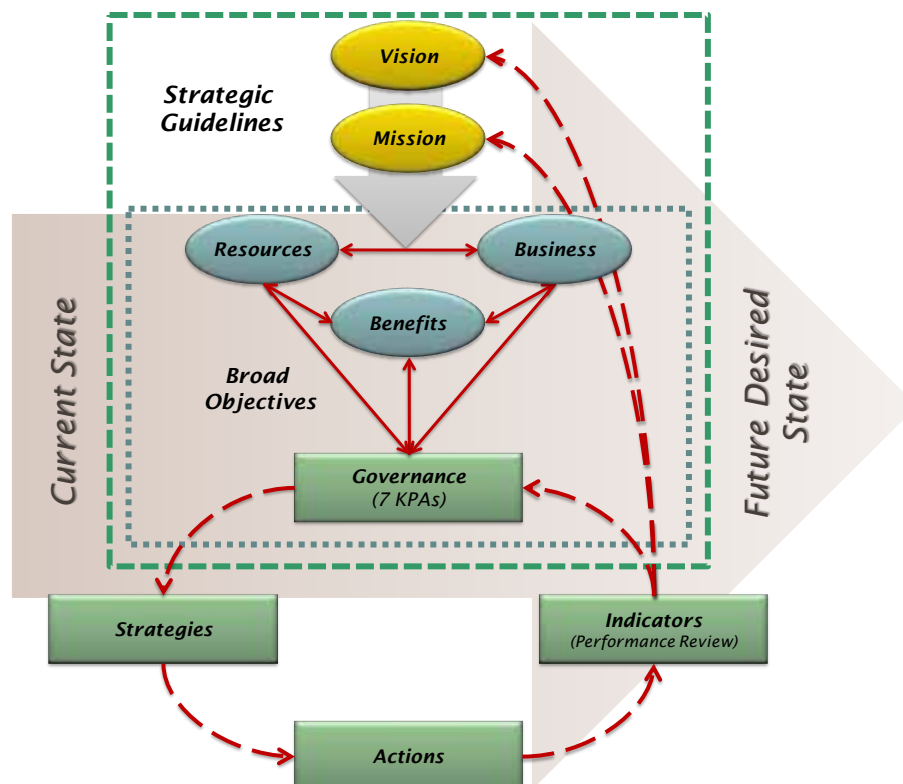
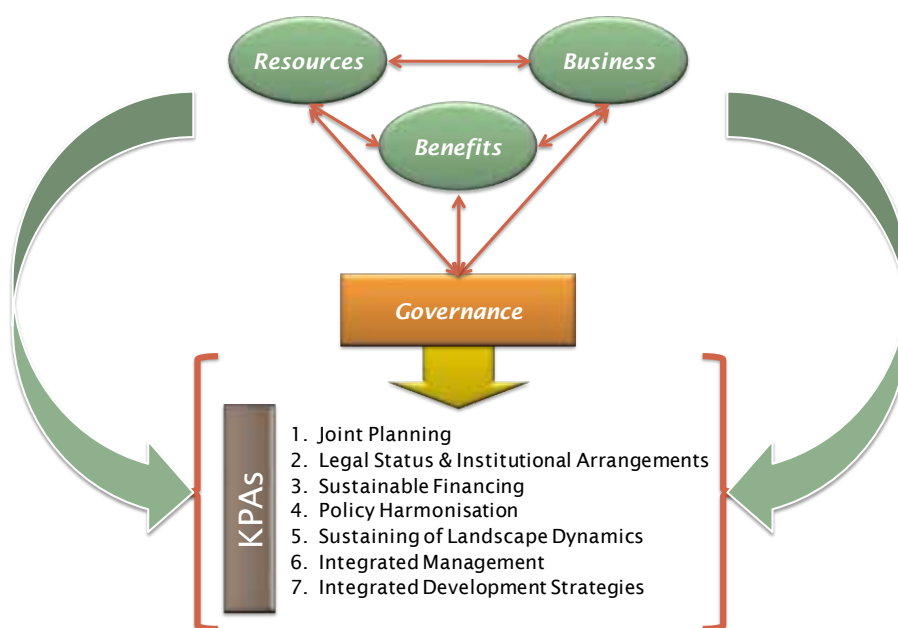


Figure 11: Process Based Management System

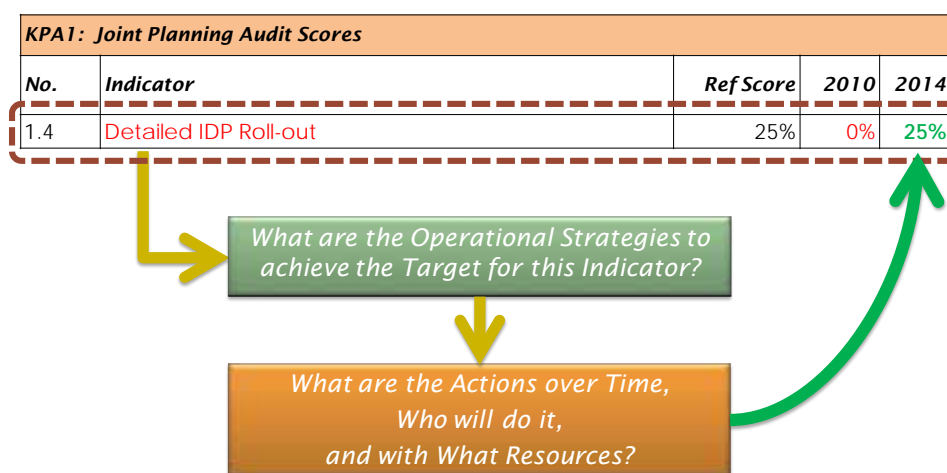


**Figure 12: Governance KPAs**

For the GMTFCA the current performance (2010) regarding governance have been evaluated, both internally by stakeholders – working groups and TTC members – as well as externally, and targets for 2014 have been set by the Working Groups and TTC for the various performance indicators within each KPA (refer Table 1).

To reach the targets set for the KPIs, operational strategies have been identified along with action projects with concomitant details regarding time frames, responsibilities and resources (refer Figure 13).

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 14.



**Figure 13: Approach to Addressing Audit Gaps**



Table 1: Performance Audit

No	Indicator (Wording in brackets functions as indicative criteria for scoring)	Check	2010	2014
<b>KPA1: Joint Planning</b>				
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%
<b>KPA2: Institutional Arrangements and Legal Status</b>				
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%
<b>KPA3: Sustainable Financing</b>				
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%
<b>KPA4: Policy Harmonisation</b>				
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%
<b>KPA5: Sustaining Landscape Dynamics</b>				
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%
<b>KPA6: Integrated Management</b>				
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%
<b>KPA7: Integrated Regional Development</b>				
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%
TOTAL SCORE (unweighted scores / 7)			15%	86%

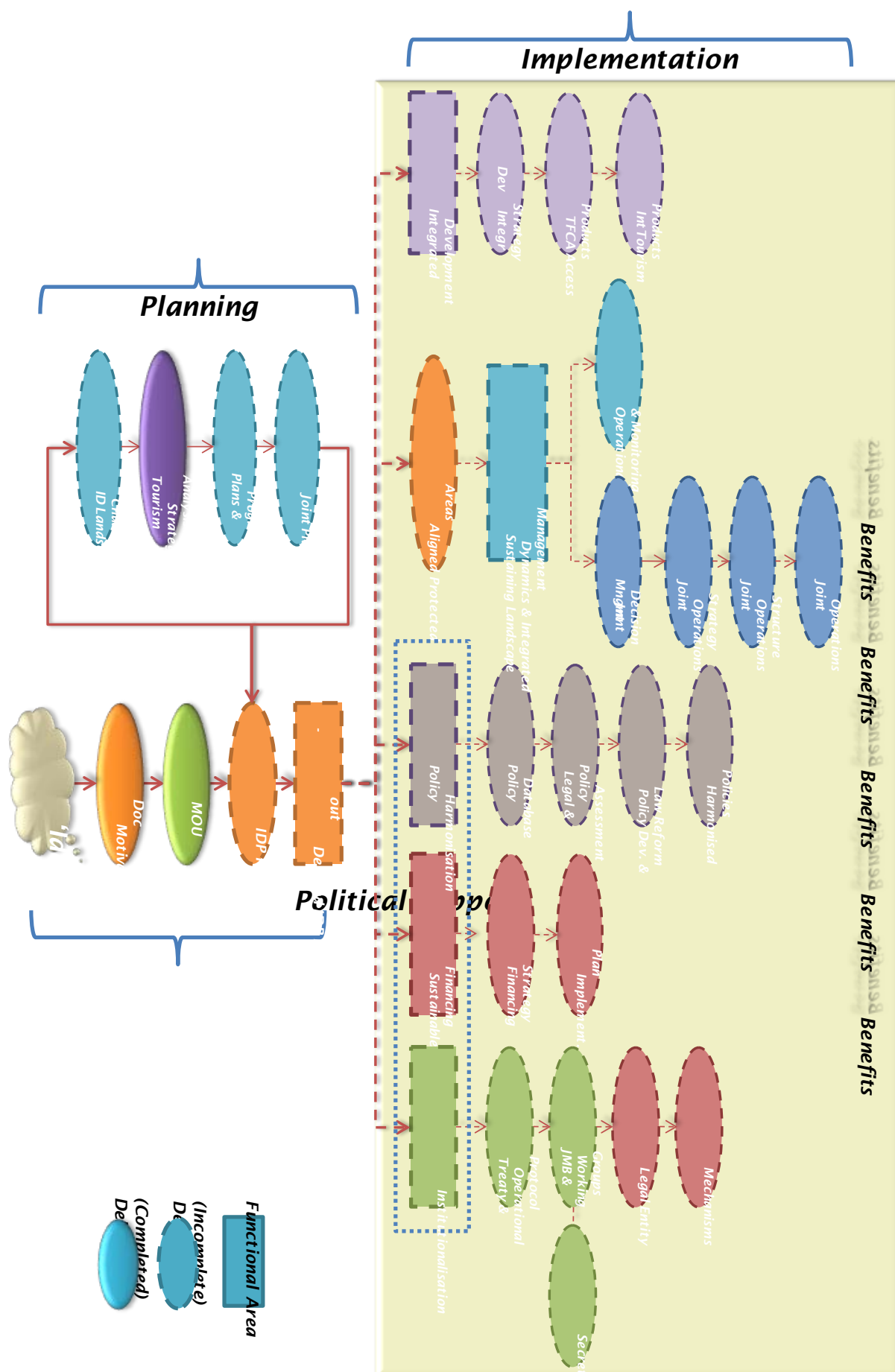


Figure 14: TFCA Critical Path, 2010- 2014



### 4.4.1 Joint Planning

Table 2: Joint Planning Audit Scores

KPA1: 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 Valley 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 and ecosystem services. The phasing of these expansion discussions and opportunities is graphically shown in Figures 15-28.

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

Indicator	Aligned Protected Area Plans by 2014			
<b>Rationale</b>	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.			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Access all existing management plans and ID gaps				
Collectively agree on alignment methodology	Prior to signing of Treaty			
Assist areas without management plans to create and add spatial component where lacking		Agencies plus private managers		

Table 4: Detailed IDP Roll Out

Indicator	Detailed IDP Roll Out by 2014		
<b>Rationale</b>	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 buffer areas. Strategies, plans and programmes can then be aligned to address the specific objectives of each of the areas, albeit core or buffer. (Refer Figures XXX-XXX).		
<b>Strategy</b>	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 buffer 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	Time Frame	Responsibility	Resource Requirements
Ensure institutional, policy and sustainable financing actions are addressed as per IDP		IC/TTC	NOP
Expand motivation & feasibility for additional areas in Zimbabwe Component (Sentinel, Nottingham, Maramani, Hwali & Machutachuta, River Ranch)	End of June 2010	Beitbridge & Gwanda RDC	Budget required for stakeholder interaction
Further consultation and planning of Botswana Community Resource Area (West of NOTUGRE)	End of June 2010	DWNP	Budget needed for workshops and specialist input
Motivation and feasibility of areas surrounding MPNP – Venetia Limpopo; Vhembe; Limpopo Valley Conservancy, et al.	End of June 2010	Coordinator, SANP, PPF	If workshop required
Motivation and feasibility of Central Tuli Conservancy	End of June 2010	DWNP, NOTUGRE management	
Detail planning of Zimbabwe WMA corridors	End of June 2010	TFCA & Zimbabwe coordinator & RDC	
Demarcation of short term perimeter fence	End of June 2010	Veterinary, safety & financial groups	Costing of fence alignment
Take final decision regarding river crossing points & detail planning of most viable option	End of June 2010	Safety & security (customs & immigration)	
Develop joint law enforcement strategy for TFCA	End of June 2010	Safety & security & park management	
Implement Joint development actions as identified in the masterplan		IC/TTC	



