



Republic of Namibia  
Ministry of Environment & Tourism

STRATEGIC ENVIRONMENTAL ASSESSMENT  
OF THE TOURISM SECTOR FOR THE  
**MUDUMU LANDSCAPE**

2014





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2014

ASSESSMENT DONE BY:

**Enhancing Heritage Resources cc**

3 Maritz Street, Windhoek, Namibia

[www.ehrafrafrica.com](http://www.ehrafrafrica.com)

**EcoSurv Environmental Consultants**

Unit B1 Kgale Siding, Gaborone, Botswana

[www.ecosurv.com](http://www.ecosurv.com)

November 2013

**Namibia Protected Landscape Conservation Areas Initiative (NAM-PLACE)**

The Namibia Protected Landscape Conservation Areas Initiative (NAM-PLACE) is a five year project established by The Ministry of Environment and Tourism (MET), with co-financing from the Global Environment Facility (GEF) and with the United Nations Development Programme (UNDP) as the Implementing Agency.





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# LIST OF ACRONYMS

|                  |   |
|------------------|---|
| <b>BMM</b>       | Bwabwata-Mudumu-Mamili*                                   |
| <b>CBNRM</b>     | Community-Based Natural Resources Management              |
| <b>CBO</b>       | Community-Based Organisation                              |
| <b>EIA</b>       | Environmental Impact Assessment                           |
| <b>CBTE</b>      | Conservancy Based Tourism Enterprise                      |
| <b>EMP</b>       | Environmental Management Plan                             |
| <b>DfID</b>      | Department for International Development [UK]             |
| <b>EQO</b>       | Environmental Quality Objective                           |
| <b>HAN</b>       | Hospitality Association of Namibia                        |
| <b>IBA</b>       | Important Bird Area                                       |
| <b>IRDNC</b>     | Integrated Rural Development and Nature Conservation      |
| <b>JV</b>        | Joint Venture   |
| <b>JVP</b>       | Joint Venture Partner                                     |
| <b>KAZA TFCA</b> | Kavango-Zambezi Transfronteir Conservation Area           |
| <b>LACs</b>      | Limits of Acceptable Change                               |
| <b>MET</b>       | Ministry of Environment and Tourism                       |
| <b>MLSMP</b>     | Mudumu Landscape Strategic Management Plan                |
| <b>MNC</b>       | Mudumu North Conservancies                                |
| <b>MPLCA</b>     | Mudumu Protected Landscape Conservation Area              |
| <b>NACSO</b>     | Namibian Association of CBNRM Support Organisations       |
| <b>Nam-Place</b> | Namibia Protected Landscape Conservation Areas Initiative |
| <b>Nampol</b>    | Namibian Police   |
| <b>NAPCOD</b>    | Namibian Programme to Combat Desertification              |
| <b>NDF</b>       | Namibian Defence Force                                    |
| <b>NDP</b>       | National Development Plan                                 |
| <b>NGO</b>       | Non-governmental organisation                             |
| <b>NTB</b>       | Namibia Tourism Board                                     |
| <b>PLCA</b>      | Protected Landscape Conservation Area                     |
| <b>RC</b>        | Regional Council  |
| <b>SAREP</b>     | Southern Africa Regional Environmental Programme          |
| <b>SEA</b>       | Strategic Environmental Assessment                        |
| <b>TA</b>        | Tribal Authority  |
| <b>UN</b>        | United Nations  |
| <b>WWF</b>       | World Wildlife Fund                                       |

\*Names of key geographical references have been changed during the study period. The Caprivi Region has been renamed Zambezi Region and the Mamili National Park has been changed to Nkasa Rupara National Park. References to studies, plans and policies use different names appropriate at the time.



# EXECUTIVE SUMMARY

This assessment was commissioned by the Nam-Place Project as one of seven strategic environmental assessments (SEAs) of the tourism sector within Namibian landscapes. The Landscape concept establishes large scale networks of protected landscapes. In doing so it addresses threats to habitat and species loss on a broader scale, thus ensuring greater responsiveness to variability and seasonality issues around climate change.

The SEA for the Mudumu tourism sector comprised consultations, a review of the existing literature and legal framework and a visit to the Mudumu Protected Landscape Conservation Area (MPLCA). These activities were undertaken between June and November 2013. Two separate consultative meetings were held with members of the Landscape Committee, one to establish issues and concerns and another as feedback and to rank and assign responsibilities to proposed actions.

The MPLCA is located in Namibia's Zambezi Region. The area has a tropical climate averaging 550-600 mm/year rainfall. The landscape comprises a mixture of state land (parks) and communal land (conservancies and community forests), covering a total area of approximately 4 600 km<sup>2</sup>. Through the creation of this PLCA, the three national parks of Nkasa Rupara, Mudumu and (the eastern portion of) Bwabwata are linked together, with the conservancy areas and communal forest areas serving as critical corridors providing migration and movement routes for wildlife. The landscape falls within the large Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA).

The wetlands of the area are also designated as an Important Bird Area (IBA) – the Eastern Caprivi Wetlands. The IBA comprises the wetlands of the Kwando and Linyanti rivers, including all of Nkasa Rupara National Park and covers about 4 680 km<sup>2</sup>.

The MPLCA also has some of Namibia's highest levels of terrestrial biodiversity. Mammal diversity reaches some of the highest levels in Namibia, at over 100 species, while over 450 species of birds have been recorded in the area. The area is also home to several regionally rare or endangered species, such as red lechwe, roan, and sable. Eland, wildebeest and giraffe have also been successfully reintroduced into the area. However, the wildlife biomass is dominated by a growing population of elephants.

Although the designated land uses for various areas within the PLCA bode well for landscape level conservation, the communal areas, on which the conservancies are located, have a relatively high human population and extensive land use practices based on subsistence agriculture. This means that human-wildlife conflict is a major concern.

The settlement pattern in the area is generally linear, with small hamlets strung out along the main roads. Such ribbon development is largely ad hoc and unplanned. The Landscape is bisected by the Trans-Caprivi Highway. A loop road running through the area adjacent to the wetlands is being tarred. General development, noise and littering are reducing the wilderness value of the area.

Currently there appears to be little involvement in the tourism industry. In part this is because the opportunities appear to be limited due to low market demand, but other constraints such as lack of formal education and industry-specific training also factor into this.

The Kwando-Linyanti wetland system is one of the main tourism hubs of the Zambezi Region in Northeast Namibia. Tourism establishments and activities have been developed along the Kwando River and there are plans for further lodges and campsites. There are presently 8 lodges and four camp sites. Most of the lodges in the Kwando-Linyanti Wetland System were built North of Mudumu National Park. While South of Park, until recently, there were no tourism establishments. Wetland System; water based activities are conducted by 90% of the visitors and include boat cruise game viewing and sundowners.

A number of policies support the development of the Landscape such as the National Policy on Tourism (2008), the Community-based Natural Resources Management (CBNRM) Policy of 2013, the Regional Planning and Development Policy 1997, Policy on Tourism and Wildlife Concessions on State Land of 2007, National Policy on Protected Areas' Neighbours and Resident Communities of 2013, Final Draft Rural Development Policy of 2011 and the National Land Policy of 1998. The last two policies relate to land use planning and land redistribution.

The recent existing plans for the national parks within the Landscape have allowances for community facilities and have a strong emphasis on park neighbours, KAZA and linkages to adjacent countries.

In the assessment the resilience findings were:

- Political (in)stability.
- Zambezi Region's image as a transit route between the prime Namibian destinations and the Chobe and Victoria Falls area.
- Narrowness of the Botswana – Bwabwata – Angola corridor. The fencing of which is outside the control of the landscape.
- Settlement into wildlife corridors and HWC reducing public support in low tourism value conservancies.

Cumulative impacts identified are:

- **Reduction in wetland water quantity and quality** due to upstream and predominantly within Landscape proposed agricultural irrigation developments, settlements and lodge developments within the Kwando wetlands. This long term cumulative impact will undermine tourism and other ecosystem services.
- **Closure of migratory corridors**, isolation of the protected areas within and adjacent to the Landscape due to linear and largely unplanned settlement patterns and formalisation of customary land tenure within the corridors.
- **Decrease in support for protected areas and conservancies** by people of the Landscape due to increasing levels of human wildlife conflict and stagnant or declining returns from tourism.
- **Decline in wilderness quality**, sense of place and aesthetic value due increase in noise and visual impacts for example from development of power distribution lines, tarred roads traffic and settlements.
- **Increasing importance of the Landscape** as a key component of the greater KAZA area and provision of vital linkages between Angola and Botswana and between the landscape and Zambia.

Three tourism scenarios were identified, (1) Business as usual which would result in a steady decline of tourism revenues. (2) Medium growth where the growth is in developing additional tourism products while not expanding the number of lodges and camps. (3) High growth which is based on a new tourism vision of the landscape where the area becomes a destination offering cultural and activity based tourism including consumptive tourism. The Landscape would need to be rebranded as a destination within the very heart of the KAZA TFCA.

The assessment of scenario impacts for Performance Areas and cumulative impacts indicates that the high tourism growth scenario is the best social and environmental option. It will significantly contribute to a positive impact on tourism allowing for a resilient and sustainable industry which provides visitors with a destination. However, given the limited market potential under the current global economic environment, this may not be realistic, and the MPLCA should, at least initially, aim for the realistic medium growth scenario.

The suggested vision for the Landscape is "To conserve biodiversity and functioning wildlife systems across the landscape, while maintaining ecosystems services, through effective landscape-level management and the transformation of the area from a transit route to a sustainable eco-tourism destination, thus leading to enhanced benefit flows to the people of the area."

Sustainable tourism in the Mudumu landscape will be achieved through the following objectives, which set out to:

- Conserve biodiversity and wildlife systems for the development and diversification of sustainable tourism. Through

effective management and participation, in the conservation of proven corridors across the landscape and the identification and status of biodiversity, mitigation of HWC, control of settlement patterns, enforcement of zoning and reduction in poaching.

- Maintain ecosystems services to ensure environmental flows and functioning are not degraded thus providing conditions for a quality tourism product. Enforcing environmental standards in all tourism establishments as identified in the SEA
- Establish effective landscape level management. Effective management authority established with the mandate, authority and support of stakeholders being able to manage at the landscape level by 2014.
- Transform the landscape to an ecotourism destination through diversification, sustainable growth and overall tourism landscape design, which includes:
  - Enhancement of cultural, heritage and ecotourism products;
  - Diversify tourism activities;
  - Provision of stable, destination type consumptive and non-consumptive tourism;
  - The setting of Limits of Acceptable Change (LACs) for the wetlands, national parks and cultural and activity tourism
- Enhance benefit flows through improved benefits at the landscape and local levels. These should be measured through employment, training, skills enhancement and capacity building (note not financial due to impact of the road development).

Detailed environmentally quality objectives are presented in tables outlining actions, targets, responsibilities and timing.

The Mudumu Landscape is of high strategic value as a biodiversity and tourism area. Both its wildlife assets and tourism value are under threat of internal and, to a lesser extent, external influences. Human-wildlife conflicts, especially poaching, are on the rise. Tourism benefit expectations are high while effective tourism values are actually quite low. Occupancy numbers at accommodation establishments remain low. There is limited diversity in the tourism product offered, which is also concentrated in a small section (and ecosystem) of the landscape. Current infrastructure developments (such as the tarring of the Mamili loop road/ C49) will lead to an increase in linear settlement, impacting both the visual appeal of the area and restricting wildlife movements.

Effective management of the area requires a cohesive vision at landscape level which is currently missing. The tourism development expectations at individual conservancy level are not in line with the feasibility of the larger area or with planning. This is because the differences between river-front and in-land tourism appeal is high, as is the difference between established tourism ventures and the potential for new market entries.

# CHAPTER 1

## *INTRODUCTION AND BACKGROUND TO THE ASSIGNMENT*

### **1.1 Introduction**

This assignment falls under the Incentives and Market Transformation Component of the Namibia Protected Landscape Conservation Areas Project – Nam-Place. It specifically addresses the completion of Strategic environmental assessment for tourism development in 5 PCLAs and recommendations applied (Output 3.1).

This is aimed at supporting the development of new revenue streams and diversification of existing ones from the wildlife and tourism sector. Analysis, strategic and business planning approaches will be applicable to other parts of Namibia and elsewhere.

Tourism development and practices on community and private lands within five PLCAs need to be compatible with best practices in biodiversity management objectives while providing livelihoods to stakeholders, with the aim of long term sustainability and harmonization between landscape conservation and enhanced livelihoods. It is within this context that each landscape, with its own specific situation and setting receives a strategic environmental assessment to guide future tourism development, activities and current practices toward sustainability.

As an industry accounting for almost 10% of national gross domestic product, tourism presents a great opportunity to encourage the participation of more Namibians into the formal economy and the benefits accrued from it. The recently formulated fourth National Development Plan (NDP4) identifies tourism as a priority sector in the creation of employment and recognises the need for (amongst others) diversified product development.

The remarkable growth in tourism has not fully covered all areas of the country and specifically failed to optimize profitable forward and backward linkages with the local economy. In addition, as the industry relies heavily on the utilisation of the country's natural resource base, the environmental integrity needs to be safeguarded with priority.

Enhancing Heritage Resources cc (also referred to as EHR) and EcoSurv Environmental Consultants (Pty) Ltd welcome the opportunity to assist the Nam-Place project to conduct a strategic environmental assessment of the tourism sector in the Mudumu Landscape and formulate a practical, quality SEA report based on:

Optimising a sustainable tourism industry measured in terms of improved human quality of life within the principles of environmental carrying capacity and biodiversity conservation;

Providing guidance to the implementation of the co-management and development plan of the landscape and inform the future decision making processes affecting biodiversity conservation and sustainable tourism development in the landscape.

EHR and Ecosurv understand the need for the development of new revenue streams and diversification of existing ones from the wildlife and tourism sector. Tourism development and practices on community and private lands within PLCA need to be compatible with best practices in biodiversity management objectives while providing livelihoods to stakeholders, with the aim of long term sustainability and harmonization between landscape conservation and enhanced livelihoods with respect to wildlife stocking, infrastructure location, visitor controls among others.

Within this context, the Mudumu landscape, with its own specific situation and setting should receive a strategic environmental assessment to guide future tourism development, activities and current practices toward sustainability.

By focusing on the tourism sector and its (further) development within the landscape, the SEA will ensure that the long-

term environmental and social sustainability of tourism development is thoroughly investigated and also evaluates possible (economic) inter-linkages thereby assessing the cumulative effects within the landscape. This combined impact also needs to be captured for the various Environmental Impact Assessments (EIAs) for tourism development that have been conducted as their combined impact is not known.

The team will further ensure that the SEA is designed in a way that planners, decision-makers, and stakeholders benefit from it whilst adhering to the regulatory framework of the Environmental Management Act (Act 7 of 2007).

## **1.2 The Namibian Protected Landscapes Conservation Areas (Nam-Place) Project**

Nam-Place is a 5-year initiative housed in the Ministry of Environment and Tourism. Its aim is to expand the area under protected area management by establishing an extensive network of protected landscapes across the country. Through a landscape approach, Nam-Place seeks to ensure that Namibia's biodiversity and ecosystem values are conserved so as to provide sustainable benefit flows at local, national and global levels.

The Nam-Place initiative recognises that landscapes encompass different user groups with different needs and interests, while considering that the ecosystem goods and services across a landscape are interconnected. This means that changes in one part of the landscape can have consequences for the environment and livelihoods in other parts of the landscape.

The Nam-Place approach is based on collaborative management as a means to encourage stewardship and shared benefits, and to avoid the efforts of one individual counter-acting those of another. This management is formalised through a Landscape Management Committee comprised of representatives of stakeholders within the landscape. Activities are structured through the development of a collectively agreed-on Landscape Management Plan, which sets out roles and responsibilities, land use zones, infrastructure development and resources uses. Tourism is one of the potential resource uses that can promote both conservation and income generation to the landscape.

This section presents the consultants' understanding of the objectives of the tourism SEA within the context of the Namibia Protected Landscape Conservation Areas Initiative (Nam-Place) Project, and highlights key principles of a Landscape Approach that frame and guide landscape-level management.

## 2.1 The SEA Process within the Context of the Nam-Place Approach

The SEA for the tourism sector is understood to be a section of the third component of the Nam-Place Project:

- The first component is the establishing of new Protected Landscape Conservation Areas (PLCAs);
- The second component is on collaborative governance for PLCAs (establishment of the constitutions); and
- The third, and last, component is on incentives and market transformation. As a section under this component, the project is expected to undertake a Strategic Environmental Assessments (SEA) of the tourism sector for the landscape. The SEA will form a framework for the Incentives and Market Transformation management activities which could, for example, be contained in a tourism plan for the landscape.

## 2.2 Objectives of the Tourism SEA

The terms of reference make it clear that Component 3 is aimed at "supporting the development of new revenue streams and diversification of existing ones from the wildlife and tourism sector."

Within the context of the Nam-Place Project tourism development and practices on community and private lands need to be: "compatible with best practices in biodiversity management objectives while providing livelihoods to stakeholders, with the aim of long term sustainability and harmonization between landscape conservation and enhanced livelihoods".

Within the Nam-Place context the objective of the SEA is to ensure that the landscape receives a strategic environmental assessment to guide future tourism development, tourism activities and current practices toward sustainability. The main objective of the SEA, as stated in the terms of reference is:

*"To conduct a strategic environmental assessment of the tourism sector in the Mudumu Landscape and develop a SEA report. The assessment should be based within the premise of achieving and optimizing a sustainable tourism industry measured in terms of improving human quality of life within the principles of environmental carrying capacity and biodiversity conservation. The outcome of the Mudumu Landscape SEA should support the Integrated Strategic Tourism and Management Plan of the landscape and guide its implementation as well as inform the future decision making processes affecting biodiversity conservation and sustainable tourism development in the landscape".*

## 2.3 Understanding of the Key Principles of the Landscape Approach

Landscape approaches are emerging as important ways to respond to conservation needs in the face of increasing loss of land to what would otherwise be seen as competing land uses. By focusing on broader scales, both longer-term trends in environmental variability, and the vital ecosystem processes underpinning prime habitat and wildlife resources, can be taken into consideration. A recent review (Sayer et al 2013) summarises some of the key principles learned that can guide the process of decision-making for landscape level conservation. These principles have been adopted by the advisory body to the Convention on Biodiversity, and represent the combined opinion of key figures on how best to integrate agricultural and



conservation at the landscape level. The principles are presented below, and from each, we derive a question that allows us to cross-check that these principles are included in our assessment.

**Principle 1: Continual learning and adaptive management:** Processes within landscapes are dynamic. Apart from seasonal variations, there are longer-term changes such as climate, range quality, and tourism demand that affect the biophysical and socio-economic functioning of the landscape. A feedback loop between changes in landscape attributes and management practices must be in place, so that this can inform decision-making. This adaptive management will allow the landscape to absorb non-linear shocks, unforeseen interactions and changes in thresholds.

**Q. Have we identified the key landscape attributes and has the link between changes in attributes and management been established?**

**Principle 2: Common concern entry point:** Solutions to problems identified within the landscape must be established through negotiation processes based on mutual trust. Trust emerges when objectives and values are shared. Although it may initially be difficult to have shared overarching goals, addressing simpler short-term objectives can begin the process of building trust.

**Q. What are the shared objectives and are there simpler short term objectives that can be implemented to build trust?**

**Principle 3: Multiple scales:** Outcomes at any scale are shaped by processes operating at other scales. Influences include feedback, synergies, flows, interactions, and time lags, as well as external drivers and demands. An awareness of these higher and lower level processes can improve local interventions, inform higher-level policy and governance.

**Q. have the scales and linkages between the various scales and domains been recognised ?**

**Principle 4: Multifunctionality:** Landscapes and their components have multiple uses and purposes, each of which is valued in different ways by different stakeholders. Trade-offs exist among the differing landscape uses, and need to be recognised and reconciled.

**Q, have the multiple uses and values of the landscape been identified and have trade-offs been recognised ?**

**Principle 5: Multiple stakeholders:** Multiple stakeholders frame and express objectives in different ways. This is over and above the fact that their specific interests may be different. Failure to engage stakeholders in an equitable manner in decision-making processes will lead to suboptimal, and sometimes unethical, outcomes. All stakeholders should be recognized, even though efficient pursuit of negotiated solutions may involve only a subset of stakeholders. Solutions should encompass a fair distribution of benefits and incentives.

**Q Have all stakeholders been identified and equitably involved in the decision making process?**

**Principle 6: Negotiated and transparent change logic:** Trust among stakeholders is a basis for good management and is needed to avoid or resolve conflicts. Transparency is the basis of trust. Transparency is achieved through a mutually understood and negotiated process of change and is helped by good governance. All stakeholders need to understand and accept the general logic, legitimacy, and justification for a course of action, and to be aware of the risks and uncertainties.

Q. is there transparency and is the logic for different actions legitimate and accepted?

**Principle 7: Clarification of rights and responsibilities:** Rules on resource access and land use shape social and conservation outcomes and need to be clear as a basis for good management. Clarifying rights and responsibilities is now replacing the command-and-control approach. Facilitation and negotiation are emerging as the core business of resource management agencies.

**Q. are the rights and responsibilities of the various stakeholders clearly defined, and are mechanisms for discussion and negotiation in place?**

**Principle 8: Participatory and user-friendly monitoring:** Information can be derived from multiple sources. To facilitate shared learning, information needs to be widely understood and easily accessible. Systems that integrate different kinds of information need to be developed.

**Q. What sources of data exist, and how can monitoring of different data be integrated into landscape level management and decision-making?**

**Principle 9: Resilience:** Unplanned system changes are usually detrimental and undesirable. System-level resilience can be increased through an active recognition of threats and vulnerabilities. Actions need to be promoted that address threats and that allow recovery after perturbation through improving capacity to resist and respond.

**Q. Are threats and vulnerabilities identified and understood?**

**Principle 10: Strengthened stakeholder capacity:** People require the ability to participate effectively and to accept various roles and responsibilities. Such participation presupposes certain skills and abilities (social, cultural, financial).

**Q. Has the participation of various stakeholders been outlined and agreed, and are mechanisms in place to facilitate skills development?**

## 2.4 Constraints and Limitations

Data sources and details limited to the literature and two brief consultation processes.

It is also understood that although the SEA on tourism will align closely with the national requirements, it is not to enter the statutory process.

Replies to and inputs from questionnaires limited

## 3.1 Approach Adopted in the SEA

The strategic environmental assessment focuses on the tourism component of the Nam-Place Project. The content is shaped by the terms of reference and the national framework for SEA. This includes the Environmental Management Act of 2007 and the Procedures and Guidelines for Strategic Environmental Assessment (SEA) and Environmental Management Plan (EMP) of 2008.

## 3.2 Review of Background Literature

A review of relevant background documentation is conducted to ensure the policy, planning and regulatory environment for SEAs, Tourism, Protected Area Management and socio-economic development are understood. Following documents have been reviewed:

- Nam-Place Project document
- Nam-Place Project inception report
- Need assessment Survey results
- Integrated Strategic Tourism and Management Plan of Mudumu Landscape (North-Complex)
- Draft Constitution of Mudumu Landscape
- Environmental, Social and Economic Profile for the proposed Mudumu Landscape
- Conservation Area
- Conservancy Management/Business/Tourism Plans
- Mamili National Park Management Plan
- Mudumu National Park Management Plan
- Bwabwata National Park Management Plan
- Community Forest Management Plans
- Prioritised Infrastructure Action Plan
- Leasehold Process and all related policies and acts
- Market analysis, review of existing and potential market within five Protected Landscape Conservation Areas
- Policy and legal review as part of a feasibility assessment for the establishing Protected Landscape Conservation Areas in Namibia
- Ministry of Environment and Tourism (MET) Strategic Plan
- National Tourism Policy of Namibia
- National Development Plan (4)
- Detailed Landscape Maps as received by project partners
- Section 5 discusses the relevant regulatory aspect of the Tourism SEA. A detailed reference list is provided in Section 10.

## 3.3 Planning Framework

The planning framework is determined by assessing existing policies, legislation and plans that together create the socio-political context for the Greater Waterberg Complex Landscape and its administration and management. The Policy and Legal Review (Watson and Odendaal 2009) conducted as part of the feasibility study behind the establishment of the protected landscape conservation areas forms a starting point in this regard.

The applicable Namibian regulatory and development environment will determine the operational sphere for the consultancy. This includes, among other documents: NDP4, TIPEEG, Procedures and Guidelines for the Strategic Environmental Assessment and Environmental Management Plan and other environmental objectives within the mandate of the Ministry of Environment and Tourism.

### 3.4 Field Visit

A field mission was conducted June 2013. The team visited the Mudumu Landscape from 9 to 11 June and conducted a field inventory in the Mudumu and Bwabwata National Parks, Mashi, Mayuni and Kwando conservancies as well as at Camp Kwando to obtain insight into the communal and commercial tourism scope. As part of the field visit to the landscape, the team participated in a landscape meeting in Katima Mulilo (see 3.5).

### 3.5 Consultations

Consultation with landscape stakeholders took place during the Consultative Meeting in Katima Mulilo on June 10<sup>th</sup> 2013. Some 24 representatives from the communal conservancies, commercial tourism enterprises, non-governmental organisations (NGOs), local & regional government and project staff were present. The team had the opportunity to present the assignment and capture the challenges and opportunities raised by participants with respect to tourism in the landscape, subsequently incorporated into this document.

Additional consultation has been conducted with Nam-Place project staff in Windhoek.

A feedback workshop was held 16<sup>th</sup> October 2013 with the Landscape Committee to discuss the environmental quality objectives and to identify the appropriate parties involved.

A list of persons who participated in the stakeholder workshops is provided in Appendix 1.

### 3.6 Baseline

The study is not prepared in isolation and is part of an overall planning process. Baseline studies for the Landscapes have been prepared and the description in this study is formulated on those reports.

Development of tourism (growth) scenarios will take cognizance of destination facilities in the greater landscape as well as traversing use by visitors that impacts on the environment on the area using the existing baseline survey to report the "business as usual scenario".

Together with the landscape committee, envisaged targets will be formulated for all possible scenarios incorporating socio-economic development based on the natural, cultural and man-made tourism potential of the landscape and comparisons with returns from other livelihood activities (e.g. farming) made. The assessment of the tourism system will identify whether occupancy levels and associated profitability, as well as human skills and capacity needs can be increased for both consumptive and non-consumptive tourism utilization within the landscape.