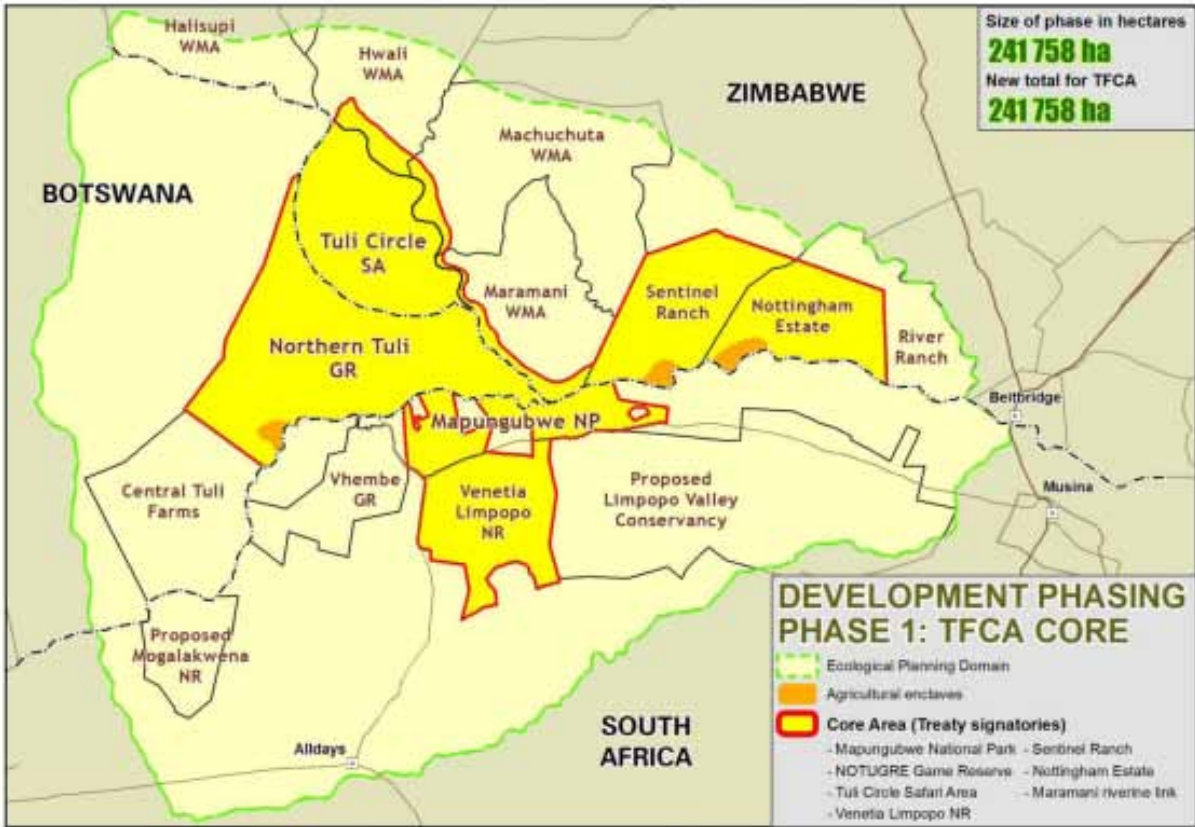


Figure 15: GMTFCA Core Area - Phase 1

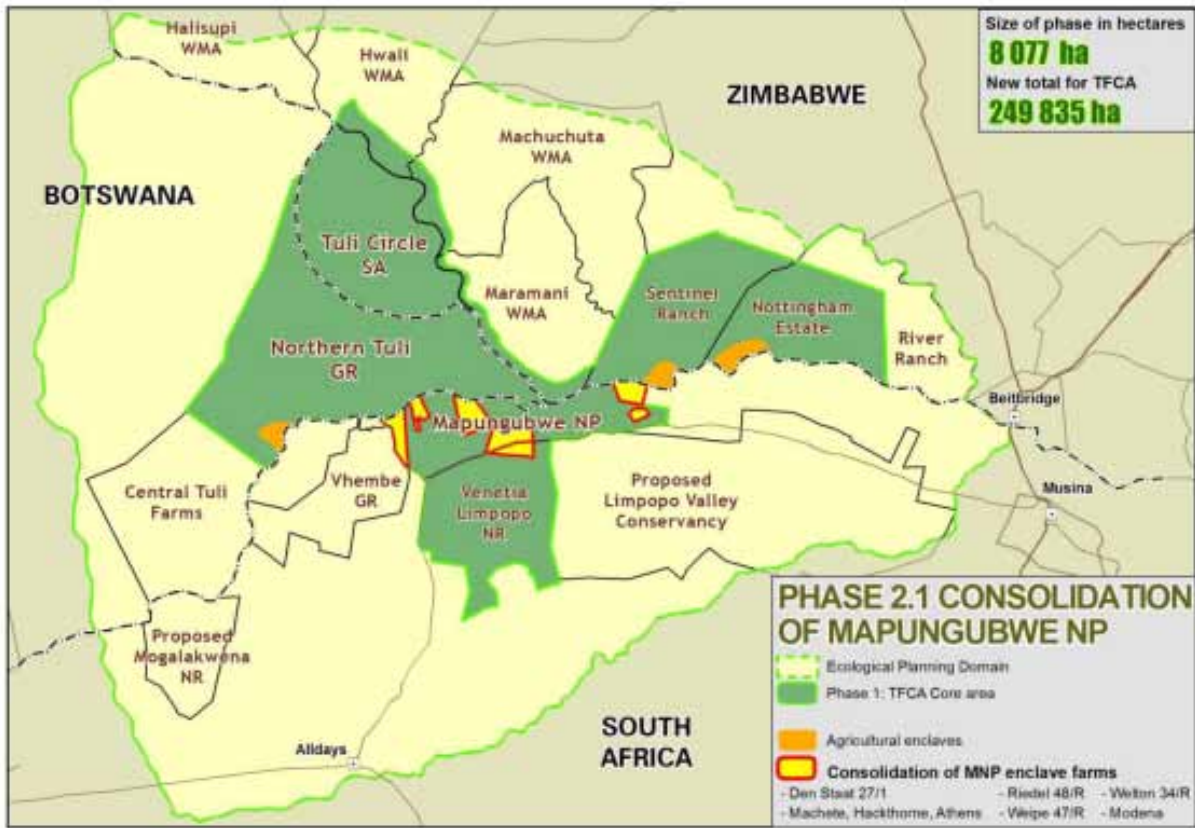


Figure 16: GMTFCA Expansion - Phase 2.1

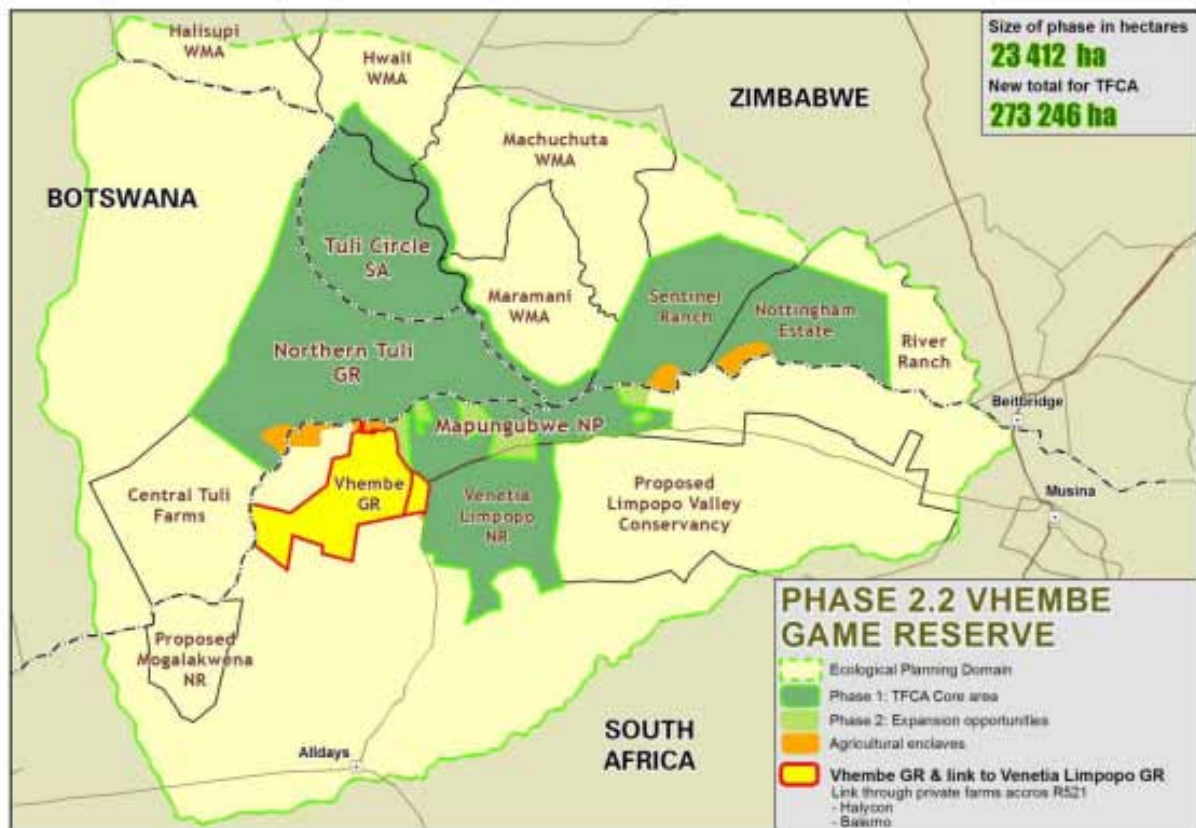


Figure 17: GMTFCA Expansion - Phase 2.2

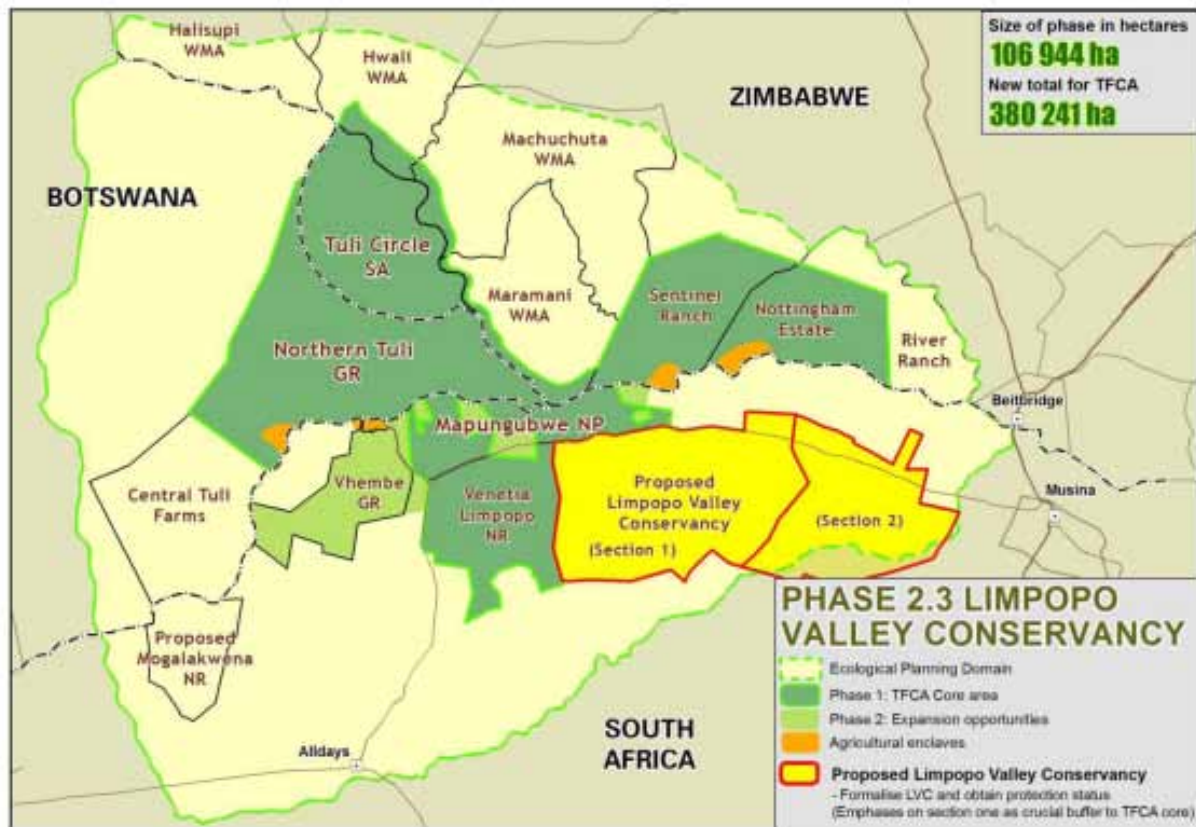


Figure 18: GMTFCA Expansion - Phase 2.3



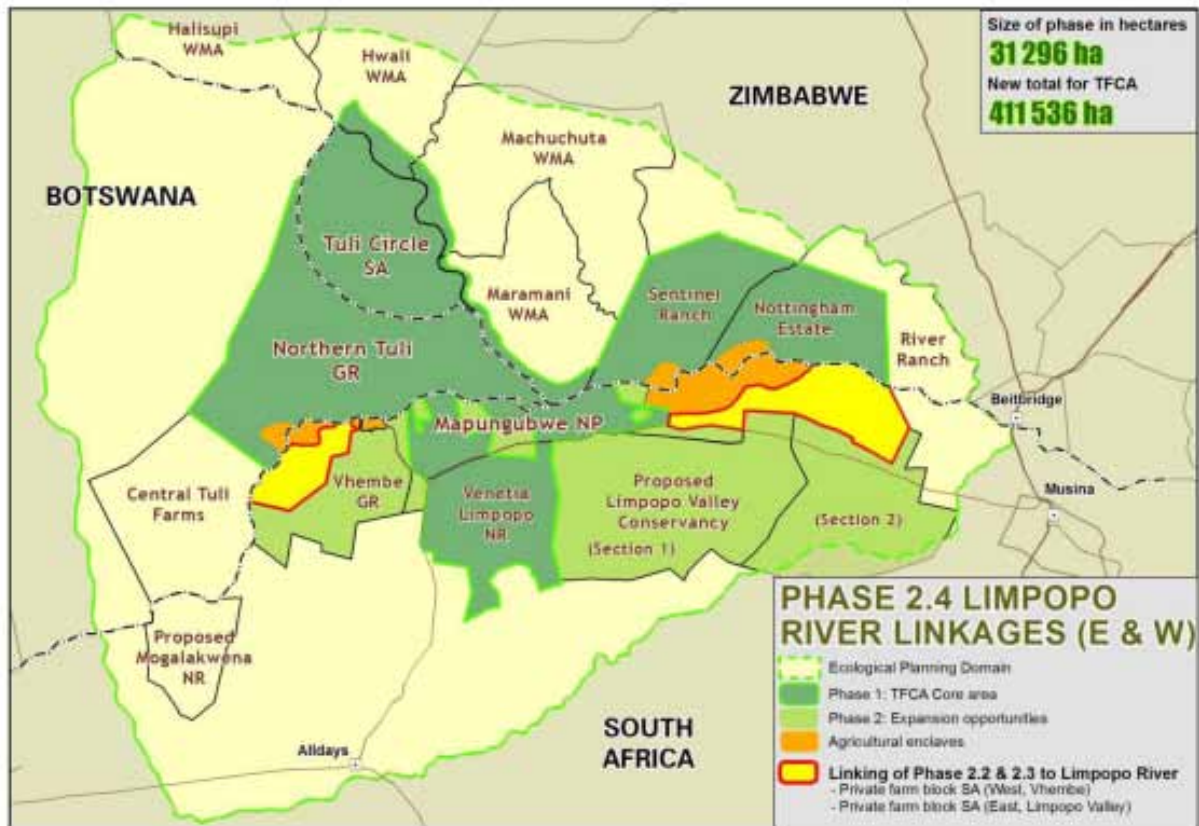


Figure 19: GMTFCA Expansion - Phase 2.4

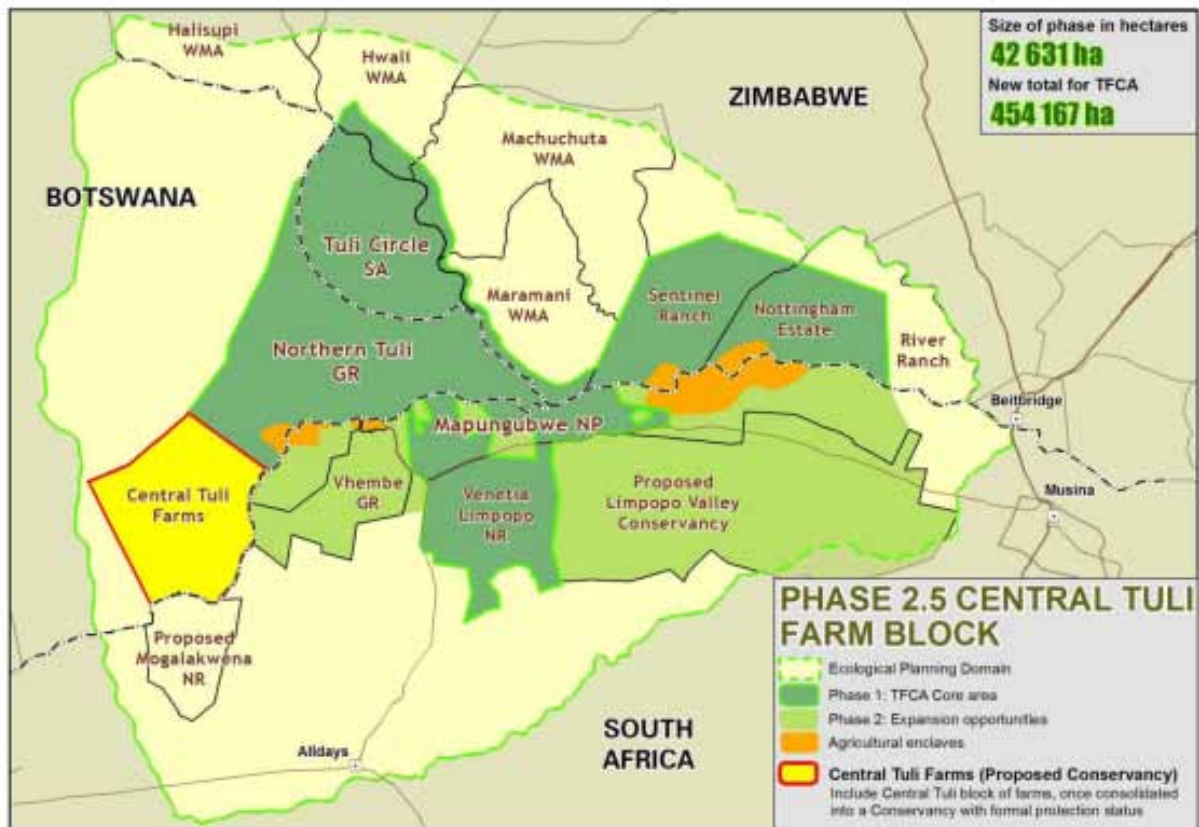


Figure 20: GMTFCA Expansion - Phase 2.5

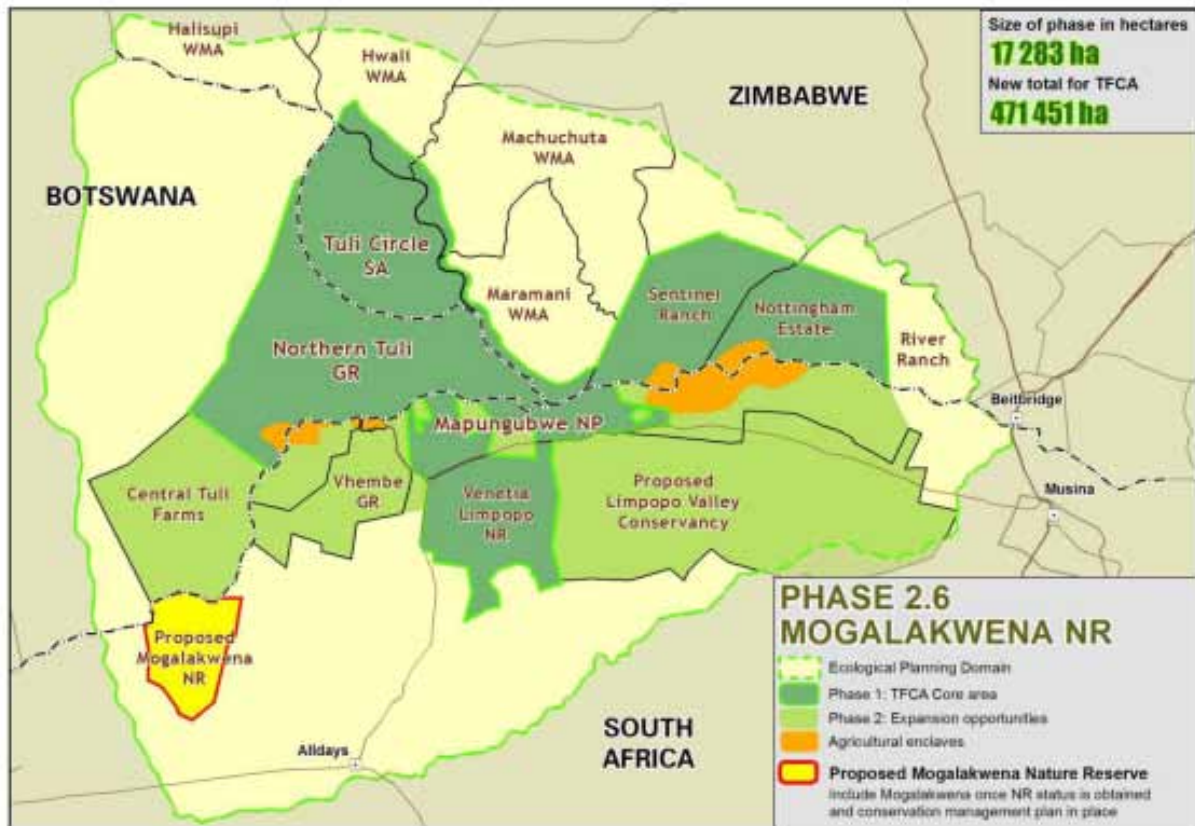


Figure 21: GMTFCA Expansion - Phase 2.6

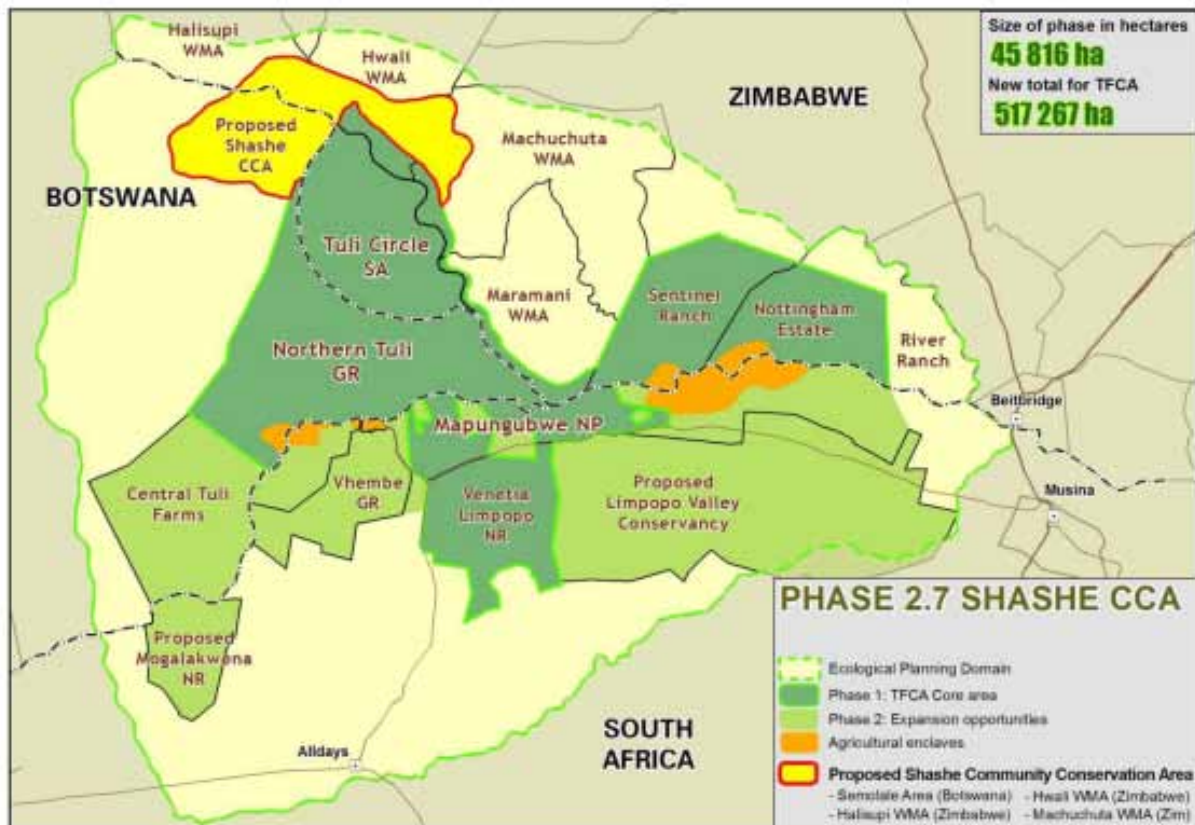


Figure 22: GMTFCA Expansion - Phase 2.7



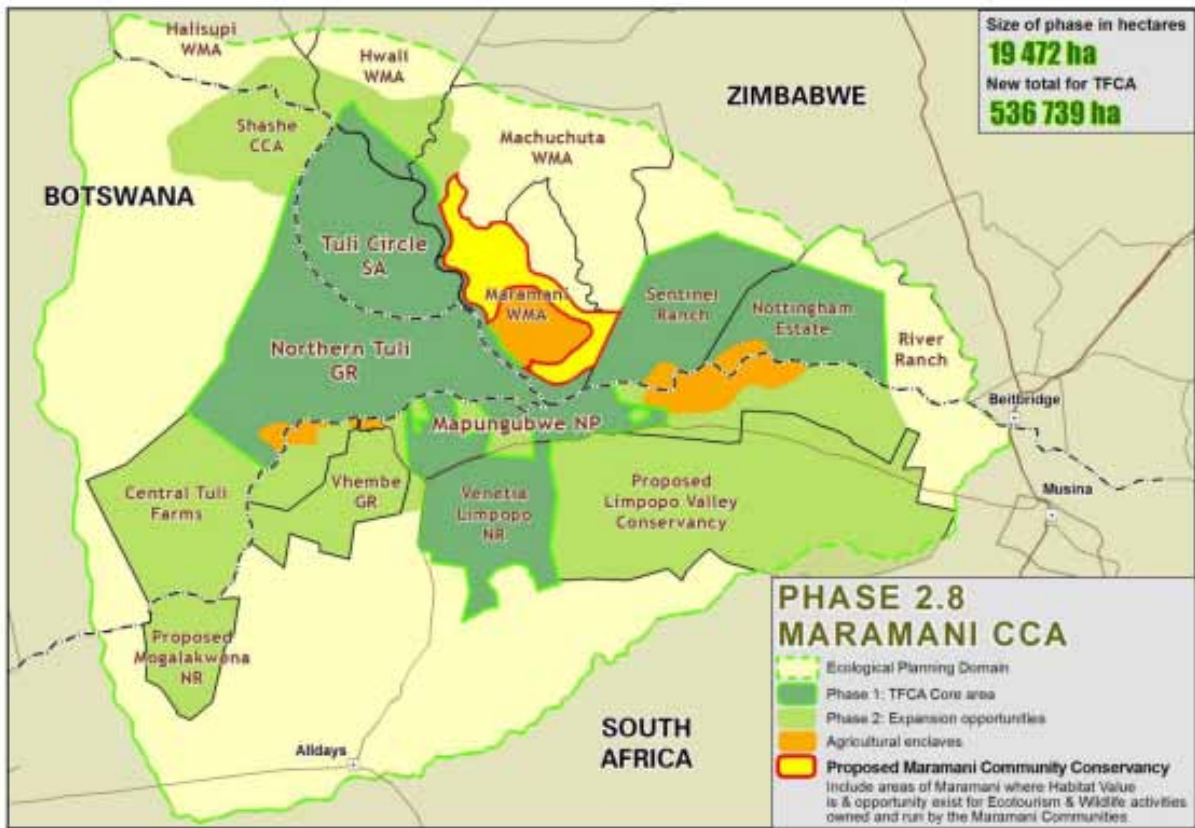


Figure 23: GMTFCA Expansion - Phase 2.8

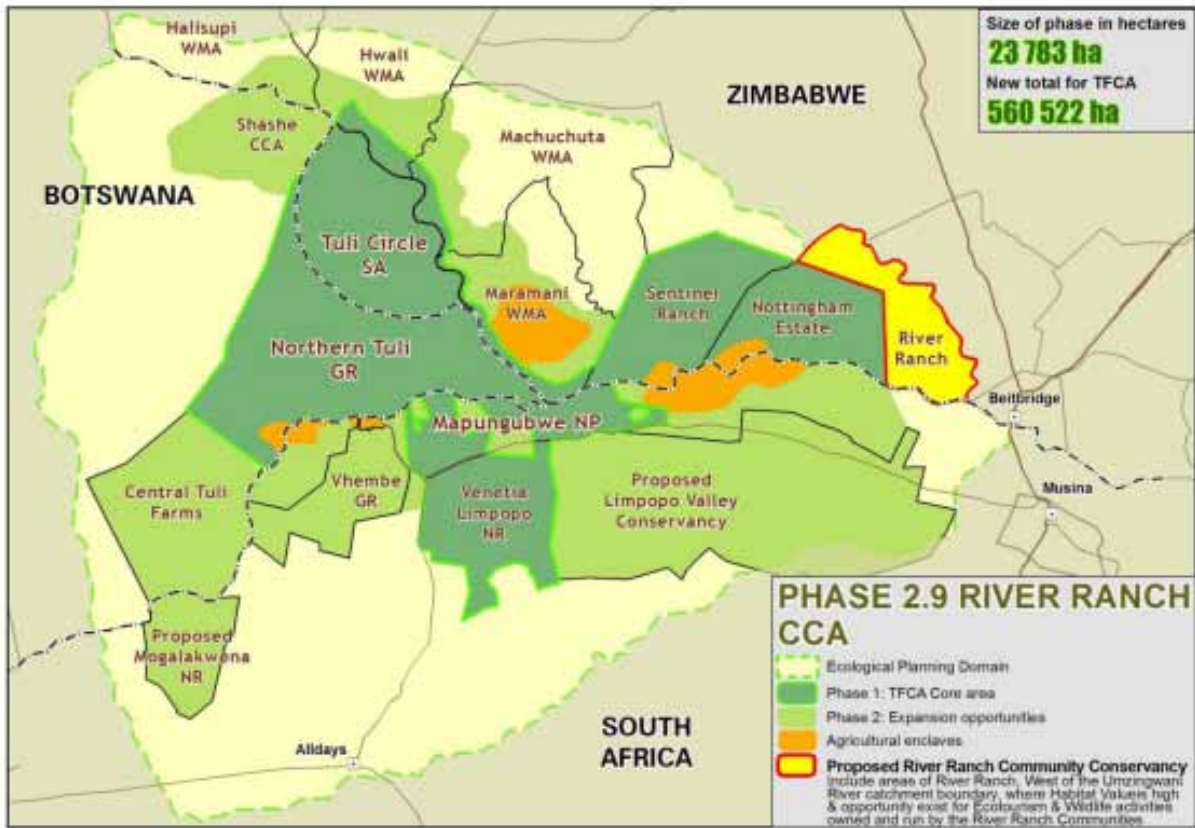


Figure 24: GMTFCA Expansion - Phase 2.9

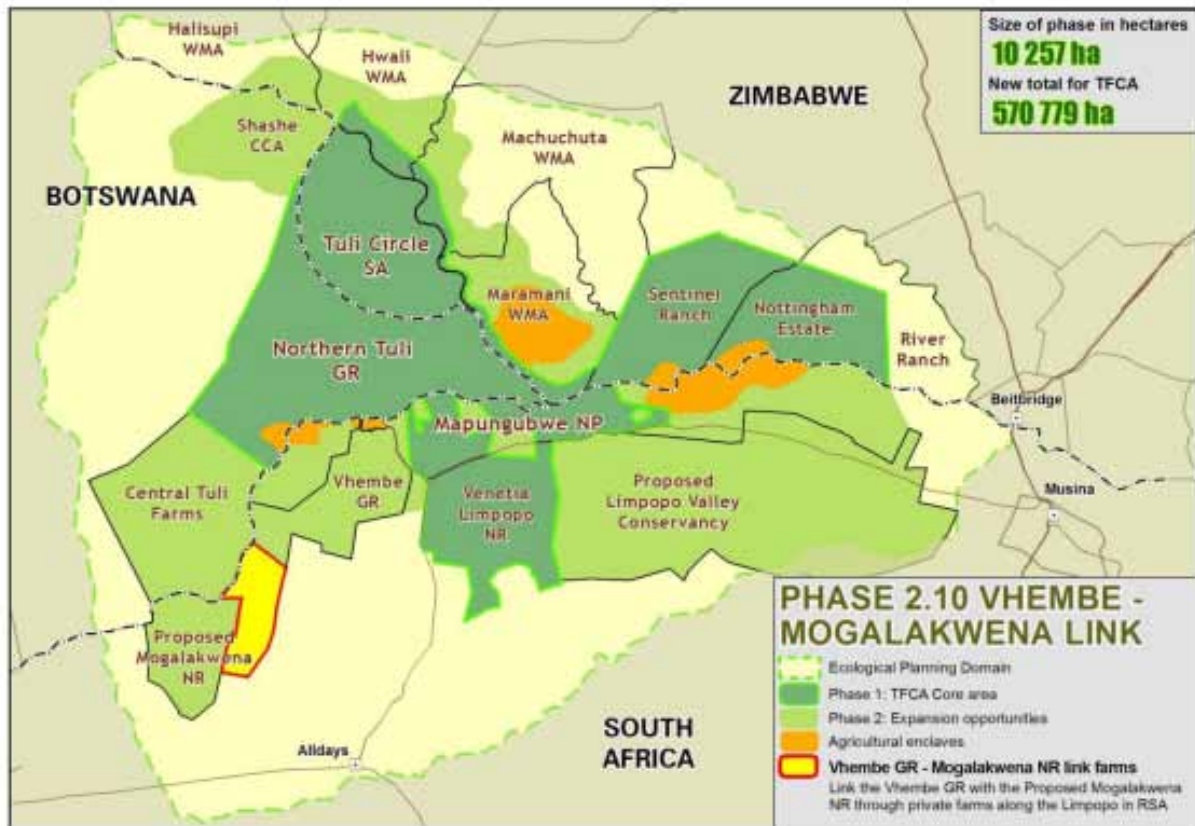


Figure 25: GMTFCA Expansion - Phase 2.10

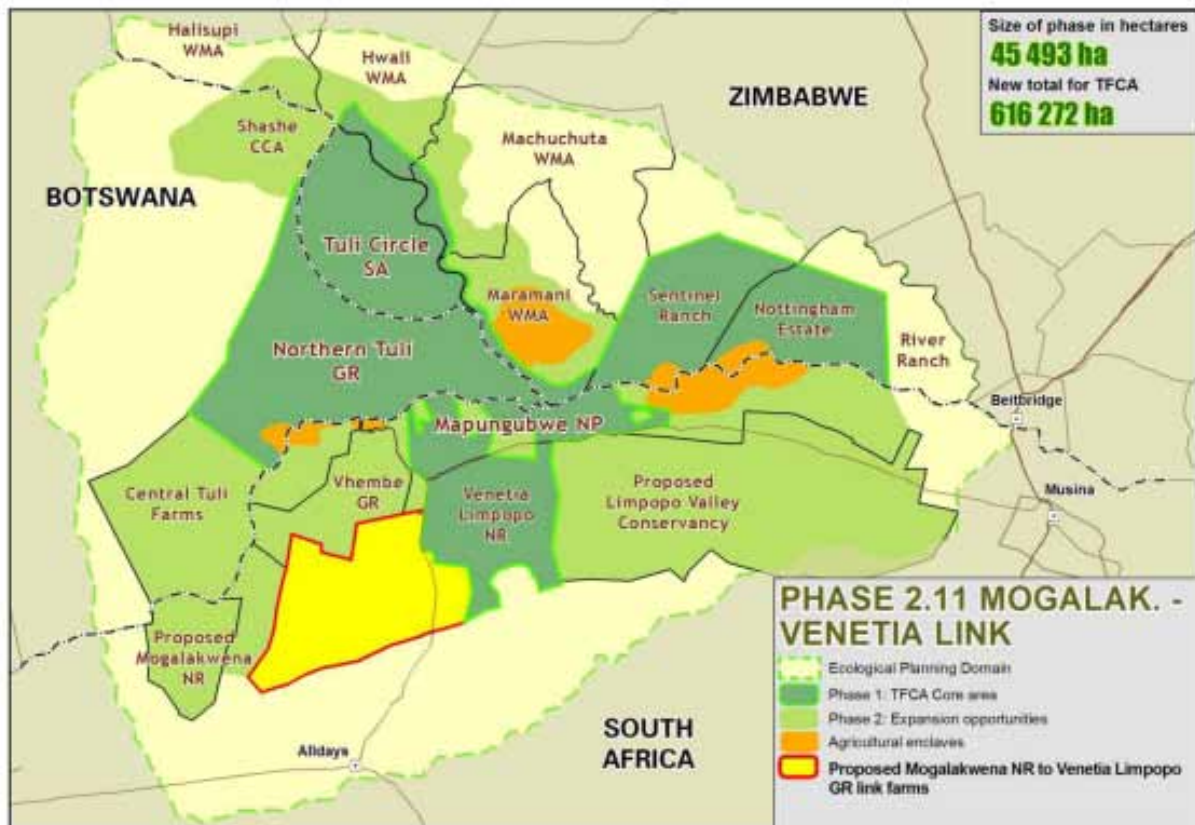


Figure 26: GMTFCA Expansion - Phase 2.11



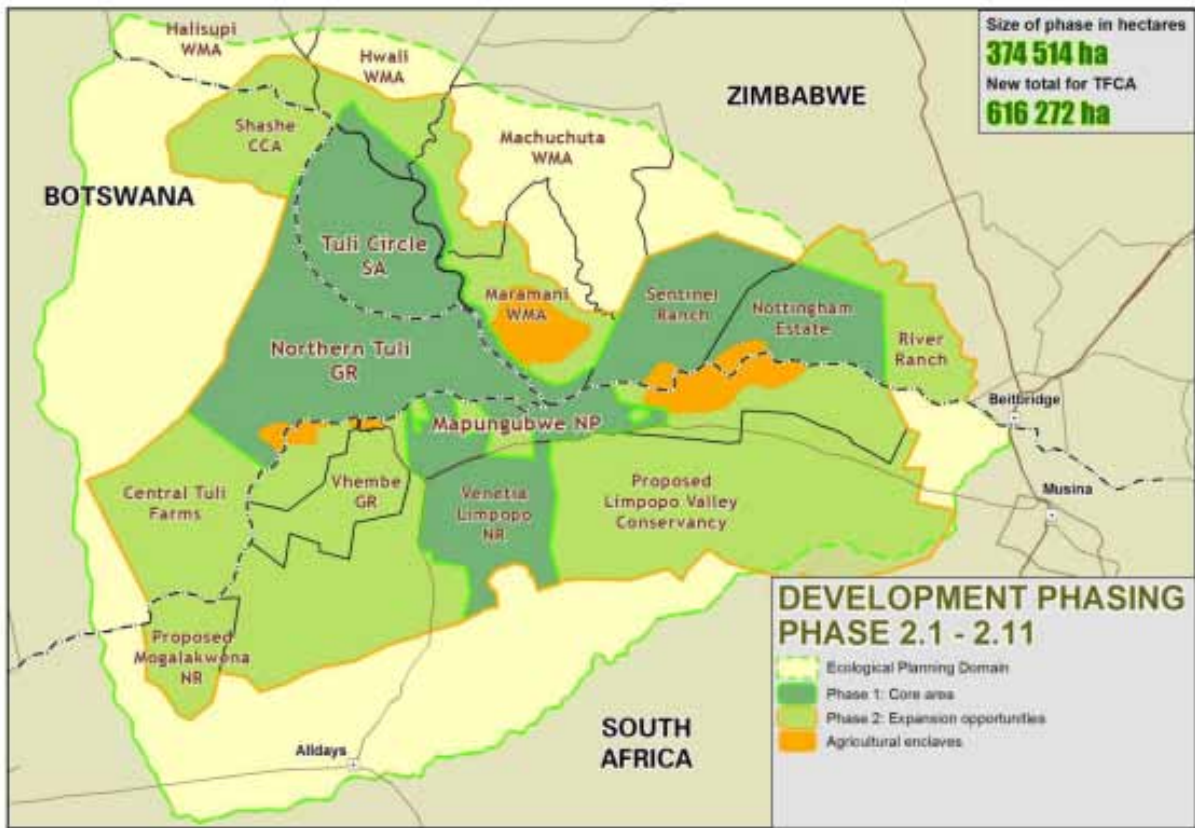


Figure 27: GMTFCA Expansion - Total Phase 2 (2.1 - 2.11)

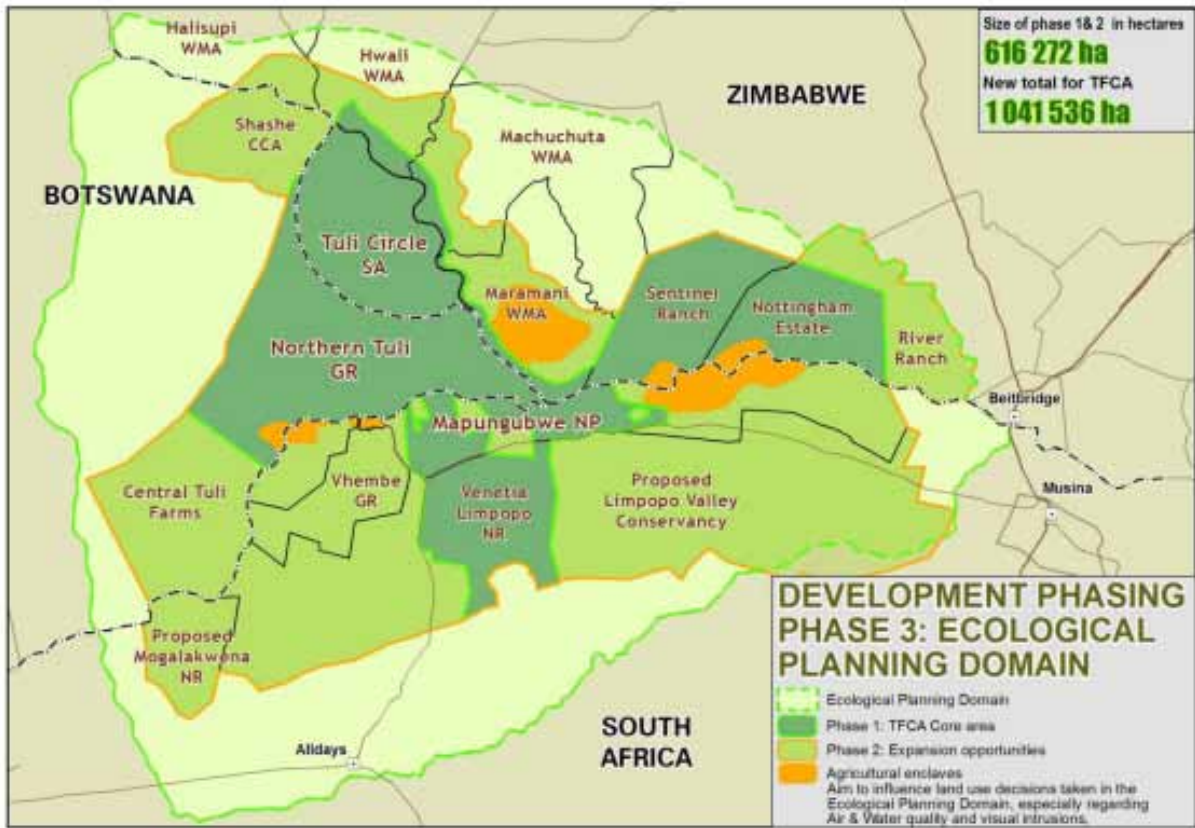


Figure 28: GMTFCA Expansion - Phase 3

#### 4.4.2 Institutional Arrangements and Legal Status

**Table 5: Institutional Arrangements and Legal Status Audit Scores**

<b>KPA2: Institutional Arrangements and Legal Status</b>				