The inception phase will allow us to assess the existing information from the ToR, project publications and other relevant data as well as quantification of the tourism sector in the landscape based on:

- **Scope:** which deals mainly with size and number of attractions. Does the whole area offer (or hold potential for) tourism, or merely a few sites and what is the variety within the area to offer different things. Scope is valued at primary, secondary and tertiary scope and linked to possible usage (consumptive & non-consumptive tourism).
- **Access:** looks at both the ability and effort to reach the destination area as well as the different sections and sites within

the landscape. Seasonality is taken into account.

- **Location:** related to other attractions (neighbouring national parks, urban hub, etc.) as well as to generating markets but also in relation to potentially compromising structures (urban settlements, operational mines, etc.)
- **Drawing power:** this validates the resource and determines how far, and under what circumstances, people are willing to travel to visit the landscape. Valued as international, national or local with, for example, iconic wildlife species drawing visitors from across the world.

If visitor facilities already exist, these will be evaluated on quality and quantity and their role in shaping the area as a tourism destination. The consultants will use the state of the tourism system to determine the extent of the landscape and include areas impacted by the landscape and its tourism use/potential.

The team worked closely with partners and relevant key stakeholders in the landscape to address the key areas and considerations specifically identified in the Mudumu PLCA and any others to be presented in the inception report.

### 3.7 Scenarios

As required in the terms of reference three scenarios were prepared. These were based on literature, resources available and the tourism vision identified by the Landscape Management Committee. The vision was discussed at the consultative meetings. The three scenarios are:

- Business as usual (based on the current situation) and using the existing baseline survey;
- Envisaged (realistic) future scenario based on socio-economic development (using tourism potentials) within the thresholds of the landscape;
- Envisaged optimal future scenario where constraints are overcome to allow for maximum sustainable tourism development.

### 3.8 Assessment

The assessment was based on three separate sets of information:

- Impacts and concerns presently experienced at the Landscape level. These are drawn from the literature and from the consultation process. These issues and concerns are outlined in Section 1.26;
- Potential cumulative impacts arising from implementation of the preferred scenario at the landscape level (Section 1.28);
- Impacts and limitations that could arise from implementation of the preferred tourism development scenario based on the scenario outlines prepared under this SEA (Section 7.6).

### 3.9 Survey Instrument

In order to assess current tourism levels, its contribution to the local economy and key environmental aspects (e.g., energy and waste), a short survey instrument was sent via the Landscape Coordinator to the tour operators in the landscape. The instrument is appended to this report.

#### 4.1 Landscape Description

The Mudumu Protected Landscape Conservation Area (MPLCA) is located in Namibia's Zambezi Region, placing it some distance from the country's main tourism route. The area, being further inland (and east and north of the rest of the country) has a different climate and hence environment, providing for interesting contrasts in terms of the ecological and social opportunities of the area. The landscape comprises a mixture of stateland (parks) and communal land (conservancies and community forests), covering a total area of approximately 4 600 km<sup>2</sup> (Figure 1). Through the creation of this PLCA, the three national parks of Nkasa Rupara, Mudumu and (the eastern portion of) Bwabwata are linked together, with the conservancy areas and communal forest areas serving as critical corridors providing migration and movement routes for wildlife. The landscape falls within the large KAZA TFCA. This overlap in terms of broad-scale conservation approaches should provide further impetus to the sound management of MPLCA.

The wetlands of the area are also designated as an Important Bird Area – the Eastern Caprivi Wetlands. The IBA comprises the wetlands of the Kwando and Linyanti rivers, including all of Nkasa Rupara National Park and covers about 4 680 km<sup>2</sup>. The area carries this designation on the basis of three different criteria: presence of globally threatened species; presence of biome-restricted species; and congregatory spot for waterbird species.

Although the designated land uses for various areas within the PLCA bode well for landscape level conservation, the communal areas, on which the conservancies are located, have a relatively high human population and extensive land use practices based on subsistence agriculture. This means that human-wildlife conflict is a major concern.

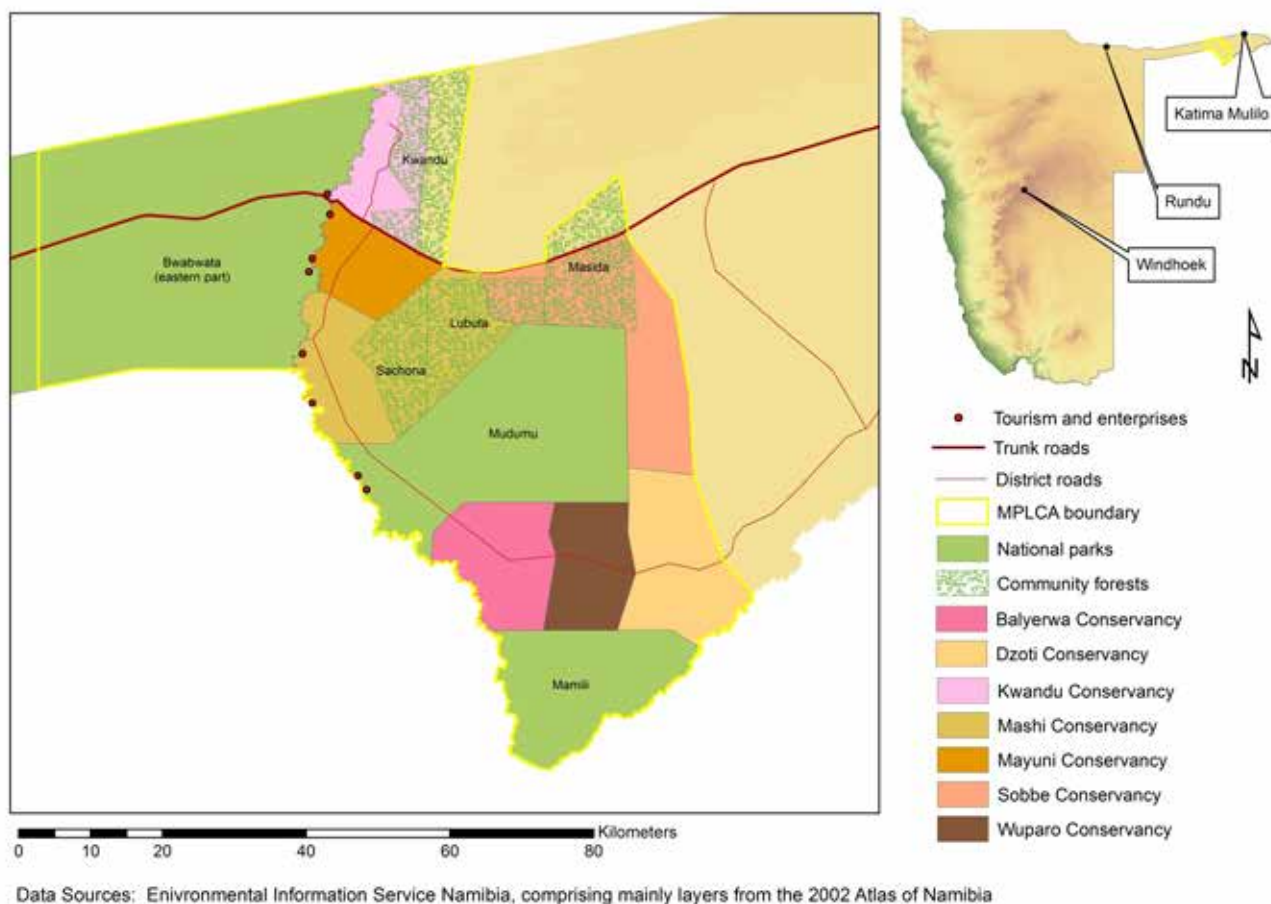
**Strategic Issues:** Given that the conservancies have been well established for several years, with detailed management plans and land use zones, one of the biggest challenges will be reconciling and aligning the plans and zones to create cohesion across the landscape. At the same time, there is limited awareness of existing plans, and it is not clear whether zones are being adhered to. There is thus a need to create and strengthen a shared vision at the landscape.

The ecological functioning of this landscape is based on the flood-pulsed wetlands of the Kwando-Linyanti system. As with all shared watercourses, there is always the potential for upstream users to expand water use or implement developments over which the MPLCA management committee will have no control, and which could affect the ecological integrity of the landscape.

Although the management committee has important coordinating functions, it is not clear what authority they may have to ensure that individual conservancies conform to the broader scale management principles that the committee may wish to introduce, which could hamper implementation decisions.

Active support from MET to enforce existing buffer zones along the edges of the parks is critical to limit human-wildlife conflict.





**Figure 1: Map showing the location and tenure composition of the Mudumu Protected Landscape Conservation Area**

## 4.2 Biophysical Baseline

**Climate:** The climate of MPLCA is tropical, with hot, rainy summers and dry winters. Average annual rainfall is between 550 and 600 mm, with the wet season running from November through to March. Summers are very hot, with maximum daytime temperatures averaging around 33° C in the hottest months. In winter (June to August), night-time temperatures can dip as low as 4° C, but frost is rare

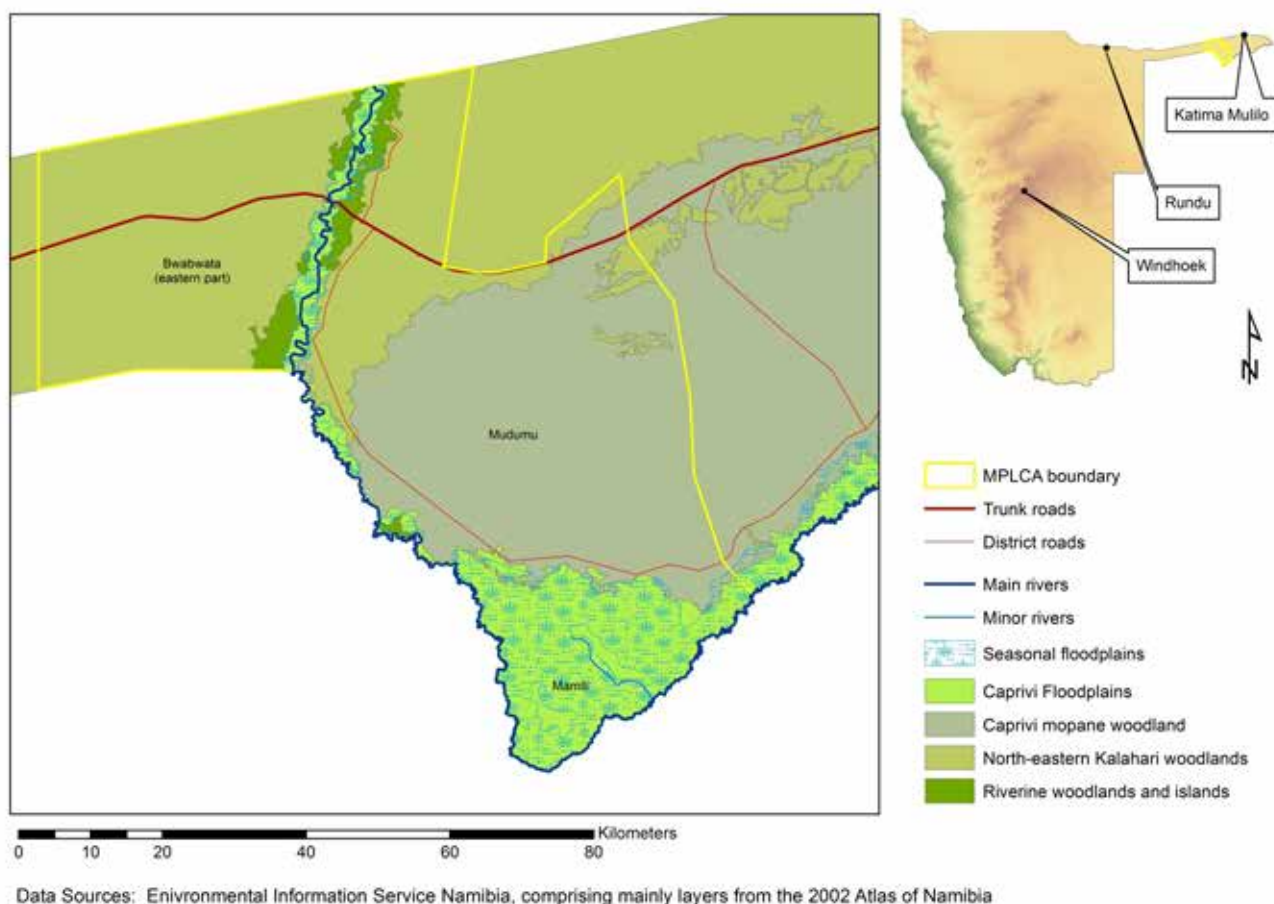
**Geology:** The elevation of the MPLCA ranges from between 900 and 100 m above mean sea level. The landscape lies on Kalahari and Namib Sands, comprising deep sands with some calcrete. The area is generally flat, with no hills. Undulating fossil dunes give limited topographic relief.

**Soils:** The landscape is dominated by ferrallic arenosols. This sandy environment is broken only along the Kwando and Linyanti rivers, whose seasonal flooding has led to the deposition of eutric fluvisols. The sands that cover much of the PLCA are of limited fertility, and are quick to drain, limiting their potential for crop production.

**Hydrology:** The main river system is the Kwando-Linyanti which forms the border with Botswana after traversing the Zambezi Region (Figure 2). As the area is relatively flat, the rivers meander, creating wetlands with several side channels and lagoons. Under certain flood conditions, such as when the flow in the Zambezi is higher than in the Kwando, the direction of flow in the Linyanti part of the system can be reversed. Much of Nkasa Rupara National Park is a matrix of wetland and islands. The system is flood-pulsed; most of its recharge is from rainfall in the highlands of Angola and Zambia, which then moves down the river

system to reach the Zambezi Region a few months later. The dynamic nature of the surface hydrology creates variation on the spatial extent of fresh water, and contributes to the area's diversity.

The underlying groundwater hydrology of the area comprises a productive, porous aquifer. Ground water is not as heavily used as elsewhere in the country, but yields are, as expected, higher closer to the river systems, and lower in the interior of the PLCA.



**Figure 2: Map showing the distribution of main surface water features and vegetation types across the Mudumu PLCA**

**Vegetation:** Within the broad savanna biome that covers MPLCA, four main vegetation types are found: Caprivi mopane woodland, north-eastern Kalahari woodlands, Caprivi floodplains, and riverine woodlands and islands (Figure 2). The mopane woodlands are dominated by *Colophospermum mopane* and *Terminalia sericea*, while in the Kalahari woodlands a range of diverse species such as *Hyphaena pertersiana*, *Acacia arenaria*, *Catophractes alexandri* and *Sclerocarya birrea* are found. In the floodplains, grasses and reeds dominate, but tree species such as *A. hebeclada* and *Combretum imberbe* are also found. In the riparian zone, trees such as *A. nigrecens*, *A. erioloba*, *Ficus sycomorus* and *Kigelia africana* dominate.

The savanna areas of MPLCA have medium levels of plant diversity. However, the dynamic riparian and wetland zones along the Kwando-Linyanti systems are much higher, with between 400 and 500 species, suggesting that this ecological zone should be of primary conservation importance.

**Wildlife:** Due to its many edge and transition zones, ranging from water through wetland and riparian forest to woodland savanna, the MPLCA also has some of Namibia's highest levels of terrestrial biodiversity. Mammal diversity reaches some of the highest levels in Namibia, at over 100 species, while over 450 species of birds have been recorded in the area. The area is

also home to several regionally rare or endangered species, such as red lechwe, roan, and sable. Eland, wildebeest and giraffe have also been successfully reintroduced into the area. However, the wildlife biomass is dominated by a growing population of elephants, whose numbers are exceeding socially acceptable levels (Jones 2013). Most of the large African predators occur in the landscape. The wetlands are also home to hippopotamus and crocodile. Bird species of particular interest include: slaty egret, wattled crane and black-winged pratincole.

Recent research into the movement of large herbivores within the landscape has identified a number of important functions of the Landscape (WWF studies on animal movements October 2010 to July 2012, unpublished):

- The Landscape west of the Kwando River (Bwabwata Core) is a critically important and active corridor for most of the large herbivore species.
- The Landscape, particularly Bwabwata National Park, plays a pivotal role in allowing regional movement of large wildlife herbivores
- Apart from elephants, most of the large herbivores presently located east of the Kwando River do not cross the river system. These wildlife species tend to move within the parks and conservancies of the Landscape and may have linkages to the Sioma Ngweni Park in Zambia.
- The international border and veterinary disease control fence between the Kavango River and the Bwabwata Core area of the Landscape severely disrupt animal movements.

The proximity of rural subsistence farmers within the conservancies of the landscape means that the potential for human-wildlife conflict is high.

The flood-pulsed system sees the seasonal filling of an extensive floodplain system. This highly dynamic ecosystem is important for freshwater diversity as well, and around 80 species of fish are known to occur in the area. The floodplains are important breeding grounds for several economically important species, but anecdotal reports suggest declines in two key sport fish: tigerfish and yellowbelly (nembwe) bream.

**Strategic Issues:** As already noted under the landscape description, the proximity of agricultural and wildlife conservation land uses to each other means that levels of human-wildlife conflict is high. This undermines community support for conservation (as ways of addressing the issue of compensation are still being tested). Part of this conflict is a reported increase in levels of poaching – both for skins and ivory. Poaching has anecdotally been linked to the construction of the new road, but also to a failure to implement land use zoning in the conservancies. There are claims of human settlement into areas intended as wildlife corridors. In general, it appears that both human and elephant numbers are increasing, putting pressure on both of the main land use types.

There is clearly a need for active wildlife population management, including focusing on re-introducing some key species. Generally there is a perception that wildlife populations are low, and that animals use the area on a seasonal basis. A crocodile farm in Kongola is believed to have been given permission to harvest crocodile eggs from the wild, which could have negative consequences for that species as well as others.

Although currently not described as an issue, the heavy land use in the farming areas provides conditions suitable for the introduction of exotic invasive plants such as cocklebur, castor oil bush, and lantana. In addition, *Salvinia molesta* already occurs on the Kwando system, although it is currently held in check by a host-specific weevil.

The Landscape, particularly Bwabwata National Park, plays a pivotal role in allowing regional movement of large wildlife herbivores and is central to the successful ecological functioning of KAZA.

Although a wealth of data exists from the ongoing Event Book System monitoring activities, there is a concern that these data are not being utilised, and that in fact, resource use needs far greater management.

### 4.3 Socio-Economic Baseline

**Demographic characteristics:** The settlement pattern in the area is generally linear, with small hamlets strung out along the main roads. Such ribbon development is largely *ad hoc* and unplanned, and the tarring of the loop road that runs along the south of the study area is likely to increase settlement and population density as arable areas now become more accessible. Much of the pressure appears to be coming from the east, as communal lands there have relatively high human population densities. There are currently about 500 clusters of households within the MPLCA conservancies.

Population in Zambezi region as a whole increased from 79 862 in the 2001 census to 90 100. If we take the census districts Kongola and Linyanti as roughly equating to the landscape communities, we note firstly that these areas have lower densities (< 5 people / km<sup>2</sup>) than the constituencies further east. According to preliminary results from the 2011 census, together these two constituencies contain approximately 5 000 households and 20 300 people. As is often the case with rural areas, women outnumber men, suggesting out-migration of the latter in search of formal employment. Figures for the census districts show the ratio of men to women as ranging between .97 and .91.

Education levels are steadily increasing in the area. Although data are only available at the regional level, it is likely that these trends are valid for those settlements within the landscape. Literacy rates for those aged 15 years and above have increased from 78 % in 2001 to 84 % in 20-11, while the proportion who has never attended school has dropped from 19 % to 16 % for the same time-steps.

Generally there appears to be little involvement in the tourism industry. In part this is because the opportunities appear to be limited due to limited market demand, but other constraints such as lack of formal education and industry-specific training also factor into this. The limited involvement has indirect impacts back onto the potential for participation: the issue of litter and waste management within nearby settlements, which strongly decreases their visitor appeal, is frequently cited as an example.

**Economy:** There are no towns in the landscape, and most people must travel to Katima Mulilo for more than the most basic purchases. There are 3 informal shops in the entire landscape. Apart from approximately 10 tourist accommodation facilities, there are no large business ventures in the area. For the most part, livelihoods are based on subsistence farming, usually comprising a mix of crop and livestock production. Kwando, Mayuni and Mashi conservancies have well established enterprises based on the leasing of concessions to tour operators. In addition, income is generated through concession fees for other activities such as craft sales, thatching grass collection, trophy hunting and game use. Revenue generated from these business ventures is distributed among the villages associated with each conservancy. A limited number of jobs at the tourism facilities provide some wage employment in the area.

**Infrastructure:** There is no mains electricity supply service within MPLCA. The landscape has three clinics: Sachona, Choi and Sesheke, and one health centre: Sangwali. There are 17 schools, mostly primary, but secondary schools or combined schools are found at Malengalenga, Sangwali, Mayuni, Masida and Kongola. Water supply is provided at village level; most villages have their own borehole or boreholes, equipped with holding tanks and communal standpipes. Some schools and clinics have independent boreholes for their own water supply.

Bwabwata National Park is bisected by the Trans-Caprivi Highway (B8), which is an important trade link between Zambia, Zimbabwe and the Democratic Republic of Congo to the east, and Walvis Bay port. The Trans-Caprivi is an important copper transportation route, but other commodities are exported from Namibia via this link. Although the road brings some benefit to the MPLCA communities through improved access in and out of the region, it is also associated with negative impacts such as habitat fragmentation, increased pressure on natural resources, crime, and increased levels of sexually transmitted diseases, especially HIV/AIDS from the informal sex trade with truck drivers.

Critically, the loop road running south off the Trans-Caprivi Highway at Kahangile / Sibbinda south-west past the settlements

north of Nkasa Rupara Park, and then north-east and north to Choi and then back onto the highway, is about to be tarred. This will improve access for residents and tourism alike, but will likely also lead to an increase in settlement and agriculture, putting pressure on wildlife and wildlife management activities.

Electricity supply is available to those settlements along or close to the Trans-Caprivi Highway. Although no reference to this development was found, it is likely that once the tarring of the loop road is complete, power lines may be erected along this route to service those settlements.

**Strategic Issues:** The greatest impact on tourism in the area is that associated with settlement and development. The construction of roads, and any consequent linear settlement along it, will strongly undermine the functioning of the wildlife corridors in this landscape. Not only will there be loss and fragmentation of habitat resulting in a reduction of the wildlife carrying capacity of the area, but also physical infrastructure such as power lines will have a negative effect on the wilderness value and aesthetic appeal of the landscape. Similarly, as is already experienced at those tourism facilities on the Trans-Caprivi Highway, increased development will bring noise pollution that further reduces the tourism value of the area.

The increased participation of a greater proportion of landscape residents in tourism activities appears to be hampered at several levels. At the community or settlement level, loud music from local shebeens and the practice of indiscriminate littering work against the wilderness-based tourism ethic.

Internal politics within some of the conservancies may be an issue – there are reports that while there are shortages of tourism skills, at the same time, some individuals with skills are not employed or fully utilised due to nepotism.

#### **4.4 Tourism Baseline**

The Kwando-Linyanti wetland system is one of the main tourism hubs of the Zambezi Region in Northeast Namibia. Tourism establishments and activities have been developed along the Kwando River and there are plans for further lodges and campsites. Most of the lodges were built in the area before the advent of conservancies through negotiations with local headmen. However with the introduction of conservancies in the area, most of the lodges have since entered into Joint Venture agreements with the conservancies and pay annual fees in this regard to the conservancies. This has not gone without its own problems as conflicts emanating from whether lodges should pay to conservancies or to traditional authorities has in some cases dragged on for years denying local communities an income in the process.

Due to poor tourism planning and lack of community oriented institutional arrangements most of the lodges in the Kwando-Linyanti Wetland System were built North of Mudumu National Park. While South of Park, until recently, there were no tourism establishments. Five of the eight lodges are situated in the area of about 45 km from the B8 Road to Mudumu National Park, including two inside the park which are operated on concession basis. Recently however a new lodge was completed South of Mudumu in the new Balerwa Conservancy; this lodge has become a symbol of poor planning as it gets flooded every year for 5-6 months. The Balerwa Lodge also supports interviewed respondents' notion that proper planning is not employed in the development of new lodges and campsites in the area. Poorly planned developments have the potential to have a significant negative effect on the wetland system.

A number of wetland based tourism activities are offered by the lodges. These include boat cruises, bird watching, leisure fishing trips and game drives. The product is based on the Kwando-Linyanti Wetland System; water based activities are conducted by 90% of the visitors and include boat cruise game viewing and sundowners. Two traditional villages have been established by community members to service tourists who are eager to learn about the traditional lifestyles of the local population. Four craft shops have been established, with varying choice and quality of curios and crafts.

**Table 1: Tourism establishments in the Mudumu Landscape by end of 2012**

| Tourism establishment  | Conservancy/Protected Area | Agreement  |
|------------------------|----------------------------|--|
| Mazambala Island Lodge | Mayuni                     | JV agreement with conservancy  |
| Nambwa Campsite        | Bwabwata National Park     | Run by the conservancy on a concession agreement with MET                    |
| Susuwe Island Lodge    | Mayuni                     | JV agreement with Conservancy  |
| Mukolo Campsite        | Mayuni                     | Owned by a community member. Negotiated with the conservancy                 |
| Kubunyana Campsite     | Mayuni                     | Owned and operated by the conservancy  |
| Malyo Campsite         | Mashi                      | No agreement with conservancy. Owner negotiated with the headman only.       |
| Camp Kwando            | Mashi                      | Busy negotiating a JV agreement with the conservancy. Currently no agreement |
| Namushasha Lodge       | Mashi                      | JV agreement in place  |
| Lianshulu Bush Lodge   | Mudumu                     | Operated by Wilderness Safaris on a concession basis                         |
| Lianshulu Lodge        | Mudumu                     | Operated by Wilderness Safaris on a concession basis                         |
| Matota lodge           | Balerwa                    | JV agreement in place  |
| Nkasa Lupala lodge     | Wuparo Conservancy         | JV agreement in place  |

Two robust tourism plans have been prepared for the Kwando-Linyanti Wetland System. Integrated Rural Development and Nature Conservation (IRDNC) commissioned a tourism study for communal area that falls under conservancies while the Ministry of Environment and Tourism through the Caprivi Parks Project funded by the German development Bank KfW commissioned a tourism study focusing mainly on the three state protected areas in the Kwando-Linyanti System collectively referred to as the Bwabwata, Mudumu and Nkasa Rupara National Parks (BMM Parks). Both these studies have been completed.