<b>No.</b>	<b>Indicator</b>	<b>Ref Score</b>	<b>2010</b>	<b>2014</b>
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%
<b>Sub-score</b>		<b>100%</b>	<b>40%</b>	<b>100%</b>

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 6-8:

- 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**

<b>Indicator</b>	<b>Treaty/Political Endorsement and Operational Protocol completed by 2014</b>			
<b>Rationale</b>	Formal establishment of the TFCA.			
<b>Strategy</b>	<p>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 buffer areas through consultation with affected stakeholders - it is imperative that the legal status of the GMTFCA reflect these changes.</p> <p>The strategy is to ensure that the GMTFCA partner countries submit proposed components for both the core and buffer areas of the TFCA, and that these are ratified within the MOU en route to the signing of the Treaty.</p>			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Amend original MOU with additional components in Zimbabwe & Botswana	Middle March (Next TTC)	National coordinators, PPF	None	
Adjust draft Treaty document with comments obtained from member countries		TFCA & National coordinators	None	

**Table 7: Establishment of JMB**

<b>Indicator</b>	<b>Joint Formalised Structure in place by 2014</b>			
<b>Rationale</b>	Having a permanent structure in place for coordinated management after the Treaty is essential for the effective governance of the GMTFCA.			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Define Terms of Reference for JMB		TFCA & national coordinators	None	
Define operational structures of JMB		TFCA & national coordinators		
Assessment of administrative support requirements		TFCA & national coordinators	Budget for salaries, technical support	
Implementation of JMB and structures			Budget for salaries, technical support	



**Table 8: Establish Legal Entity**

<b>Indicator</b>	<b>Legal Entity established and operational by 2014</b>		
<b>Rationale</b>	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.		
<b>Strategy</b>	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.		
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>
Identify depository (caretaker), SADC, UNESCO?	Prior to signing of treaty	TTC	NOP
Preparation of a concept document, constitution, and operationalisation strategy and plan	As part of the Treaty preparation, to be ready for implementation directly after the signing of the Treaty	TTC/PPF	NOP

### 4.4.3 Sustainable Financing

**Table 9: Sustainable Financing Audit Scores**

<b>KPA3: Sustainable Financing</b>				
<b>No.</b>	<b>Indicator</b>	<b>Ref Score</b>	<b>2010</b>	<b>2014</b>
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%
<b>Sub-score</b>		<b>100%</b>	<b>0%</b>	<b>90%</b>