The conservancy tourism plan commissioned by IRDNC concludes that there is saturation of tourism establishments north of Mudumu National Park and carrying capacity of the area has been exceeded. However the study proposes development of further tourism establishments south of Mudumu including one lodge for each of the four conservancies south of Mudumu and campsites. Some of the proposed development will have major impacts on the wetland ecosystem and biodiversity of the area. The newly gazetted Dzoti Conservancy which borders Nkasa Rupara National Park plans to build a lodge on an island which is 6-7 kilometres in length and used as sanctuary and migration corridor by wildlife that moves between Namibia and Botswana. This Island is highly inaccessible and will require major development to open up roads and associated tourism infrastructure. Proper planning and detailed feasibility studies for informed decision making will be required in this regard to avoid adverse environmental consequences.

The BMM Parks tourism study takes cognizance of the present scenario where lodges already exist inside and outside of the protected areas. However further tourism activities are proposed in the study including up-market lodges, campsites and guided tourism activities in Bwabwata, Mudumu and Nkasa Rupara National parks.

At present there is saturation of lodges in the two conservancies north of Mudumu National Park i.e. Mayuni and Mashi Conservancies while there is only one lodge south of Mudumu National Park. About eight lodges and campsites exist in area of about 45 kilometers. This increases impacts of tourism activities on the wetland as it means more water extraction, more boat cruises, fishing and natural resource harvesting for construction of the lodge and campsite structures. Saturation of water-based activities could bring adverse effects to the environment. It is suspected that human disturbance to water birds and other wetland species from waves caused by motorized boats destroys nesting sites and should be investigated. Disturbance causes adult birds to abandon their nests, exposing eggs and chicks to intolerable heat and additional predation pressure.

About three illegal campsites were observed in the area. All of them are not operational but land has been cleared and



structures have been erected. These establishments have been created through direct agreements between local headmen and operators without proper agreement from the conservancy structures. This poses a threat to the wetland as it has potential to lead to a situation where campsites and lodges will mushroom while the wetlands would not be able to absorb the environmental impact brought by further tourism developments.

|                |  |
|----------------|--|
| Scope:         | Area is a mix of transit traffic to primary (regional) attractions and destination traffic as an affordable alternative to the Okavango Delta. Excellent wildlife variety and numbers, cultural setting and river activities (fishing) prevail. The area is not a wilderness destination due to high population numbers and people movements. Products offered are very similar and variety exists in quality (price) of the accommodation establishments. |
| Access         | The C49 gravel road (currently being tarred) and the B8 (tar road) provides access along, and through, the landscape. Small feeder roads and access to the river front can be difficult to negotiate after heavy rain and rising water levels which affects several lodges.  |
| Location:      | The tourism products are located along the Kwando River Front (left bank). Craft facilities are the only current products away from the river (C49).   |
| Drawing Power: | Good wildlife numbers, variety of exotic species and classic setting amidst traditional villages. Water and forest resource mixture and location on route to/from Victoria Falls.  |

### **Strategic Issues:**

Stakeholders have identified strategic issues that focus primarily on the lack of coordination in (tourism) development, which jeopardises the tourism potential, market opportunities and joint venture development. The last point especially is accredited to the absence of a strong MET to mediate agreements, thus leading to conflicts between conservancies and private sector as well as the limited management and skills capacity within the conservancies.

More tourism potential can be utilised if current products are expanded to include activity based tourism and cultural tourism. This is not addressed in current (limited) marketing efforts of the conservancies. Communities are not reinvesting into their existing tourism facilities; nor diversifying and expanding due to the perceived need to get all benefits to members, potential poorly planned developments, poorly managed or non-viable ventures, unrealistic expectations of conservancy members and failure of conservancies to take full ownership of facilities.

At the landscape level, tourism is not equally divided, with the Eastern conservancy (without riverfront access) lacking enterprises. National Park products (concessions) should take this into account, guided by an overall landscape approach based on ecotourism guidelines.

Increases in poaching, and tourist being confronted with poached animals, as well as conflicts between subsistence fishing and trophy fishing (as well as a reduction in quality of nembwe and tiger fishing trophies) have depleted the appeal of the area.

Community benefits are under pressure from land lease fees to be levied by the Ministry of Lands while at the same time the call for more lodges and establishments, in an increasingly seasonal market, becomes louder.

It is important to realise that the well-funded NMC-Namibia Conservancy Tourism Support Programme has not been able to initiate a single new joint-venture lodge in the Zambezi Region and that the DfID funded study: "Conservancy Based Tourism Enterprises (CBTEs) in Namibia and the Business of Tourism: A Private Sector Point of View (2010) concluded that the JV agreements are not in favour of individual entrepreneurs and likely to limit growth in the region.

This section is guided by the comprehensive assessment carried out by Watson & Odendaal in 2009 as part of the preparatory work for the introduction of Protected Area Landscapes. Here, each legal document is evaluated in terms of its relevance to the specific conditions of the Mudumu landscape.

## 5.1 National Policies

### 5.1.1 *National Land Policy of 1998*

Key Principles: The National Land Policy is founded on several fundamental principles. Of particular importance to landscape management are those relating to: a mixed economy, sustainable use of land and natural resources, and 'land' as a renewable natural resource. The policy is divided into two sections, addressing urban land and rural land.

Relevance to MPLCA: It is the section on rural land that is relevant to MPLCA. In particular, this policy outlines the structure for administration of land in communal areas as being vested in Regional Land Boards and in Traditional Authorities. Because the Regional Land Boards are responsible for zoning, they will play a key role in determining land use zones within the communal areas that form part of the MPLCA. The issue of land enclosure is also relevant to MPLCA, because the intention is to increase the corridors for wildlife migrations. Fencing and other enclosures should be subject to spatial planning and consultation with neighbouring land users.

### 5.1.2 *Draft National Land Tenure Policy of 2005*

Key Principles: The purpose of the land tenure policy is to ensure efficient use of land for the economic and social benefit of the nation. It pulls together aspects of land management and rights from existing policy documents.

Relevance to MPLCA: The MPLCA comprises both state and communal land. The different tenure systems must be understood in terms of the different management responsibilities if the landscape is to be managed effectively as a whole.

### 5.1.3 *Final Draft Rural Development Policy of 2011*

Key Principles: This policy aims to develop "stable rural communities with viable institutions, sustainable economics and universal access to social amenities" through integrating and amplifying existing sectoral policies. While the focus is primarily on physical infrastructure, there are also sections on rural products and environmental protection that are relevant to landscape management. The integrated planning that this policy refers to would be critical with regard to the development of physical infrastructure for service provision, and ensuring that this does not clash with the broader management processes that the landscape plans.

Relevance to MPLCA: Given that much of the MPLCA is communal land, under conservancies, this policy is highly relevant. The importance of this landscape as a regional wildlife corridor highlights the need to ensure that any infrastructural development is done with the needs of wildlife and wildlife-based tourism in mind. The concept of rural products (clause 4.3.7) should be taken in its broadest sense to include the full range of tourism products, and marketing efforts in this regard must also be targeted. The landscape concept speaks directly to the section on environmental protection and sustainable use of natural resources, which calls for:

- Management and conservation of biodiversity
- Integrated land use management
- Land tenure, ownership and user rights
- Equitable use of available resources
- Benefit sharing
- Combating environmental degradation and pollution.

#### **5.1.4 National Resettlement Policy of 2001**

Key Principles: The intention behind this policy is to move disadvantaged people from marginal areas to those with sufficient resources. In this regard there are some overlaps with the redistribution aspects of the 1998 National Land Policy.

Relevance to MPLCA: It is thought that in the MPLCA, instances of resettlement are unlikely given that there is no freehold land in the landscape.

#### **5.1.5 Affirmative Action Loan Scheme of 1992**

Key Principles: This scheme as established to remove the pressure of larger, well-established farmers from communal lands and so increase the available grazing for smaller farmers. This is achieved by offering loans to the larger farmers to resettle outside of the communal areas.

Relevance to MPLCA: The relevance to MPLCA is primarily through the opportunity this could provide to reduce livestock pressure within the communal lands, since the location of resettlement would be outside the PLCA.

#### **5.1.6 National Forestry Policy of 2001**

Key Principles: The first aim of this policy is to 'reconcile rural development with biodiversity conservation', and while this is intended through a focus on forest resources, the principle is in keeping with that of landscape conservation. The fourth aim even more explicitly addresses this shared conservation aim, by calling for 'multiple use conservation areas'.

Relevance to MPLCA: Since MPLCA encompasses fairly extensive areas of community forest, this policy is highly relevant, and supportive of landscape management. Key tree species in the woodlands of MPLCA are of some commercial interest, but the larger threat would more likely come from competing land uses, such as clearing for irrigated agriculture. The potential for this policy to support, and be supported by, the area's tourism development is strong, since functioning wildlife systems are premised on a return to healthy habitat.

#### **5.1.7 National Policy on Protected Areas' Neighbours and Resident Communities of 2013**

Key Principles: This critical policy is based on the premise that successful park management and the welfare of neighbouring communities is interrelated. It sets out to establish guidelines for the involvement of neighbours and/or resident communities in the management of protected areas, and for them to benefit from such involvement. Specifically, one of the objectives is to promote natural resources management across landscapes, thus providing for the necessary legal framework to support the PLCA committees. The policy also looks at concepts such as benefit-sharing, which could help avoid the development of non-viable ventures in conservancy areas, since benefits would be shared across the neighbours, and not each entity competing for its own stake.

Relevance to MPLCA: The policy is highly relevant to all of the PLCAs through its focus on the broader landscape and areas surrounding parks. Of key importance to Mudumu are the concepts of a) establishing wildlife corridors and b) benefit sharing,

since some of the eastern conservancies are unlikely to be able to develop competitive tourism products to ensure their participation in conservation.

#### **5.1.7 *White Paper on the Responsible Management of the Inland Fisheries of Namibia of 1995***

Key Principles: This paper addresses the sustainable use of fish resources while still protecting the biodiversity of inland fish. It focuses primarily on the management of subsistence use, particularly on the type of gear used. Any commercial fishing activities in communal areas should result in benefits being shared by the communities.

Relevance to MPLCA: The Kwando-Linyanti river and floodplain systems that bound MPLCA fall under this document's principles. Currently, commercial fishing activities are limited to sport fishing by tourists staying at the lodges in the area, which have concessions from the conservancies. Another aspect of this paper that should influence landscape management is the reference to long-term monitoring of the fishery, which should continue to be part of the landscape's conservation management activities.

#### **5.1.8 *Policy on Wildlife Management, Utilisation and Tourism in Communal Areas of 1995***

Key Principles: It is through this policy that the concept of conservancies on communal land (as well as on commercial land) is introduced. The observed benefit of devolving conditional rights over wildlife to commercial farmers is seen as providing the opportunity to bring both social and ecological advantages to communal areas. Critically, the policy refers to managing the land as a unit, a principle that underpins the landscape approach as well. The policy is important because it explicitly acknowledges the link between rural development and conservation.

Relevance to MPLCA: This policy is highly relevant to the MPLCA because it establishes the principles and structures for communities to participate in wildlife management and in tourism. Some of the conservancies in MPLCA are among the first to have been formed in Namibia, and it is through them that much of the landscape's potential for tourism development will need to be directed, since this is the dominant land tenure in the area.

#### **5.1.9 *Policy on Tourism and Wildlife Concessions on State Land of 2007***

Key Principles: This policy builds on a strong history of concession-granting, and focuses in particular on protected areas and natural resources on other State land. Of key importance to the landscape conservation approach is the acknowledgement of the role of park neighbours. Specifically, the policy addresses tourism and trophy hunting – the latter often being associated with tourism as well.

Relevance to MPLCA: Tour operators working in MPLCA consider the current access to and use of protected areas (particularly Bwabwata) to be both insufficient and improperly managed, and hence a challenge to increasing the attraction of the landscape as a whole. It is not facilities within the park, but instead roads and maintenance and rights of use that stakeholders would like to see addressed. This policy is therefore highly relevant, since its precepts would guide any decisions regarding any changes in the current concession arrangements.

#### **5.1.10 *National Policy on Human-Wildlife Conflict Management of 2009***

Key Principles: This document highlights the need to accept that wildlife is part of the natural environment, and that in order to ensure the needs of future generations are met, the needs of current generations must be balanced with biodiversity conservation. This policy is relevant to landscape conservation primarily because landscapes include areas where people are settled, and any increase in wildlife would lead to increased human-wildlife conflict. At the same time, the policy is in line with the landscape approach, in that it calls for the maintenance of viable wildlife populations throughout the country.

Relevance to MPLCA: This policy is highly relevant to MPLCA, where instances of issues of conflict are high on the communal areas. Livestock raiding by lion and other predators, as well as crop depredation primarily by elephants are both regularly reported. In addition, poaching is also said to be high, both in the parks and outside. This direct conflict is in part driven by the underlying competition over habitat and land use, and the reduction in land available to wildlife with increasing population and farming activities. The expansion of wildlife-based tourism anticipated with the formation of the landscape needs to be managed in such a way that its economic benefits can be used to counter the costs of conflict.

#### ***5.1.11 Promotion of Community-based Tourism of 1995***

Key Principles: Through this document, the Ministry sets out to actively open up opportunities for rural communities to increase their participation in tourism. The focus is primarily on development, and on meeting community needs and interests, although it does also note that benefits from tourism on communal land should provide incentives for conservation.

Relevance to MPLCA: As noted above, some of the earliest conservancies are in the MPLCA. The focus on development and community needs has created some challenges for the conservancies in MPLCA, because each conservancy wants to have its own tourism ventures, but currently even the few existing operators do not reach full capacity, suggesting that the demand is not there. In order for this policy to support landscape management efforts, options for benefit-sharing among all conservancies in the landscape from one or two ventures (that may be located in only one or two conservancies) need to be explored.