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 10-12:

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

**Table 10: Financial Sustainability Strategy**

<b>Indicator</b>	<b>Financial Sustainability Strategy</b>		
<b>Rationale</b>	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.		
<b>Strategy</b>	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.		
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>
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.)		TTC and working groups	NOP
Develop proposed budgetary requirements across functions and cost centres		TTC/PPF	NOP
Develop capacity to manage and administer funds and assets on a tri-lateral level (human resources; equipment; infrastructure; systems, procedures etc.)		TTC/JMB/PPF	
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		TTC/JMB	



Table 11: Implementation Plan

Indicator	Financial Sustainability Implementation Plan		
<b>Rationale</b>	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.		
<b>Strategy</b>	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	Time Frame	Responsibility	Resource Requirements
Develop funding proposals for submission to donors and support agencies (i.e. USAID, World Bank, SADC etc.)	Ongoing	TTC	
Access initial working capital to cover the initial short-term operational needs of the GMTFCA Planning/Management Body as an organisation	Per Annum	TTC	
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	Ongoing	TTC	
Recruit, remunerate and retain qualified, skilled and experienced people to fill the posts and positions identified necessary.	As per IDP and Strategic Plan	TTC	
Develop Annual Management Plans based upon this Strategic Plan	Ongoing	TTC/JMB	

Table 12: Financial Mechanisms

Indicator	Financial Mechanisms		
<b>Rationale</b>	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.		
<b>Strategy</b>	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	Time Frame	Responsibility	Resource Requirements
Develop tri-lateral funding mechanisms i.e. Contributions from each partner country; gate entrance levies; concession fees percentage;	Ideally prior to signing of Treaty	TTC/JMB	
Development of Fundraising strategy	Ideally prior to signing of Treaty	TTC/JMB	
Development of revenue and benefit sharing mechanisms	Ideally prior to signing of Treaty	TTC/JMB	
Establish a Capital Fund/Endowment Fund	Post-Treaty signing	JMB	

#### 4.4.4 Policy Harmonisation

**Table 13: Policy Harmonisation**

<b>KPA4: Policy Harmonisation</b>				
<b>No.</b>	<b>Indicator</b>	<b>Ref Score</b>	<b>2010</b>	<b>2014</b>
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%
<b>Sub-score</b>		<b>100%</b>	<b>0%</b>	<b>80%</b>

In terms of the audit scores for the Policy Harmonisation KPA (refer Table 13), 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 14-17:

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

**Table 14: Legal and Policy Database**

<b>Indicator</b>	<b>Legal and Policy Database</b>			
<b>Rationale</b>	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			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
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.	Sept 2010	IC/National Co-ordinators/TTC	NOP	

**Table 15: Legal and Policy Assessment and Review**

<b>Indicator</b>	<b>Legal and Policy Assessment and Review</b>			
<b>Rationale</b>	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.			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Arrange a meeting with the GLTP JMB to discuss the alignment between the policy harmonisation initiatives	Align with GLTP process	TTC	NOP	
Include Botswana component into aligned process	Align with GLTP process	TTC	NOP	



**Table 16: Legal and Policy Law Reform**

<b>Indicator</b>	<b>Legal and Policy Law Reform</b>			
<b>Rationale</b>	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.			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Identify policy and legislative synergies and gaps between the three partner countries	Align with GLTP process	TTC	NOP	
Facilitate discussions between the partner countries regarding the policy and law reform processes	Align with GLTP process	TTC/National Co-ordinators	?	
Facilitate country specific policy and law reform processes	Align with GLTP process	National Co-ordinators PPF	?	

**Table 17: Harmonised Policies**

<b>Indicator</b>	<b>Harmonised Policies</b>			
<b>Rationale</b>	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.			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Establish procedures to monitor efficacy of the harmonised policies and procedures	After policy and legislative reform process	TTC/JMB		

#### 4.4.5 Sustaining Landscape Dynamics

**Table 18: Sustaining Landscape Dynamics Audit Scores**

<b>KPA5: Sustaining Landscape Dynamics</b>				
<b>No.</b>	<b>Indicator</b>	<b>Ref Score</b>	<b>2010</b>	<b>2014</b>
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%
<b>Sub-score</b>		<b>100%</b>	<b>20%</b>	<b>85%</b>

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 19 and 20:

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

**Table 19: Joint Plan for Sustaining Landscape Dynamics**

<b>Indicator</b>	<b>Joint Plan for Sustaining Landscape Dynamics</b>			
<b>Rationale</b>	The biodiversity and cultural heritage has been identified as the key asset to the GMTFCA and therefore needs to be protected.			
<b>Strategy</b>	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. Since the MCL is of international significance it is critical that a cultural heritage management plan be developed for the entire TFCA.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Development of Biodiversity Management Plan	30 June 2012	Natural landscape integrity	TTC/CWG Chair Consultant Consultancy fees \$ 10 000	
Development of Veterinary Management Plan	30 June 2010	Disease management / control. Policy on buffalo	TTC/CWG Chair Meeting \$ 3 000	
Development of Predator Management Plan	31 December 2010	HWL conflict mitigation	TTC/CWG Chair Consultant Consultancy fees Draft Management Plan (Predator Group) \$ 10 000	
Development of Elephant Management Plan	30 April 2010	Integrated population management	SANParks TFCA Unit Consultant Consultancy fees \$ 45 000 (Allocated)	
Development of Wildlife Population Management Plan	31 December 2010	Rationalise and harmonise management activities within the GMTFCA	TTC/CWG Chair Consultant Consultancy fees Existing plans \$ 30 000	
Development of Water and Aquatic Ecosystem Management Plan	31 December 2011	Harmonised industrial abstraction from shared sources. Compliance with EIA policies.	TTC/CWG Chair Consultant Consultancy fees \$ 30 000	
Development of Mapungubwe Heritage Management Plan	30 June 2012	Diversification and enhancement of the	TTC/CWG Chair Field work / Officials	



		GMTFCA tourism product	Consultant Consultancy fees \$ 50 000
Development of Inventory of cultural sites in Botswana and Zimbabwe components of GMTFCA	30 June 2010	Integrated Mapungubwe Cultural Heritage database	TTC/CWG Chair Fieldwork / Officials Collation of existing data \$ 15 000
Development of Integrated Mapungubwe World Heritage Site Management Plan	30 June 2012		TTC/CWG Chair Consultant Consultancy fees South African Proclamation Dossier document \$ 50 000
Extension of Mapungubwe World Heritage Site to Botswana and Zimbabwe components of GMTFCA	30 June 2012	Coverage of whole MC Landscape. Equitable beneficiation enhanced	TTC/CWG Chair Consultant Consultancy fees South African Proclamation Dossier document
Request for funding support from the AHF for MWHS Management Plan and extension efforts	31 December 2010	Finance the WHS bid process	TTC/CWG Formal letter

Table 20: Operationalisation and Monitoring

Indicator	Operationalisation and Monitoring		
<b>Rationale</b>	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.		
<b>Strategy</b>	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	Time Frame	Responsibility	Resource Requirements
Monitor the efficacy of individual projects, plans and programmes against the objectives of the TFCA	Once projects are implemented	TTC/JMB	NOP
Monitor to overall attainment of the vision, mission and objectives of the GMTFCA	Annually	TTC/JMB	NOP

#### 4.4.6 Integrated Management

**Table 21: Integrated Management Audit Scores**

<b>KPA6: Integrated Management</b>				
<b>No.</b>	<b>Indicator</b>	<b>Ref Score</b>	<b>2010</b>	<b>2014</b>
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%
<b>Sub-score</b>		<b>100%</b>	<b>0%</b>	<b>65%</b>

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 21), the following indicators require attention, and operational strategies are listed for these along with action plans in Tables 22-25:

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

**Table 22: Joint Management Decision**

<b>Indicator</b>	<b>Joint Management Decision</b>			
<b>Rationale</b>	By combining management efforts into a single, aligned and coordinated manner throughout the TFCA, it will be able to attain the objectives of the GMTFCA more effectively, as well as reduce the possibility 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.			
<b>Strategy</b>	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 joint best managed jointly.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
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.	Following approval of the IDP	TTC	NOP	

**Table 23: Joint Management Strategy**

<b>Indicator</b>	<b>Joint Management Strategy</b>			
<b>Rationale</b>	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.			
<b>Strategy</b>	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, security, research, predator management, elephant management, marketing, training and benefit sharing.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Identify Joint Management requirements for effective functioning of the TFCA based on various plans and compile this into a Joint Management Strategy.	Following decision to jointly manage certain aspects of the GMTFCA	TTC	NOP	
Access funding and support for Joint Management activities		TTC/JMB	NOP	
Develop and implement annual activity plans		JMB	NOP	



**Table 24: Joint Management Structure**

<b>Indicator</b>	<b>Joint Management Structure</b>		
<b>Rationale</b>	To effectively coordinate joint management activities between the partner countries necessitates the establishment of a Joint Management Structure.		
<b>Strategy</b>	Various strategies can be utilised to establish a joint management structure such as a 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.		
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>
Discuss the most relevant Joint Management Structure to address the joint management activities between the three TFCA partner countries, and establish the agreed structures		TTC/JMB	NOP

**Table 25: Joint Operations**

<b>Indicator</b>	<b>Joint Operations</b>		
<b>Rationale</b>	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.		
<b>Strategy</b>	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: <ul style="list-style-type: none"> <li>■ law enforcement and security;</li> <li>■ conservation management;</li> <li>■ research and management regarding predators, elephant, alien plants;</li> <li>■ marketing and joint tourism development; and</li> <li>■ benefit flow management.</li> </ul>		
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>
Implement joint operations as per sector plans and strategies		TTC/JMB	As per strategy
Monitor impact of joint operations and structures		TTC/JMB	As per strategy

#### 4.4.7 Integrated Regional Development

**Table 24: Integrated Regional Development Audit Scores**

<b>KPA7: Integrated Regional Development</b>				
<b>No.</b>	<b>Indicator</b>	<b>Ref Score</b>	<b>2010</b>	<b>2014</b>
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%
<b>Sub-score</b>		<b>100%</b>	<b>15%</b>	<b>85%</b>

#### **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 25-28:

- 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 25: Regional Development Strategies and Plans Analysis**

<b>Indicator</b>	<b>Regional Development Strategies and Plans Analysis</b>			
<b>Rationale</b>	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.			
<b>Strategy</b>	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.			
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>	
Collect and collate a database of all the regional development strategies and plans – tourism, conservation, farming, social development etc.		TTC and working groups	NOP	
Analyse the various strategies and plans for synergies, gaps and overlaps.		TTC/PPF	NOP	



**Table 26: Joint TFCA Regional Development Strategy**

<b>Indicator</b>	<b>Joint TFCA Regional Development Strategy</b>		
<b>Rationale</b>	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.		
<b>Strategy</b>	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.		
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>
Develop Integrated Development Strategies for tourism, mining, agriculture		TTC	
Develop and implement the Limpopo Valley Airfield as a matter of urgency	June 2010	TTC/Working Groups	
Integrate strategies and plans with Biodiversity and Sensitivity Analyses (land use zoning)		TTC/JMB	
Develop and implement business plans for the various compatible and acceptable options in an integrated and aligned manner.		TTC and working groups	
Secure funding for the TFCA regional development activities		TTC/JMB	

**Table 27: TFCA Access Products**

<b>Indicator</b>	<b>TFCA Access Products</b>		
<b>Rationale</b>	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 congesting 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.		
<b>Strategy</b>	The strategy regarding improved access to the region incorporates the development of two one-stop border posts, the first at Nottingham along the Limpopo, and the second at Semolale, along the Shashe.		
<b>Actions</b>	<b>Time Frame</b>	<b>Responsibility</b>	<b>Resource Requirements</b>
Finalise Standard Operating Procedures for One-Stop Border Posts within the GMTFCA		TTC – Safety and Security Working Group	NOP
Redesign functional flow at the Semolale BP to accommodate a one-stop TAF.		TTC – Safety and Security Working Group	NOP
Finalise selection and placement of the Nottingham one-stop TAF		TTC – Safety and Security Working Group	NOP
Secure funding for the development of these TAFs		TTC – Safety and Security Working Group PPF	NOP

**Table 28: Integrated Regional Development Activities**

<i>Indicator</i>	<i>Integrated Regional Development Activities</i>		
<i>Rationale</i>	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.		
<i>Strategy</i>	Cross border 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.		
<i>Actions</i>	<i>Time Frame</i>	<i>Responsibility</i>	<i>Resource Requirements</i>
Develop initial cross border tourism products making the region attractive to tourists.		TTC	
Develop the agricultural nodes within Zimbabwe according to expanded plans that exists to cover the wider area		TTC/JMB	



## 4.5 CONCEPT DEVELOPMENT PLAN

### 4.5.1 Dynamic Modeling

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 MNP and WHS and which forms part of the proposed core of the South African component of the TFCA;
- Venetia Game 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 –

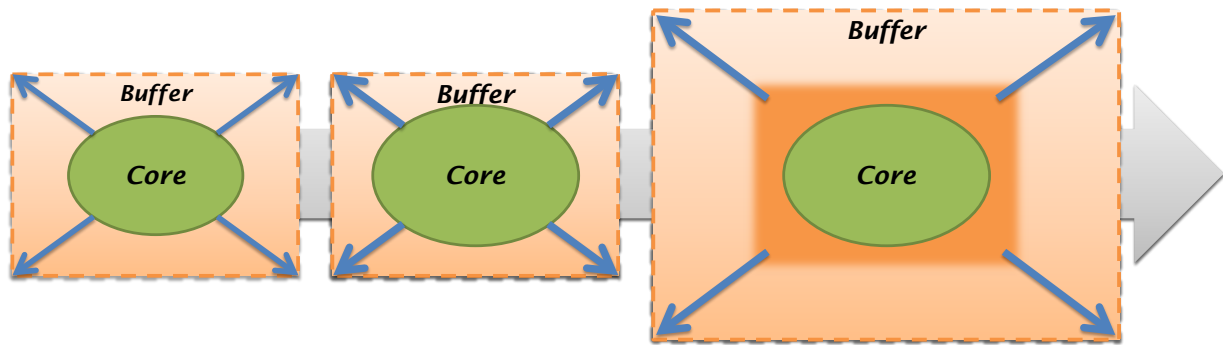
- The Tuli Safari Area, a Zimbabwean National Park and the only portion of Zimbabwe west of the Shashe River, presently utilised as a hunting concession it offers excellent prospects for up market international tourism;
- The Maramani, Machachuta, Hwali, Halisupi Wildlife Management Areas;
- Sentinel 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.

Collectively, these components form the major portion of a sub catchment of the Limpopo and Shashe Rivers, effectively establishing an ecological 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, social, and economic objectives.

The GMTFCA can be divided into two distinct areas – a Core and Buffer – where the core area focuses primarily on conservation, with strict and clear operational procedures and management standards, while the buffer area allows for multiple and mixed land use options. The core area can expand into the buffer area, which in turn can expand into the planning domain and surrounding area (refer Figure 29).