#### ***5.1.12 CBNRM Policy of 2013***

Key Principles: This latest policy builds on the earlier work of the Community-based Tourism and Wildlife Management, Utilisation and Tourism in Communal Areas policies of 1995. The CBNRM initiatives are intended to encompass sound environmental management and sustainable natural resources use, while also strengthening the socio-economic conditions of rural communities. At the same time, the policy recognises that the focus of CBNRM has widened considerably. Its specific aims are to synergize rural development and biodiversity conservation, to empower rural communities to engage in and benefit from natural resources management, to increase the yields of benefits derived from natural resources, to enable investment in conservation related businesses, to strengthen community institutions, and to enable community to engage collectively in monitoring and management of natural resources and mitigation against climate change.

Relevance to MPLCA: The high proportion of the MPLCA that comprises functioning conservancies means that this policy is highly relevant to this landscape. One of the key policy principles is that of participatory management, and the representation of the conservancies on the landscape management committee directly addresses this. The principles of balancing development needs with biodiversity conservation are shared with the landscape approach, and consideration to this is already being given in terms of the focus on zoning separate areas for conservation and farming.

#### ***5.1.13 National Water Policy White Paper***

Key Principles: This policy sets up the framework to replace the Water Act 54 of 1956 with the Water Resource Management Act 24 of 2004. Its intention is to bring in more efficient management of water resources, while improving equity in access to safe water. To do this, the policy is based on shifting ownership to be vested in the state for the whole society.

Relevance to MPLCA: No aspect is relevant to this landscape specifically; however, for all landscapes the pertinent principle is the development of water resources in a way that promotes equitable and sustainable socio-economic development.

#### ***5.1.14 Regional Planning and Development Policy of 1997***

Key Principles: This policy responds to issues arising from limited environmental and resource management. The focus is primarily on agricultural practices, but calls for sound management of soil, water and forest resources as tools for development.

Relevance to MPLCA: In this landscape, one of the greatest challenges is accommodating both agriculture and wildlife-based tourism. To make this work, there is a need to ensure that agriculture is done in an efficient and environmentally sustainable way, focusing on intensification to avoid continuous expansion of agricultural areas. At the same time, given the communal land status, and open access for grazing, the policy is also relevant in its focus on the need to bring in sound rangeland management.

#### **5.1.15 National Drought Policy and Strategy of 1997**

Key Principles: The drought policy has many objectives; the one most pertinent to the landscape approach is minimising degradation of the natural resources base during droughts. This policy is currently relevant to all landscapes as the country is experiencing drought conditions this year.

Relevance to MPLCA: The shift of responsibility from government to farmers is relevant here, because the landscape approach provides an opportunity for communal farmers to find collective responses to resource management in drought conditions.

#### **5.1.16 Policy for the Conservation of Biotic Diversity and Habitat Protection of 1994**

Key Principles: This earlier policy is highly pertinent to landscapes particularly from the perspective of biodiversity conservation through the protection of habitats – a landscape approach is best suited to accommodating broader habitat types and functioning.

Relevance to MPLCA: Because of the moister climate and more fertile alluvial soils, biodiversity in eastern Zambezi is generally higher than the rest of Namibia, making this a key area for conservation. The area has one of the highest number of both mammal and bird species in Namibia, and is host to several rare and endangered species, and the landscape is a critical migration route between wet and dry season grazing for several important wildlife species. This policy will support attempts to reconcile local-level traditional livelihood interests with the broader national objective of maintaining healthy wildlife populations.

#### **5.1.17 Green Scheme Policy of 2003**

Key Principles: This policy addresses agricultural expansion through irrigation schemes.

Relevance to MPLCA: Zambezi region is one of the few places with sufficient water resources to support commercial irrigation projects. However, the policy's objectives are not aligned with those of landscape conservation, and would threaten migration routes, habitat integrity, and tourism potential. Consultations with the MPLCA committee revealed strong concerns about a proposed scheme in the area, which could seriously undermine landscape conservation.

#### **5.1.18 National Policy on Tourism of 2008**

Key Principles: The policy envisages the sustainable utilisation of the resource base of Namibia through a tourism system that is private sector led and includes a meaningful participation by previously disadvantaged Namibians as employees and entrepreneurs. The principles of community-based tourism have priority support.

Relevance to GWC-PLCA: The benefits from tourism should be spread equally over the area which requires the introduction and development of tourism in the communal conservancy section of the landscape. If this is achieved through the introduction of a cultural/historical visitor product, the landscape would benefit from an improved & diversified overall appeal.

## 5.2 Legislation

### 5.2.1 *Namibian Constitution*

Key Principles: Of interest to landscape management are those aspects of the constitution that address development and conservation, and that outline the structures for governance, particularly those at regional and local government levels. The constitution calls for policies that promote human welfare, including (among other aspects), the maintenance of ecosystems and biodiversity for the benefit of present and future generations of Namibians.

Relevance to MPLCA: A key aspect of the constitution relevant to all the landscapes is the establishment of regional councils and the recognition of traditional authorities, whose land and resource management responsibilities have them playing an important role in the landscape.

### 5.2.2 *Regional Councils Act 22 of 1992*

Key Principles: The act sets out the functioning of the elected regional councils, including their duties and responsibilities. The councils are tasked with carrying out development planning for the region, basing their decisions on the socio-economic and bio-physical characteristics of the region. With regard to the landscape programme, of particular interest is the focus on “natural and other resources and the economic development potential” of the region, the “general land utilisation pattern”, and on “the sensitivity of the natural environment”.

Relevance to MPLCA: As with all the other PLCAs, the mandate of the regional council places them as key members of the landscape committee and with a critical role to play in ensuring cohesive broad scale planning.

### 5.2.3 *Traditional Authorities Act 25 of 2000*

Key Principles: This act establishes the structures and functioning of traditional authorities, including the powers and duties of the different members, including chiefs and heads of communities. Not only is the chief of any traditional community the custodian and implementer of customary law for that community, but he is also responsible for carrying out any other powers or duties that statutory law may confer on him. This act is important to those landscapes which include conservancies on communal lands, as the traditional authorities are central to the management of those conservancies, and carry a lot of influence in this regard.

Relevance to MPLCA: In MPLCA, there are seven conservancies, and hence several different traditional authorities that are members of the landscape committee. They serve as representatives of the communities and will play a key role in decision-making and ensuring implementation of the management activities that take place in, or include, their communities.

### 5.2.4 *Decentralisation Enabling Act 33 of 2000*

Key Principles: The Decentralisation Enabling Act allows for the functions of line Ministries to be handed down to regional councils and local authority councils. This act builds on the Regional Council Act and Local Authorities Act, and has played a key role in strengthening the ability of the local level to be engaged in decision-making surrounding tourism and environmental management.

Relevance to MPLCA: As with all other landscapes, this act is important in terms of the role of the regional councils and local authorities as key players in landscape management.



### 5.2.5 *Town and Regional Planning Bill (to replace Town Planning Ordinance of 1954)*

Key Principles: Of main relevance to the landscape programme are the regional structure plans and zoning activities that will need to be prepared. It will be important to ensure that such plans take into consideration the objectives and plans of each of the landscapes. Since the Regional Councils are responsible for the regional structure plans, this should be a straightforward process.

Relevance to MPLCA: Though not unique to MPLCA, the zoning exercises will need to be synergised so that the regional structure plans incorporate the different landscape management zones. The importance of working at the landscape level is critical in order to ensure that the zones for the different conservancies are well aligned.

### 5.2.6 *Soil Conservation Act 76 of 1969*

Key Principles: This earlier piece of legislation is still highly relevant of its attention to on overgrazing, stock carrying-capacities, and the prevention of erosion and fires.

Relevance to MPLCA: This law could support the landscape management committee where it might want to introduce more sustainable land management practices, such as collaborative grazing, and the selection of zones for different types of agriculture.

### 5.2.7 *Communal Land Reform Act 5 of 2002*

Key Principles: The purpose of this act is the establishment of Communal Lands Boards to oversee customary land grants by chiefs and traditional authorities. Because the land board members comprise community members and representatives of the Regional Council, these bodies provide an opportunity for those landscapes that include communal areas to coordinate their zoning and management activities.

Relevance to MPLCA: The Land Board has an important role to play with regard to the granting of tourism lease sites, as well as in the zoning of different land uses in the communal areas. The Land Board has the potential to play a strong role in landscape management by working with the communities to ensure that land allocations are in keeping with the broader landscape objectives.

### 5.2.8 *Environmental Management Act 7 of 2007*

Key Principles: This act sets out the principles for decision-making regarding issues affecting the environment, in order to support sustainable natural resources use and environmental management. The principles include: ensuring the sustainable use of renewable resources; community involvement in natural resources management and in the sharing of benefits; the participation of interested and affected parties; equitable access to resources; assessments undertaken for activities that may have significant impacts; promotion of sustainable development; protection of cultural and natural heritage including biodiversity; reduction, re-use and recycling of waste; a precautionary approach where scientific uncertainty exists; and limitation of damage to the environment.

Relevance to MPLCA: As with all the landscapes, this act is relevant in that any significant planning activity or infrastructural development that may change the ecological functioning of the area will need to be assessed to ensure it complies with the principles of this act.

### 5.2.9 *Parks and Wildlife Management Bill of 2009*

Key Principles: This bill, which is still in preparation, is intended to replace the existing Nature Conservation Ordinance of

1975 and the Nature Conservation Amendment Act 5 of 1996. The bill concerns the declaration of a range of different types of protected area – including protected landscapes. As such, it is highly relevant to the Nam-Place project. The bill also sets out the institutional arrangements for management of protected areas, such as the formation of committees, development of constitutions, etc.

Relevance to MPLCA: This bill is relevant to all PLCAs because of its focus on protected landscapes, and how wildlife in such areas may be used.

#### **5.2.10 Nature Conservation Ordinance (1975), amended by Conservation Amendment Act 5 of 1996**

Key Principles: This act governs the conservation of nature, establishes game parks and nature reserves, and the institutions for their management. This act is itself to be replaced by the forthcoming Parks and Wildlife Management Act (discussed above). The 1996 amendment inserts a section (amongst other amendments) on conservancies for communal areas and their functioning.

Relevance to MPLCA: The act is relevant to MPLCA because it is currently the legal document governing the protected areas and the conservancies that comprise this landscape.

#### **5.2.11 Inland Fisheries Resources Act of 2003**

Key Principles: Importantly, this act protects not only the fish and fishery, but explicitly includes the protection of ecosystems and habitats. It also contains the provisions for the sustainable development of inland fisheries resources.

Relevance to MPLCA: MPLCA is surrounded on two sides by flood-pulsed rivers and wetlands, which are critical breeding grounds for several fish species. Thus the focus on protection of aquatic ecosystems is highly relevant.

#### **5.2.12 Pollution Control and Waste Management Bill**

Key Principles: This bill is still being prepared. Its focus is on all forms of pollution, affecting land, water and air. Although the landscape conservation activities are unlikely to be major sources of pollution, the issues of groundwater pollution and proper solid waste management are relevant with regard to any tourism-related developments that take place in the landscapes.

Relevance to MPLCA: This bill will be relevant to all landscapes, not only in terms of governing pollution and waste management, but also as supporting legislation to aid the landscape committees in managing the impact of other potential sources of pollution and waste, including litter control.

#### **5.2.13 Namibia Tourism Board Act 21 of 2000**

Key Principles: This act establishes the Tourism Board and sets out its functions. These include: promotion of environmentally sustainable tourism; ensuring services and facilities meet with prescribed standards; process applications for registration as a tourism facility and grade such facilities; maintain a register of facilities; and inspect such facilities.

Relevance to MPLCA: Relevant to all PLCAs through the focus on tourism activities as the main economic activity within the protected landscapes.

#### **5.2.14 Forest Act 12 of 2001**

Key Principles: This act follows the Forestry Development Policy. It outlines the objective of forestry management in Namibia, pulling together and updating several earlier acts into one, and providing for the protection of the environment, classification

of forests, and use of forests and their products.

Relevance to MPLCA: There are three community forests in MPLCA, to which this act applies directly in terms of the environmental protection and use of forests and forest products. The Act also protects vegetation in the riparian zones of any water courses, which in MPLA consists of the Kwando and Linyanti river systems. This act supports landscape conservation, and its principles do not appear to conflict with those of the PLCAs.

#### **5.2.15 *Water Resource Management Act 24 of 2004***

Key Principles: This act replaces the Water Act 54 of 1956. It governs all levels of water management, from national water master plan to hand-dug wells for domestic use. It also addresses the issue of rural water supply.

Relevance to MPLCA: It is under this act that rural water supply to the communities in the MPLCA is governed. It will be important to ensure that any infrastructure does not hamper wildlife movement through zoned corridors. The act also provides for the formation of water point user associations, which could provide an appropriate way for communities to ensure that water supply points are in keeping with the zones of the broader landscape management plan.

#### **5.2.16 *National Heritage Act 27 of 2004***

Key Principles: Through this act, both places and objects can be declared of heritage significance, according them protection and conservation. Given the broad definition of heritage, and the large geographical scope of landscapes, it is clear that this act will be of importance. As a registered heritage item, both places and objects need to be protected. This provides the opportunity for synergies with the protected landscape concept, since heritage status will support conservation initiatives and enhance the tourism value of an area.