Undertaken in this way the impact of activities within the buffer 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 buffer 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.



**Figure 29: Dynamic Model**

#### 4.5.1.1 Core

The core area within phase 1 of the GMTFCA (refer Figure 15) 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.

##### **Zimbabwe**

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

#### 4.5.1.2 Buffer

The initial buffer 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 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**

- River Ranch;

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

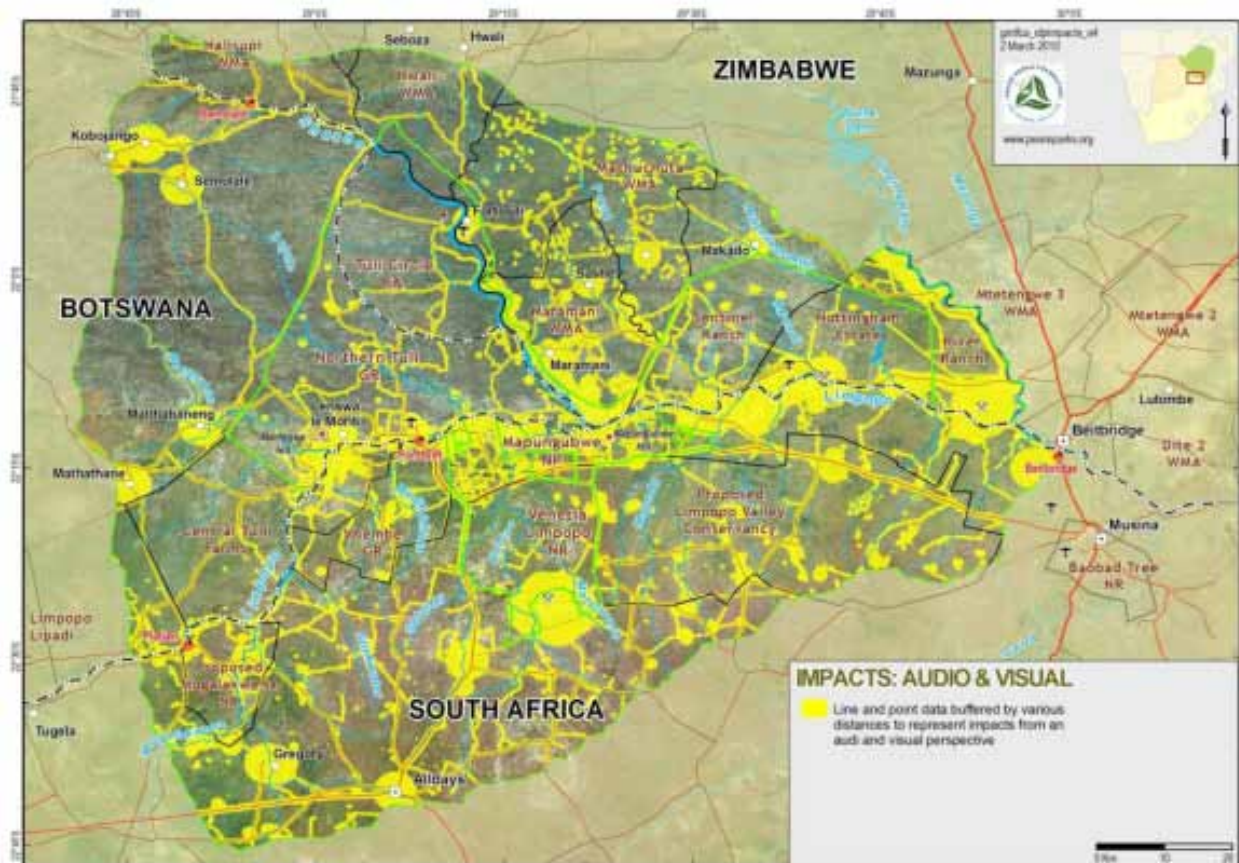
#### 4.5.2 Current Environmental Character

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 Maps 36 and 37).

Currently no areas 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.

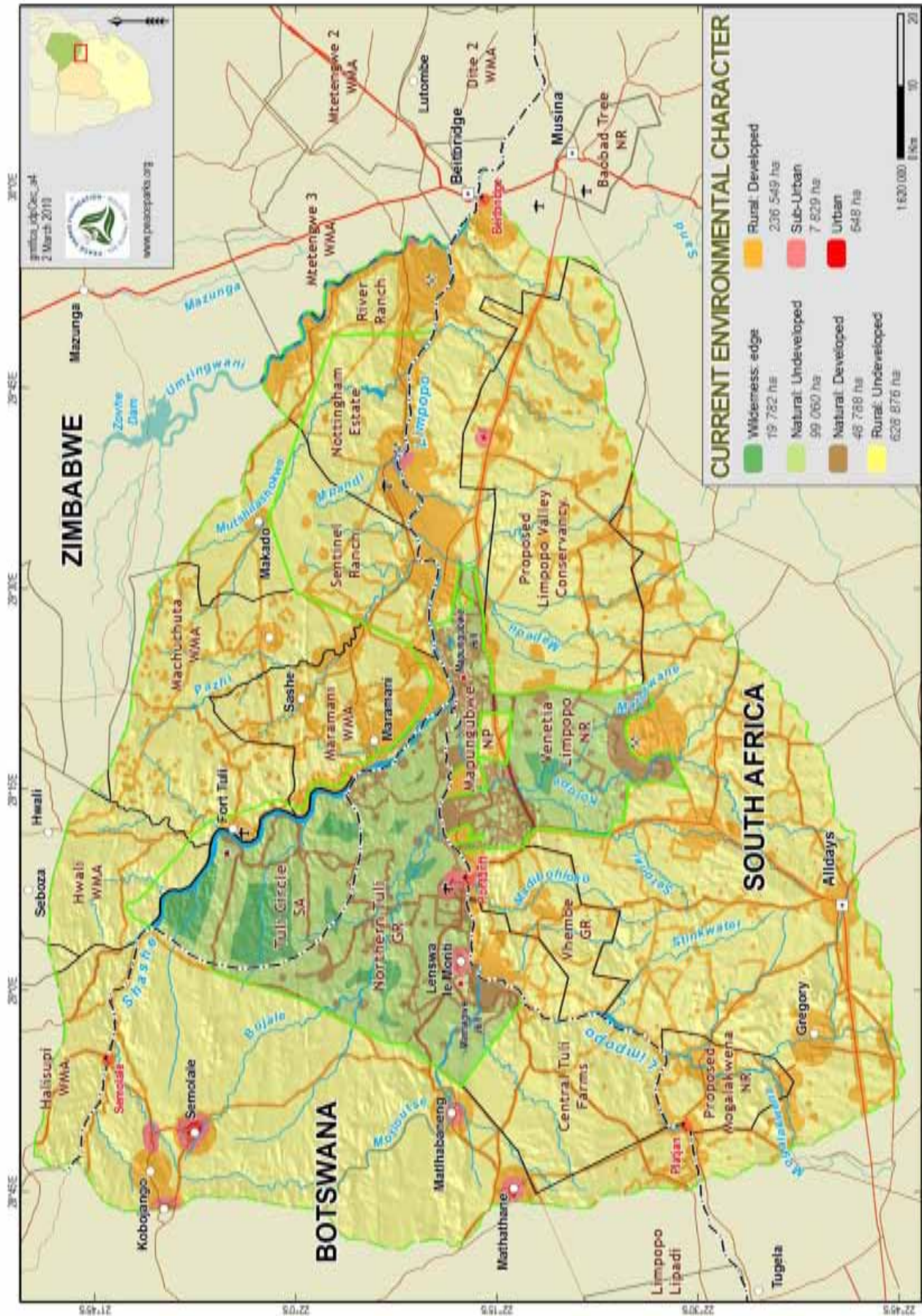
#### 4.5.3 Future Desired State

<To be included once Masterplan has been accepted by stakeholders.>



Map 36: Audio- visual Impacts





Map 37: CEC for GMTFCA

<To be included once Masterplan has been accepted by stakeholders.>

**Map 38: GMTFCA Future Desired State**

#### **4.5.4 Masterplan**

The Masterplan for GMTFCA spatially represents the Access, Use, Development and Infrastructure (AUDI) management interventions for the TFCA (refer Maps 39 and 40) and has been prepared for both Phase 1 and Phase 2 of the TFCA with a view on guiding the attainment of the business plan.

For purposes of clarity the Masterplan 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 that have been prepared for the TFCA.

##### **4.5.4.1 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 gates closest to their accommodation or activity, and if necessary clear immigration formalities at the requisite border post.

Guests that are specifically utilising the cross border tourism products will be exempt 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.

During **Phase one** of the GMTFCA development access to the Greater Mapungubwe Transfrontier Park (GMTFP) is via several gates and the Limpopo Valley Airfield. The Limpopo Valley Airfield is a critical intervention 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 31 and Appendices 5 and 6).

The gates are along the main roads servicing the TFCA, some of which will be permanent while others will be temporary to accommodate changes to the core area. All the gates and checkpoints will also serve as Foot and Mouth Disease (FMD) control points (refer Figure 30).

Access to the Park will be through the following points:

##### **Botswana:**

- Limpopo Valley Airfield
- NOTUGRE – Western Gate
- NOTUGRE – Southern Gate (Temporary)
- NOTUGRE – Pontdrift (Temporary)

##### **South Africa:**

- Mapungubwe Main Gate
- Venetia Gate

##### **Zimbabwe:**

- Nottingham Road
- Nottingham River
- Sentinel
- Fort Tuli



During **Phase two** certain of the access points will be changed such as the moving of the NOTUGRE Southern Gate to the southern boundary of the Central Tuli Game Reserve in Botswana, the development of checkpoints along the R572 and R521 in South Africa, and the development of a gate at Halisupi WMA in Zimbabwe (refer Figure 32). Access to the Park will now be:

**Botswana:**

- Limpopo Valley Airfield;
- NOTUGRE – Western Gate;
- Central Tuli – Southern Gate (Platjan); and
- Northern Gate – Semolale.

**South Africa:**

- Mapungubwe Main Gate;
- R572 Gate and Checkpoint; and
- R521 Gate and Checkpoint.

**Zimbabwe:**

- Nottingham Estate;
- Sentinel Ranch;
- Fort Tuli; and
- Halisupi WMA.

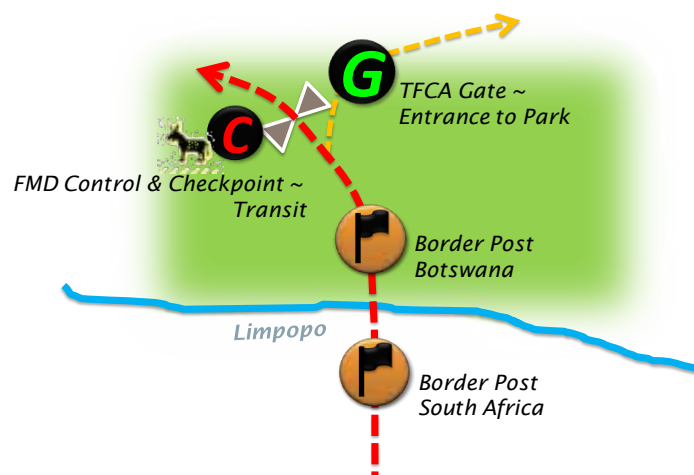
General access to the TFCA will be along the existing road network and does not necessitate additional controls besides the positioning of “Welcome to the GMTFCA” along the roads, so that visitors can be sensitised regarding the TFCA and the park.

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 30: Border Posts, Gates and Checkpoints**

#### 4.5.4.2 Use

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 (refer Figures 33 and 34).

#### 4.5.4.3 Development

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 4.5.5 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:

- Fossil;
- Pioneer; and
- Mapungubwe Iron Age.

The 2 country – Zimbabwe and South Africa – Fossil 4x4 Interpretative route, focuses on the fossils found on Sentinel Ranch and surrounding area, explaining the geology and significance of the sandstone ridges and underlying permean geology, and the super-imposed landscape shaped by the rivers.

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 Semolale area (CCA) since these area would find it difficult to raise and secure funding on their own.

Border posts need to be developed between Botswana and Zimbabwe on the Shashe River in the north of the study area, and between South Africa and Zimbabwe at Nottingham Estate. Botswana has shown its commitment by developing their side of the proposed border post on the Shashe, a development which could serve as the basis for a One-Stop Border Post, while the owners of Nottingham have indicated their support for a border post and low-level crossing on the eastern side of the study area.

Both these border posts 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 buffer 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 Figures 35 and 36 as well as Appendix 3 – Tourism Development Protocol).

#### 4.5.4.4 Infrastructure

Infrastructural requirements necessary to unlock the ecotourism potential of the Park include the Limpopo Valley Airfield, and a game fence along the eastern edge of the Shashe River, stretching from the veterinary fence at the north-western corner of NOTUGRE, along the northern and western boundary of Sentinel Ranch and Nottingham Estate 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. 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 Table 26).

**Table 26: Fencing Requirements**

Type of Fence	Distance (km)
Construct	292
Maintain	139
Remove	80

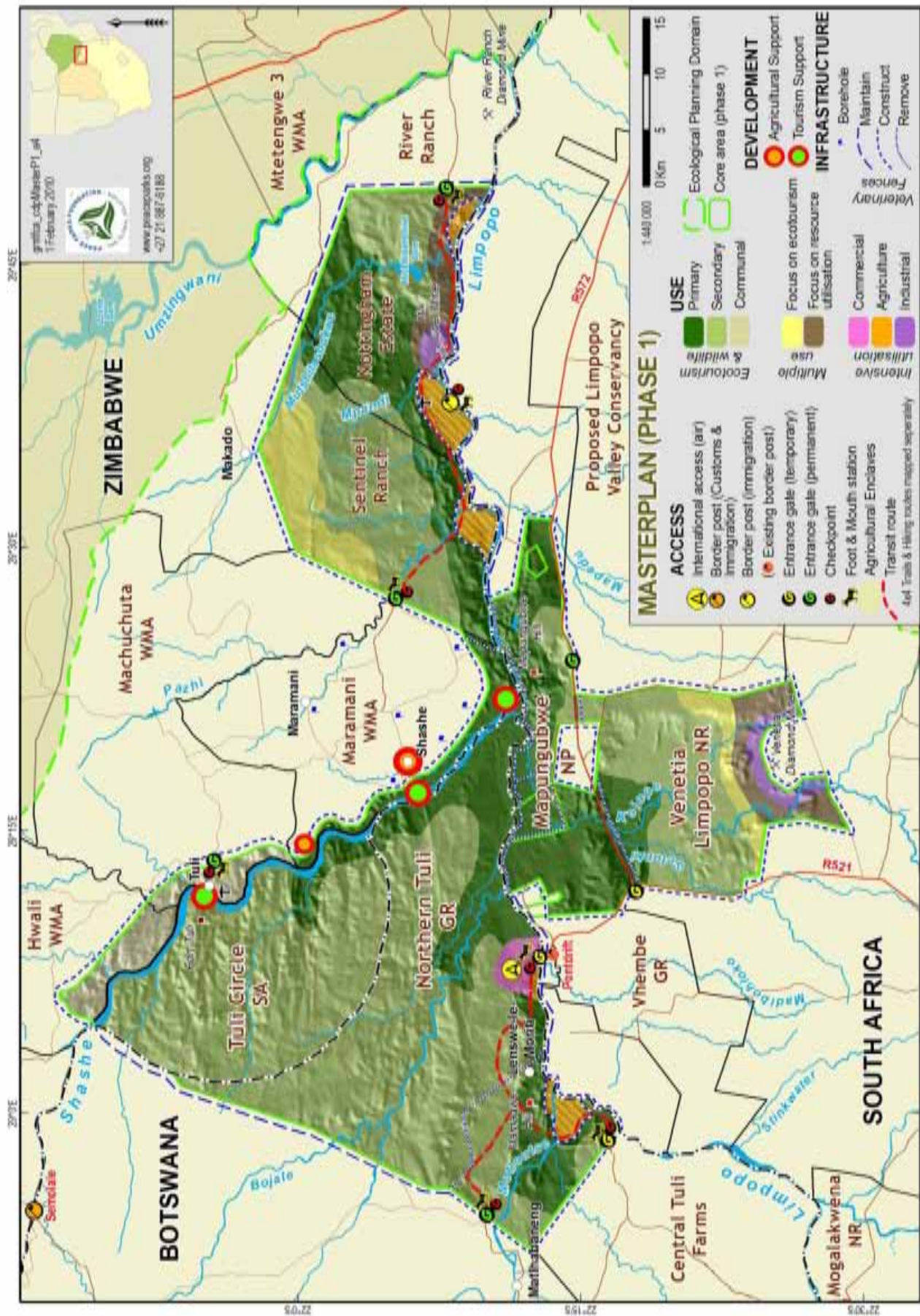
Infrastructure support requirements within the broader TFCA will be limited to initiatives necessary to ensure the attainment of the conservation, social and economic objectives. This will include support for the enclaves surrounding the commercial farms on the Limpopo, as well as the fencing of the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

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

To ensure easier tourist access to the TFCA it is recommended that a Tourist Access Facility (Port of Entry) be established at Nottingham.

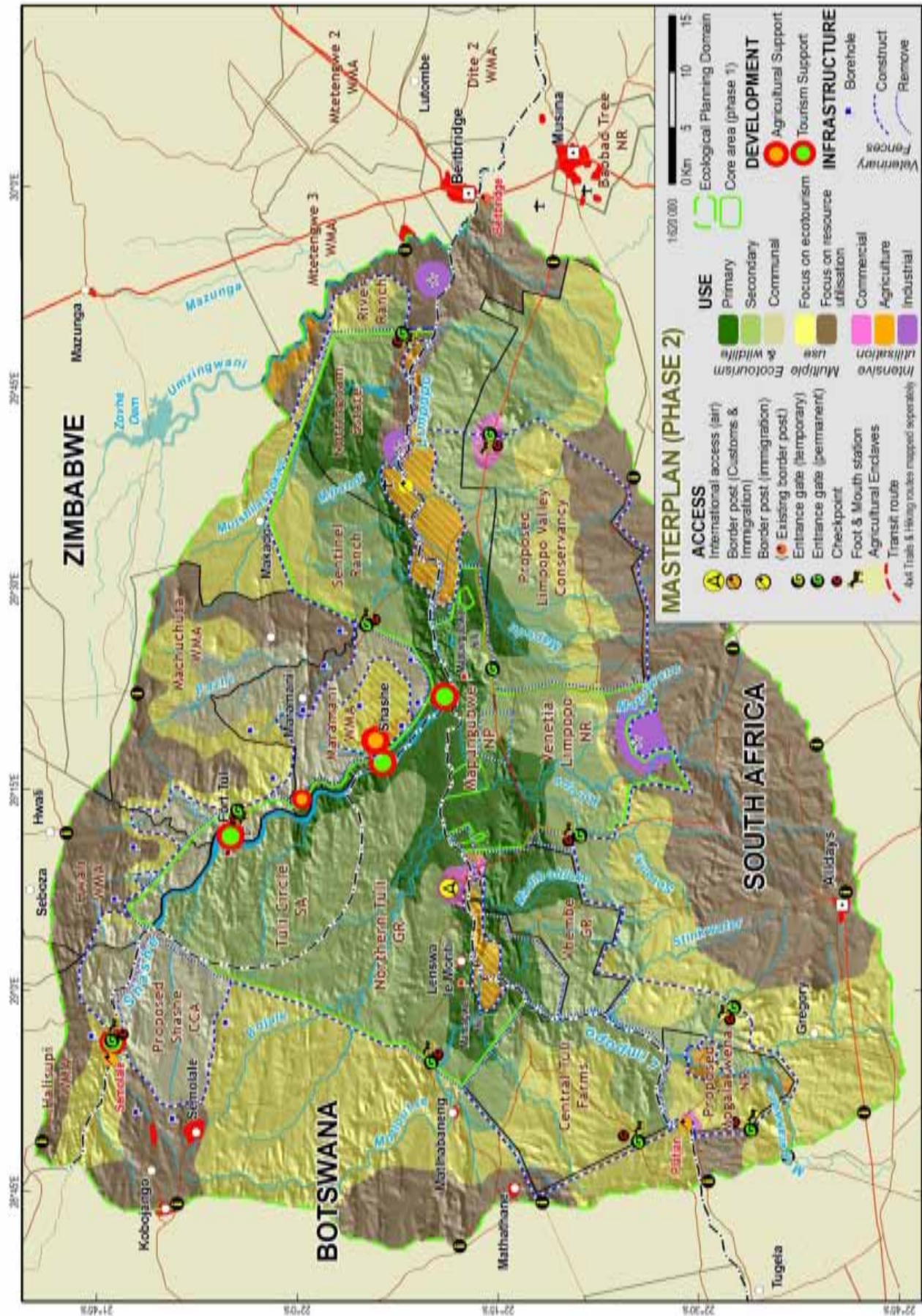
(Refer Figures 35 and 36.)