Relevance to MPLCA: Although there are no registered heritage sites currently in MPLCA, this act would provide for the declaration of sites of interest. These could include relics of the recent civil war (such as army camps in Bwabwata), as well as artefacts relating to the settlements in the area.

### **5.3 International Agreements**

#### **5.3.1 *Millennium Development Goals***

Key Principles: Namibia is a member of the United Nations (UN), and in 2000 signed the Millennium Declaration. Of the 8 Millennium Development Goals, number 7 is most relevant to landscape conservation: "to ensure environmental sustainability".

Relevance to MPLCA: The need to integrate principles of sustainable development, and to reduce biodiversity loss, is a goal shared with all landscapes in this project.

#### **5.3.2 *Convention on Biological Diversity***

Key Principles: Namibia is also a party to the Convention on Biological Diversity, which it signed in 1992. This international agreement obliges Namibia to conserve its biodiversity. The main influence of this convention is through the formal policy and legal documents implemented at national level.

Relevance to MPLCA: Although this will be relevant to all PLCAs because of their focus on biodiversity conservation, it is particularly relevant to Mudumu due to the high levels of biodiversity in this landscape.

### **5.3.3 *United Nations Framework Convention on Climate Change, and Kyoto Protocol on the Framework Convention on Climate Change***

Key Principles: Namibia signed this convention in 1992, and ratified it in 1995. The focus is on greenhouse emissions and carbon sequestration.

Relevance to MPLCA: The higher rainfall and better soils of the Zambezi Region, in which MPLCA falls, means that the opportunities for carbon sequestration in woodlands and forests is higher than elsewhere in the country. The principles of this convention support the maintenance of healthy habitats that are necessary for wildlife and biodiversity conservation.

### **5.3.4 *United Nations Convention to Combat Desertification***

Key Principles: Namibia ratified this convention in 1997. It is particularly relevant to semi-arid and arid countries such as Namibia, which are prone to desiccation and drought. The signing of this convention led to the development of Namibia's Programme to Combat Desertification (NAPCOD), which aimed to empower rural communities to better manage their resources.

Relevance to MPLCA: This convention lends weight to those practices that may be introduced to the communal areas in the landscape to reduce overgrazing and range degradation.

### **5.3.4 *Ramsar Convention on Wetlands of International Importance***

Key Principles: By signing the Ramsar Convention, Namibia has pledged to "maintain" the ecological character of the wetlands that it seeks to have designated as Wetlands of International Importance. This designation carries an obligation for the country to plan and manage the sites, as well as all the wetlands in the country.

Relevance to MPLCA: Although not currently listed as a Ramsar site, with the added protection brought by the PLCA designation, it is possible that certain parts of the landscape, such as Nkasa Rupara, could eventually attain this status. As a party to the Ramsar Convention, Namibia has an obligation to manage all wetlands, including those of the Kwando-Linyanti, sustainably.

## **5.4 Plans**

### **5.5.1 *Vision 2030***

Key Principles: Vision 2030 provides the policy framework for Namibia's long-term development. Section 5 addresses the Sustainable Resource Base, with the sub-visions most important to the landscapes approach being: maintenance of natural habitats and wildlife populations that also support sustainable tourism; the appropriate and equitable use of land and participatory and sustainable management of woodlands and savannahs. Other sub-visions of relevance elsewhere in the vision document include: "open, dynamic, competitive and diversified economy"; an "economic environment [...] suitable for all citizens"; "with a viable natural resources export sector";

Relevance to MPLCA: The direct application of these visions is through more applied documents such as the policies and laws addressed above, as well as national, regional and local plans.

### **5.5.2 *National Development Plan 4***

Key Principles: NDP 4 covers the period 2012/13 to 2016/17, and like its predecessor, is based on sound environmental management and sustainable development. Tourism and agriculture are two of the economic priorities, and in some

of the PLCAs, the challenge is in balancing the two. Section 11 clearly demonstrates the need for Namibia as a tourism destination to remain regionally competitive, while still ensuring that tourism development remain economically, socially, and environmentally sustainable.

Relevance to MPLCA: The review of NDP3 shows that the tourism sector is not growing as strongly as had been hoped for during the previous planning phase, and this shows the need for realism when considering tourism development initiatives in MPLCA, as the market may be much smaller, and returns lower, than peoples' expectations. In this landscape the challenge of balancing tourism and agriculture, and investments in these, is a key issue that needs to be addressed.

### **5.5.3 Ministry of Environment and Tourism Strategic Plan (2007/8 – 2011/12) of 2007**

Key Principles: MET's mission is "to promote biodiversity conservation in the Namibian environment through the sustainable utilisation of natural resources and tourism development..." The first 5 themes of this strategic plan are not only MET's mandate, but also are all relevant to the landscape conservation approach of the Nam-Place project, addressing environmental management; protected areas, habitats and species, developing tourism; CBNRM; and supporting rural development, particularly around parks.

Relevance to MPLCA: The Nam-Place project was developed in keeping with the principles of this document, which is relevant to all the landscapes through the common objective of biodiversity conservation.

### **5.5.4 Mudumu Landscape Strategic Management Plan**

Key Principles: The Strategic Plan sets out a vision, objectives and strategies for sustainable development of the Landscape. It does not address detailed management strategies and activities. The Plan provides a framework for how the Landscape Association will contribute to achieving the objectives.

There is a strong focus on coordination, collaboration, developing partnerships and securing support from key decision makers. The Plan sets out some policy guidelines at both landscape and at conservancy/community forest levels

Relevance to MPLCA: The Plan provides a useful framework which complements the tourism SEA and provides strategic approaches to address many of the concerns identified. The plan should be revised to incorporate the recommendation of this tourism SEA report.

### **5.5.5 Namibian Forestry Strategic Plan of 1996**

Key Principles: The aims of this plan are: conservation of natural ecosystems for their biodiversity and other values; contribution to agricultural productivity through soil and water conservation; supporting poverty alleviation and equitable development; and protection of biodiversity and prevention of climate change. The plan targets forest resources both within and outside forest reserves, including farm forestry by individual households.

Relevance to MPLCA: The plan is relevant through its focus on biodiversity conservation and the processing for forest products. Forestry management as part of wildlife habitat protection also supports the landscape conservation goals.

### **5.5.6 Bwabwata National Park Management Plan of 2012**

Key Principles:

The plan addresses the three core areas of Mahango, Buffalo and, of relevance to the Landscape, the Kwando Core Area. The vision is:

"The North-East Parks and the neighbouring conservancies will be top conservation priorities in Namibia because they contain

rare wetlands, key woodland habitats and a rich variety of wildlife with high tourism potential. In addition these areas will function as critical links for the KAZA TFCA involving five neighbouring countries.”

There are six specific objectives for Bwabwata National Park:

1. To protect and maintain biodiversity.
2. To maximise regional economic development, based on the principle of sustainable utilisation (Objective 2 includes all aspects of tourism management and direct consumptive use of resources by local people. The aim is to support the MET’s strategic theme of rural development by utilising the basic resource of biodiversity.
3. To develop, implement and maintain effective and efficient systems, infrastructure and equipment that can support core functions.
4. To develop, implement and maintain an efficient and sensitive human resources management programme.
5. To develop, implement and maintain regional conservation synergy through effective interaction with all park neighbours (including local communities, conservancies, other ministries, regional development planning institutions and processes, regional and local business and neighbouring countries. The latter is specifically included with reference to the KAZA TFCA initiative).
6. To develop, implement and maintain an efficient and functioning management system.

#### Relevance to MPLCA:

The plan is important in that it allows for biodiversity conservation as well as economic development and community participation and interaction. The plan also recommends concession opportunities for Kwando Conservancy; Mayuni Conservancy and Mashi Conservancy.

### ***5.5.7 Mamili National Park: Draft Management Plan Final Draft of 2012***

#### Key Principles:

The vision for the Northern Parks is:

“The North-East Parks and the neighbouring conservancies will be top conservation priorities in Namibia because they contain rare wetlands, key woodland habitats and a rich variety of wildlife with high tourism potential. In addition these areas will function as critical links for the KAZA TFCA involving five neighbouring countries.”The six specific objectives for Mamili National Park are:

1. To protect and maintain biodiversity.
2. To maximise regional economic development, based on the principle of sustainable utilisation (Objective 2 includes all aspects of tourism management and direct consumptive use of resources by local people. The aim is to support the MET’s strategic theme of rural development by utilising the basic resource of biodiversity.
3. To develop, implement and maintain effective and efficient systems, infrastructure and equipment that can support core functions.
4. To develop, implement and maintain an efficient and sensitive human resources management programme.
5. To develop, implement and maintain regional conservation synergy through effective interaction with all park neighbours (including local communities, conservancies, other ministries, regional development planning institutions and processes, regional and local business and neighbouring countries. The latter is specifically included with reference to the KAZA TFCA initiative).
6. To develop, implement and maintain an efficient and functioning management system.

#### Relevance to MPLCA:

The plan makes provision for the award of one lodge site (28 beds) and an activity concession to adjacent three conservancies.

### 5.5.8 *Mudumu National Park: Draft Management Plan Final Draft of 2012*

#### Key Principles:

The Vision and specific objectives for the Park are as outlined in the Mamili National Park Plan.

#### Relevance to MPLCA:

A campsite concession was recommended to be awarded to the Balyerwa Conservancy together with a boat launch point.

### 5.5.9 *Bwabwata-Mudumu-Mamili National Park Tourism Development Plan (BMM), 2009*

Key Principles: The plan takes cognizance of the present scenario where lodges already exist inside and outside of the protected areas. However further tourism activities are proposed in the study including up-market lodges, campsites and guided tourism activities within the Bwabwata, Mudumu and Nkasa Rupara National Parks not addressing the current low level of occupancy (34%) of lodge accommodation. It is proposed to create up market tented camps that also offer authentic “wilderness” appeal, nature, wildlife and cultural experiences. This proposal was particularly popular for Nkasa Rupara and suggested for Kwando areas.

Roadside accommodation catering for the mid-market, and especially for medium and larger groups is proposed and higher quality, more accessible and better serviced campsites and self-catering accommodation suitable for the FIT market (both international and local / regional) as well as unserviced bush camping sites in remote areas suitable for the local / regional FIT market .

At activities level, it was suggested to increase the quality and variety of activities permitted in the BMM Parks including:

- Fishing (tag and release basis);
- Specialised birding excursions;
- Boating (especially guided, and by canoes and motor boat);
- Walks (especially guided, and both day walks and overnight hikes);
- Night or evening drives outside of standard park access times;
- Carefully planned and sensitive cultural activities are needed, such as visits to homesteads, “way-of-life” educational tours, wildlife tracking and bush walks. There is high demand for San led activities;
- Trophy hunting – the focal area is one of the most popular trophy hunting destinations in Namibia and provides a rare opportunity to hunt big game;
- Well laid out self-drive 4x4 routes with bush camping;
- Opportunities for guided self-drive (especially for the international FIT market) into more remote areas.

#### Relevance to MPLCA:

The proposed increase in size and location of facilities and increased river-based activities needs to be carefully assessed as it fails to address the current low occupancy and feeds the unrealistic expectation of the conservancies.

### 5.5.10 *Bwabwata-Mudumu-Mamili National Park Strategic Management Plan, 2009*

Key Principles: Like all park management plans, this strategic plan has been designed and structured to be priority focused and action orientated, to facilitate implementation and the achievement of outputs and outcomes. The Plan is linked to an annual cycle of management and oversight, involving the preparation of annual work plans and budgets.

The Plan is “principles” based. These principles serve essentially as mini policy statements. Not all eventualities can be planned for, but if the basic principles are established, decisions can be readily made against these principles and thus be in line with Park policy.

Relevance to GWC-PLCA: The plan holds a chapter on tourism development which remains focussed on principles only stating it requires a separate tourism plan and that each proposed development should be subject to detailed cost-benefit analysis.



## 6.1 Description of Existing Arrangements

The Mudumu Landscape is in the process of finalising the formation of the Mudumu Landscape Association as its legal structure to manage their affairs.

“The Mudumu Landscape Association consists of land users, custodians and authorised administrators and managers, representing organizations and individuals, both civil society and government, which are actively involved in the custodianship, management and administration of land within the designated Mudumu Landscape, whose boundaries may change from time to time, as new members join or members leave the Association”<sup>1</sup>.

Key objectives include the promotion, support and facilitation of collaborative management and development of the Mudumu Landscape for enhanced landscape and biodiversity conservation and socio-economic development to establish and promote the collaborative management and development plan of the Mudumu Landscape, based on agreed Principles, for the mutual benefit of the members.

It aims to undertake joint and collaborative actions and activities in support of the management and development of the Mudumu Landscape and to ensure that Mudumu Landscape generate economic opportunities for the area and to promote economic empowerment of formerly disadvantaged rural Namibians and their entrance into tourism and other wildlife based industries within the Mudumu Landscape.

General regional government structures are administrated by the Zambezi regional council and more specifically the constituency of Kongola.

The Zambezi Region has a private sector driven tourism promotion association based in Katima Mulilo.

## 6.2 Challenges to Effective Tourism Management at the Landscape Level

Two key challenges to effective tourism management at landscape level have been identified. The first is the increase in human-wildlife conflict, especially poaching incidents and the growth of human settlements and livelihood activities along the river. This will have a negative influence on the appeal of the area and is difficult to correct.