Map 39: GMTFCA Master Plan, Phase 1





Map 40: GMTFCA Master Plan, Phase 2



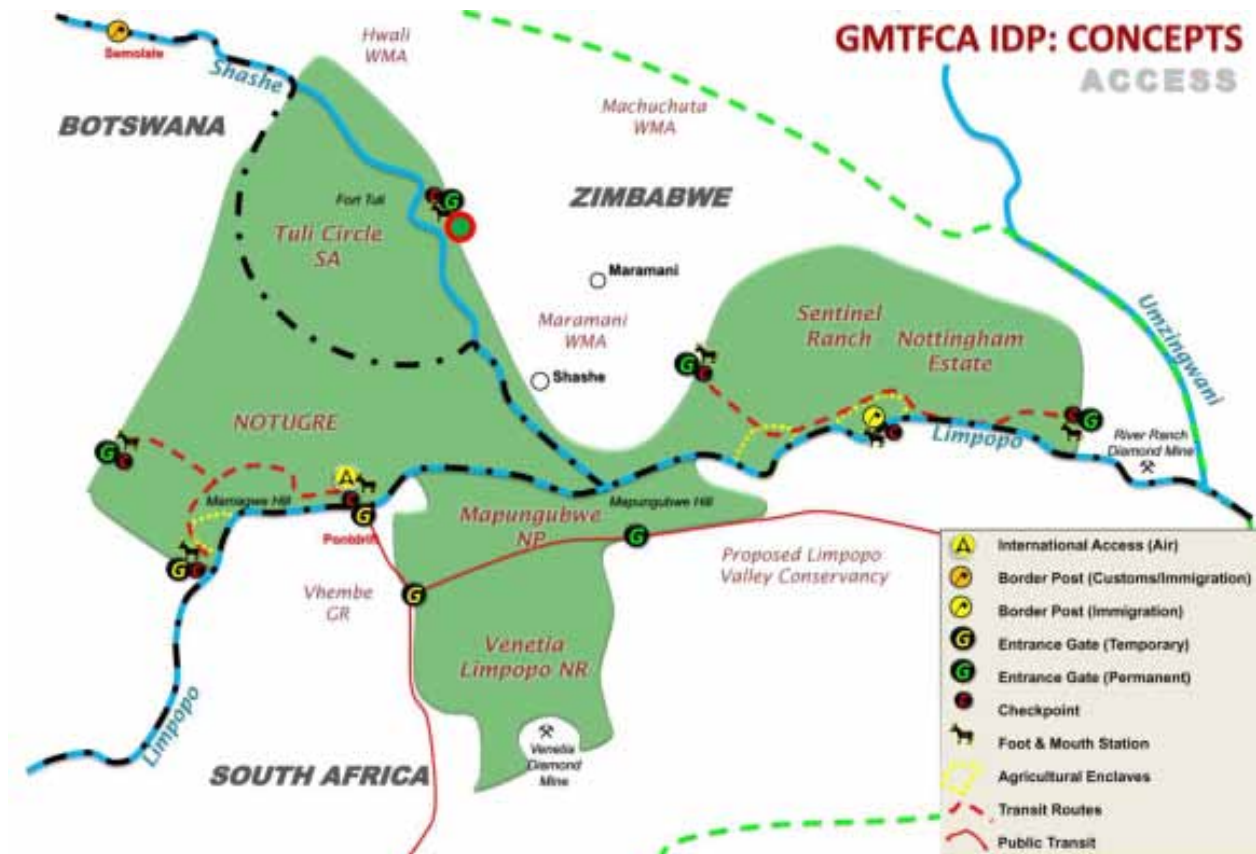


Figure 31: GMTFCA Access Concept Phase 1

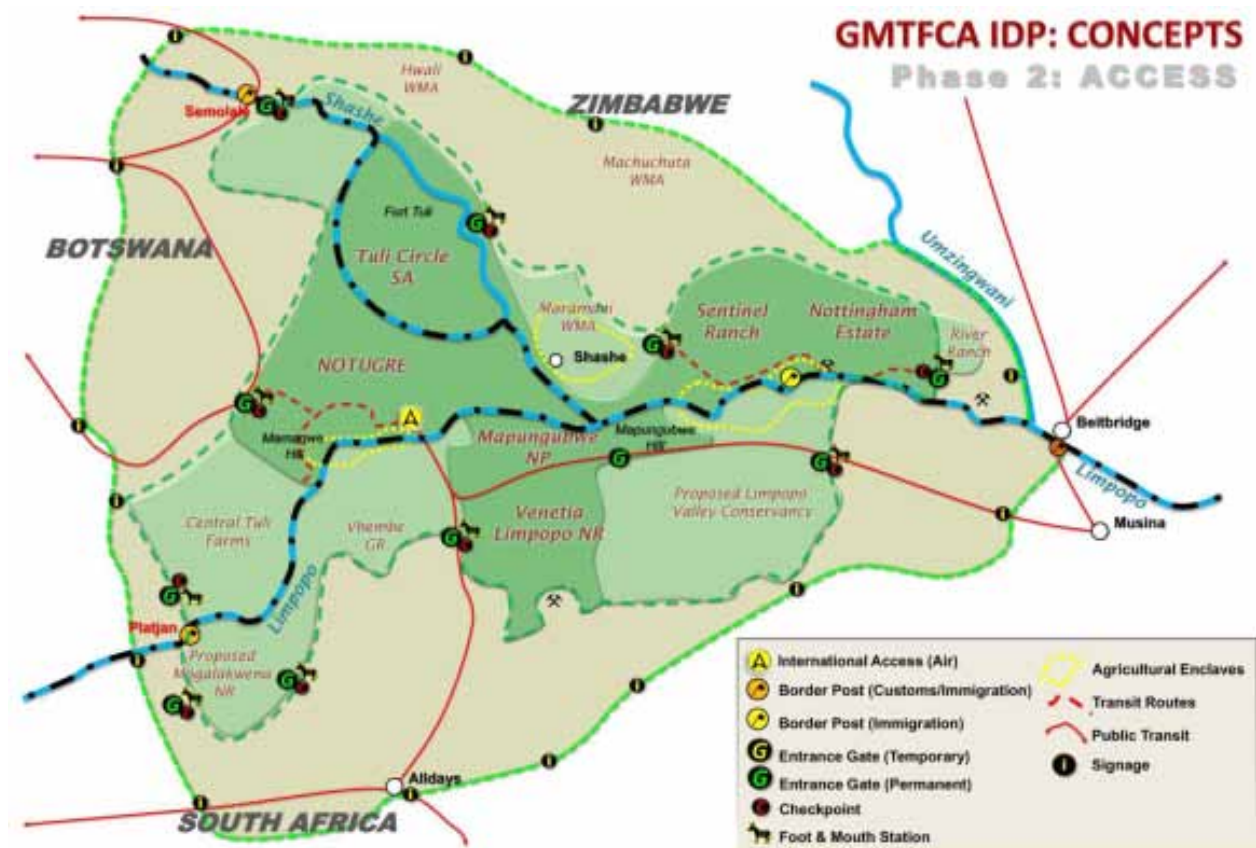


Figure 32: GMTFCA Access Concept Phase 2



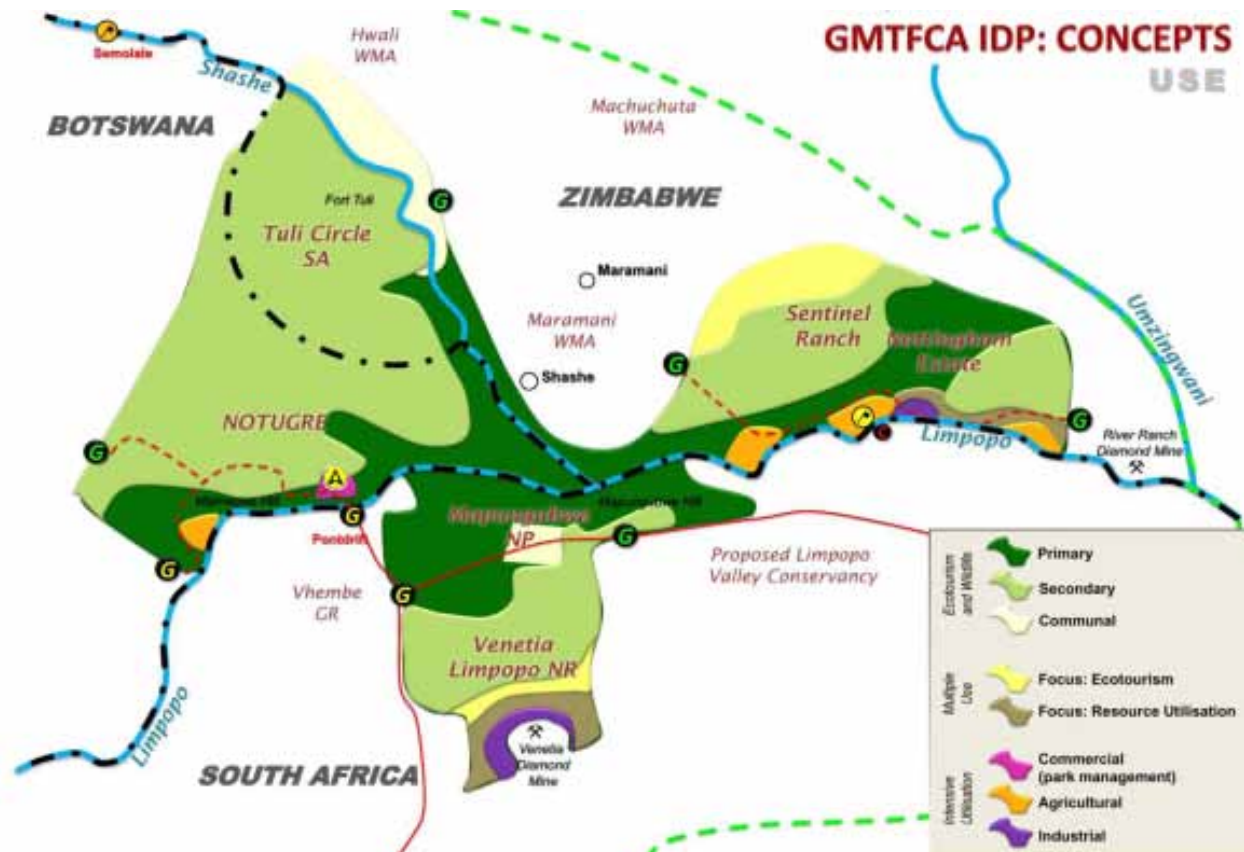


Figure 33: GMTFCA Use Concept Phase 1

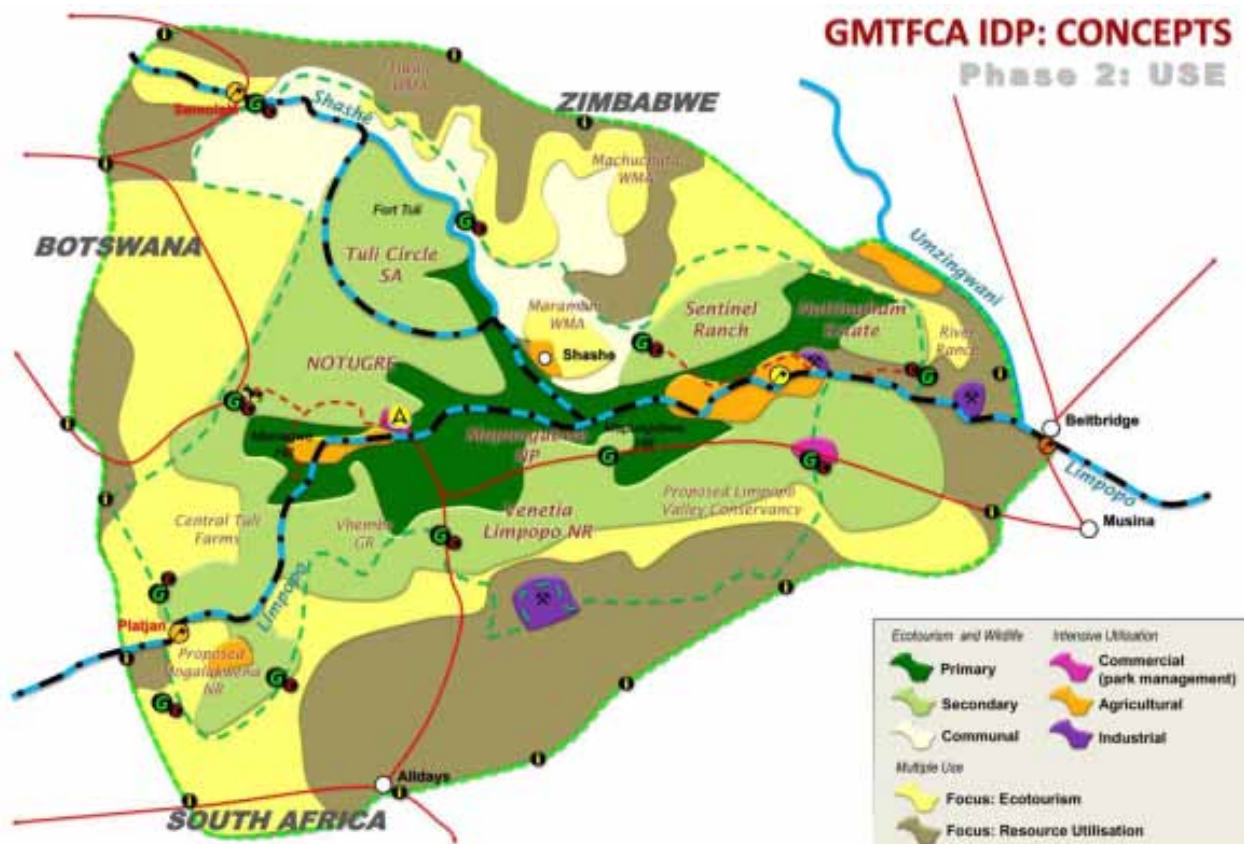


Figure 34: GMTFCA Use Concept Phase 2

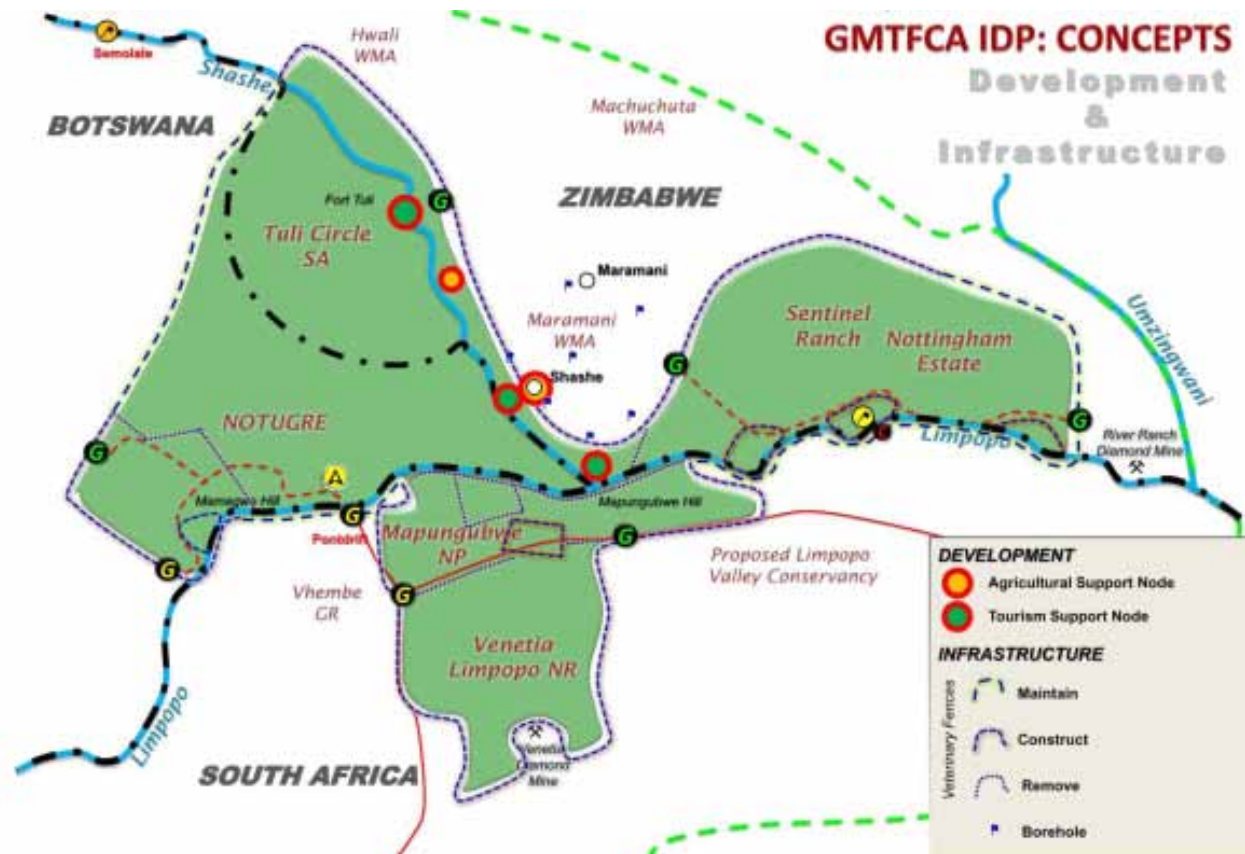


Figure 35: GMTFCA Development and Infrastructure Concept Phase 1



Figure 36: GMTFCA Development and Infrastructure Concept Phase 2



#### 4.5.5 Detailed Concept Development Plans

The list of cross border products 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.

##### 4.5.5.1 Fossil Trail

The GMTFCA, and specifically on Sentinel Ranch and Nottingham Estate, is blessed with numerous examples of dinosaur fossils, as well as an abundance of beautiful scenery and wildlife. The camp on Sentinel Ranch 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 37).

**Day1:** Guests arrive at Sentinel camp, accessing either from the Sentinel or Nottingham Gates, or from Mapungubwe National Park, where they will be met by a guide and escorted over the Limpopo close to Poachers Corner. After settling into the camp, guests will be taken to an area between the sandstone cliffs 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:** One breakfast has been enjoyed by guests, the group departs on a long loop initially exploring the sandstone ridges, after which the deeper bush is visited, including a visit to Nottingham Estate. Lunch is enjoyed en route, with, 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 37: Fossil Trail



#### 4.5.5.2 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 Angol-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 38).

**Day 1:** Guests arrive at Sentinel Ranch, staying either at the Sentinel Camp, or at a 4x4 campsite on the banks of the Limpopo, settle in, after which the group drive 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 (300-400m) from Fort Tuli. Sundowners are enjoyed overlooking 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 Sentinel Ranch. 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 38: Pioneer Route

#### 4.5.5.3 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, Mamagwe Hill and several other sites (refer Figure 39).

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 one of the camps in the Mapungubwe Game Reserve. 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 Mapungubwe Hill, where a guided tour of the hill will take place, which will be followed by a walk through the museum. By this time it should be late morning, and after enjoying refreshments, the group will travel north to cross the Limpopo into NOTUGRE, where the rest of the day will be spent slowly travelling towards the overnight stop in the vicinity of Mamagwe Hill. Sundowners can be enjoyed at Mamagwe Hill, another of the major sites of cultural significance within the GMTFCA.

**Day 3:** Day three 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. Exiting at Fort Tuli, time will spent visiting the Fort as well as the Police station after crossing the Shashe River. 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 situated within the Maramani WMA.

**Day 4:** Day four will get off to a slow start, with a scrumptious breakfast, and will then continue along the Shashe River towards the point where the route will cross the river and enter back into Mapungubwe National Park. It will then continue slowly back towards the confluence viewpoint where the journey will come to an end. After a final refreshment stop, debriefing and greetings, guests can return home or continue on their journey.

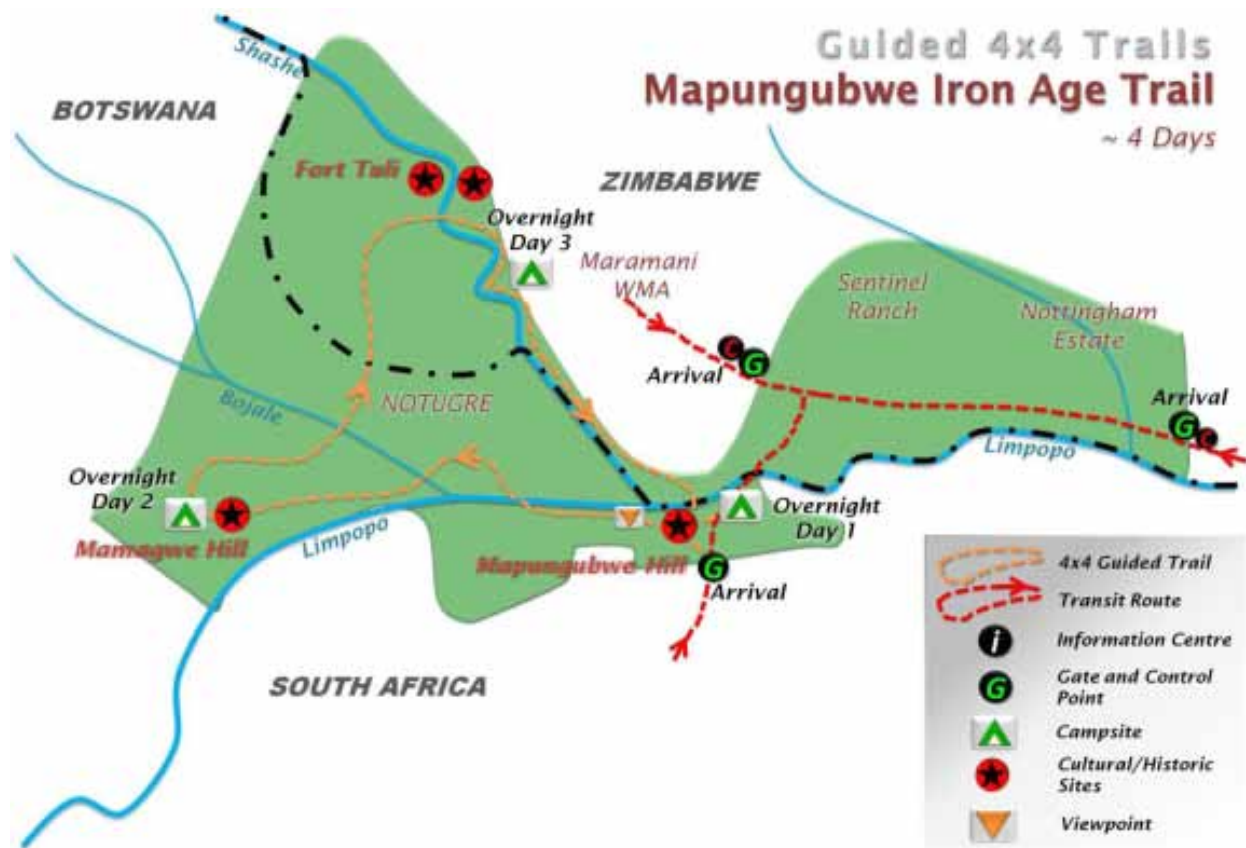


Figure 39: Mapungubwe Iron Age Trail

#### 4.5.5.4 Confluence Wilderness 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 Figure 40).

**Day 1:** During late afternoon (15:00) guests arrive at 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. Guests are transferred to the confluence viewpoint for welcoming drinks and snacks, where they are briefed about the trail, the area, and the team, before being transferred to the area of the camp. The final 1,5km is walked along game trails. 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 to a 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 Shashe returning to camp for brunch and a siesta. Following snacks and tea, the guide takes the guests on a walk through the sandstone ridges to 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 the viewpoint and transfer to their vehicles at the main gate before returning home or continuing on their journey.



Figure 40: Wilderness Hiking Trail



#### 4.5.5.5 Confluence Mountain Bike Trail

Based on the Confluence Wilderness Trail 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).



Figure 41: Mountain Bike Trail

#### 4.5.5.6 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 the 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 42).



Figure 42: 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.

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 (MNP)
- 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)
- MNP Management Plan (revision)
- 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