The second is the unrealistic expectation of potential level of tourism benefits amongst the conservancies and the challenging joint-venture modalities that this brings. The area is not well suited for further expansion of capacity but requires a rethink of its products and benefit modalities across the landscape. Currently, all tour operators target the same tourism sector and offer the same types of activities, so that the overall landscape product does not produce a wide range of attractions. An implication of this is that there is increased competition instead of synergies between conservancies/operators who could be packaging different products together for marketing.

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<sup>1</sup> Constitution of the Mudumu Landscape Association – January 2013

This section outlines the issues identified from the literature and as verified with the Landscape stakeholders. Broadly, the identified issues across 5 categories, each corresponding to a different dimension of environmental management in the landscape:

Biodiversity and wildlife systems  
Ecosystem services  
Landscape-level management  
Tourism potential  
Benefit flows

In the assessment, first, for each management category, issues and impacts are identified. Then, shocks and thresholds are described. Then, the cumulative impacts are pulled together and evaluated in tabular form. Finally, the three tourism scenarios which are described, taking into consideration the strategic environmental issues identified here.

## 7.1 Identified Issues, Impacts and Drivers

The Mudumu Landscape faces the core challenges of Increasing population and land pressure, increasing levels of human wildlife conflict, poverty, stagnant tourism, increased bureaucracy and increases in tourism taxation/levies.

These were outlined in the project documents, are similar to the findings of the Mudumu Landscape Strategic Plan (Jones 2013) and verified by stakeholders as follows:

### 7.1.1 Biodiversity and Wildlife Systems

Present situation: The landscape provides habitat for high levels of wildlife biodiversity not seen in most other areas of Namibia. It provides critical wildlife corridors between Botswana, Angola and Zambia and thus plays a pivotal role within the regional KAZA strategy. The entire landscape is made up of either national parks or community conservancies. The wetlands system that flows through the landscape provides crucial dry season habitat for surface water dependent species within the Landscape and northern Botswana.

Cumulative impacts, risks and conflicts with other development objectives: The people of the Landscape are primarily arable agriculture and livestock subsistence farmers. There are therefore potential cumulative impacts linked to increased arable and livestock land requirements and an expanding wildlife population (particularly elephant). Other potential cumulative impacts are the closure of the remaining 30 km of the Botswana veterinary disease control fence thus cutting off the main Angola – Botswana wildlife movement corridor. There are likely cumulative impacts as the upstream and landscape waters of the Kwando are used increasingly for irrigation thus reducing dry season flows and increasing the likelihood of HWC.

Synergies, opportunities and suggestions for the objective:

- The efforts of KAZA in supporting the biodiversity objectives of the landscape and strong collaboration between the parties is needed.
- The objectives of the landscape are similar to the biodiversity objectives of Botswana's neighbouring Okavango/Kwando Wildlife Management Area, and linkages between the two parties should be increased.

#### Issues of concern:

- Recent increase in poaching of wildlife and ivory (since 2012), possibly linked to the road construction)
- Increase in HWC (due to increase in elephant numbers and their distribution, poaching in parks, failure to implement land use zoning in conservancies, i.e. settlement into wildlife corridors)
- Wildlife populations thought to be low (there are mixed perceptions as to trends) and many animals use the area on a seasonal basis
- Increase in linear settlement along roads due to tar road development (creating a barrier across wildlife corridors)
- Concern that the Kongola crocodile farm would harvest wild eggs and impact on wildlife populations through the removal of a top predator from the system
- Reduction in quality of nembwe and tiger sport fishing
- Invasive alien species concerns (aquatic weeds such as *Salvinia molesta*, wetland weeds such as castor oil, lantana).

### **7.1.2 Ecosystem Services**

Present situation: The Kwando wetlands are extensive and provide valuable ecosystem services such as maintaining water quality, water supply, supply of resources of plants and fish to communities and dry season grazing for both livestock and wildlife populations. Wildlife movement corridors are also an important ecosystem service provided by the landscape.

Likely future developments: Large volumes of dry season water abstraction for irrigated agriculture in the upper catchment and within Namibia (e.g. Green Scheme projects) could affect dry season flows and ecosystem services. Settlement along roads and into wildlife movement corridors is expected to increase.

Cumulative impacts, risks and conflicts with other development objectives: Cumulative impacts will come from alternative uses of the Kwando waters for irrigated agriculture, decreasing water quality through upstream village developments and associated waste water discharge. There are potential cumulative water quality issues as a result of lodges based within the wetlands (in the absence of waste water treatment) and irrigated agriculture fertiliser, herbicide and insecticide run-off into the Kwando River. There are risks associated with conflicting sectoral priorities, such as veterinary objectives for disease control conflicting with wildlife movements and political objectives (such as agitation for autonomy) conflicting with tourism.

Synergies, opportunities and suggestions for the objective: The landscape management needs to be sufficiently organised and to have the authority to be able to address and counter potential cumulative impacts arising out of other sector objectives.

#### Issues of concern:

- The absence of ecotourism guidelines
- Visual impact of power lines (at Kongola and potentially along the major roads)
- High levels of litter in villages and limited solid waste management
- Noise from road truck traffic reducing wilderness value of sites adjacent to the main road
- Existing noise (and potential increase with the provision of electricity) from local shebeens and entertainment functions, reducing the wilderness quality of the area
- No control over upstream developments, water use and water quality in Angola and Zambia
- Water quality concerns from lodges situated within the wetlands and car washing at Kongola bridge
- Uncontrolled resource use and inappropriate management.

### **7.1.3 Landscape-Level Management**

Present situation: The Landscape committee is not an authority, has no mandate to control and run the Landscape and has no legal powers or financial autonomy. It is largely ineffective in terms of management and serves as a forum for the different

stakeholders to meet, discuss and collaborate.

Likely future developments: It is unlikely that the landscape committee will become more effective or gain any greater authority in the near future.

Cumulative impacts, risks and conflicts with other landscape objectives: There is a high likelihood of conflicts arising within the committee as vested interests are challenged, established authorities are questioned and the committee finds itself powerless to plan or enforce landscape-level decisions.

Synergies, opportunities:

There is potential opportunity for synergistic activities between the Landscape Committee, KAZA and the authority for protected area and wildlife (MET).

Issues of concern:

Limited awareness of existing plans such as economic or physical development plans prepared at the Regional or National levels. This leads to conflicting management and development plans

Limited use of existing, and available data

Absence of a shared vision at the landscape level

Little authority to plan and implement at the landscape level

Absence of a strong MET to mediate on JV tourism agreements (present and potential) thus leading to conflicts between conservancies and private sector

Conflicting land uses such as the Kongola Green Scheme and illegal settlement into conservancies

Present economic climate not conducive to tourism investment.

#### **7.1.4 Tourism Potential**

Present situation: The existing tourism product is largely linked to short term stays due to the area functioning as a transit route between tourism destinations. Tourism is highly seasonal, of limited diversity and focused entirely on the wetlands system.

Likely future developments: It is likely that there will be further development of the same, river-front tourism product leading to greater competition between lodges and private and community ventures amongst the conservancy members of the landscape.

Cumulative impacts, risks and conflicts with other landscape objectives: A large number of facilities offering the same product will lead to redundancies when there are economic downturns. There are potential cumulative water quality issues with higher densities of lodges based within the wetlands (in the absence of waste water treatment) and irrigated agriculture fertiliser, herbicide and insecticide run-off into the Kwando River.

Synergies, opportunities and suggestions for the objective: The rich cultural history of the Zambezi Region is suitable for the development of cultural tourism products. There is need to develop a destination theme around a more resilient type of tourist who would be visiting the area as an (affordable) alternative to the Okavango Delta or more crowded tourism destinations such as Kasane. There can be a lengthening of the tourism season by developing the destination theme and provision of enhanced consumptive tourism options such as hunting and sport (catch and release) fishing.

Issues of concern to be addressed in project level EIAs:

- There is need for a market based assessment of tourism potentials and market opportunities
- Management and skills capacity for tourism ventures is limited within the conservancies and requires development
- Emigration of skills: Trained and skilled people tend to leave the area for opportunities elsewhere

- Market access is currently limited to passing (transit) trade which makes business planning difficult and makes conservancies reluctant to invest in their enterprises (for maintenance)
- The leasehold process could potentially increase costs and limit business feasibility if not duly reviewed
- The tourism products are currently limited and need to be expanded to include more activity based and cultural tourism. At present there is little use of the cultural product and home or homestay tourism
- The use of the potential National Park tourism product is limited with very few concessions made available to conservancies
- Litter in villages detract from the natural value of the area and reduce cultural tourism potential
- The absence of a Directorate of Tourism representative in the area makes support for tourism development even more difficult
- Current marketing of conservancy products by the conservancies is limited
- There is an absence of an overall landscape marketing approach
- Tourism is highly seasonal (thus limiting tourism returns) due to climate and short tourism seasons
- Exposure of visitors to poaching incidents (or impact) reduces tourism appeal
- Increasing levels of HWC undermines community support for conservation. Potential conflict between boat tourism and fish netting

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- ***Benefit Flows***

- **Present situation: At present all communities within the landscape are organised into conservancies. The conservancies manage a combination of tourism lease areas and conservancy camp sites. There is a craft centre near the main road at Kongola (Mashi Crafts) and a facility to sell local honey. Most returns to the conservancies come through bed-night levies, lease arrangements and direct jobs.**

Likely future developments: A shift towards cultural and activity-based tourism could significantly increase jobs and offer tourists greater reason to remain within the Landscape. Present cultural tourism initiatives have declined largely due to failure to improve the cultural product and limited/seasonal market.

Cumulative impacts, risks and conflicts with other landscape objectives: Cultural tourism, home based tourism has some risks in terms of increased prostitution, STIs and cultural misunderstandings. The change in tourism land lease fees will undermine the ability of conservancies to raise funds from existing and future tourism developments.

Synergies, opportunities and suggestions for the objective: There is synergy between the objectives of increasing the duration of visitor stays, changing the image of the area to that of a destination and the objective of greater community benefits and participation.

Issues of concern:

- Conservancies feel a need for more lodges and establishments, and for each conservancy to have their "own" such establishment
- Land lease fees to be levied by the Ministry of Lands will reduce community benefits
- Some conservancies do not have tourism facilities and some have little non –consumptive tourism potential
- Communities feel they are unable to market themselves due to lack of skills, resources and facilities
- Existing cultural tourism sites are poorly maintained by the conservancies and hardly used by operators.
- Communities are not reinvesting into their existing tourism facilities (due to a number of reasons such as: the perceived need to get all benefits to members; potential poorly planned developments; poorly managed or non-viable ventures; unrealistic expectations of conservancy members; failure of conservancies to take full ownership of facilities)
- Inadequate use of available skills within conservancies (due to nepotism)
- Little perceived support by MET for communities to enforce buffer zones

## 7.2 Shocks, Thresholds and Resilience

Shocks are the external factors that are beyond the control of the landscape. In MPLCA, those that are of greatest concern are:

- Climate change (hotter with more erratic rainfall events) – this has the potential to seriously impact on subsistence farming practices and the Kwando wetlands system. Key mitigations are diversification of the economy away from a single focus on farming and to maintain the open nature of the ecosystem by protecting wildlife movement corridors.
- Upstream developments and water use – Potential to create sources of pollution/ high nutrient loads and reduce dry season flows.
- Political instability – political instability and banditry has the potential to totally undermine the existing tourism industry in the Landscape
- Drought – will increase poverty, increase competition between farmers and wildlife for resources and reduce support for conservation objectives
- Changes to agricultural disease control – changes could enhance or negatively affect the Landscape. Increase in physical barriers could significantly undermine biodiversity objectives and tourist products.
- Failure of KAZA or changes in biodiversity status of Botswana's Kwando Wildlife Management Area or Angola's Luiana National Park.

Key issues identified in the resilience assessment (see Appendix 5).

- Political (in)stability.
- Zambezi Region's image as a transit route between the prime Namibian destinations and the Chobe and Victoria Falls area.
- Narrowness of the Botswana – Bwabwata – Angola corridor. The fencing of which is outside the control of the landscape.
- Settlement into wildlife corridors and HWC reducing public support in low tourism value conservancies.

Key recommendations from the resilience assessment:

- Tourism: Zambezi Region has been politically unstable due to its history (illogically part of Namibia) and caught up in the liberation struggles of both Namibia and Angola. Its tourism focus should therefore be on a resilient tourist, the local and regional markets with limited reliance on international tourism.
- The conservancies of Kwando, Myuni and to a lesser extent Mashu will maintain reasonable levels of tourism based on transit traffic. The other southern conservancies of Balyero, Wuparo and Dzoti require destination based tourism.
- Establishment of a viable consumptive tourism industry in the conservancies surrounding Mudumu National Park would also create resilient tourism with Zambezi Region as a destination.
- High reliance on Botswana, Bwabwata and Angolan wildlife systems: In general the Landscape relies on the wetlands and the Botswana and Bwabwata wildlife areas as a base for its tourism. Any changes in the management of these wildlife systems (external to the landscape) could have a major impact on the Landscape's wildlife system and related tourism. Should Botswana close the 30 km gap between the Kwando River and the veterinary fence in the Zambezi Region, the importance of Mashu Conservancy as a north south corridor will increase significantly.
- HWC: The approach of creating a corridor between Botswana and Zambia has increased the range and densities of elephant. This is leading to high HWC levels with the population being subsistence arable and pastoral farmers. Improved land use zoning, enforcement and the use of consumptive tourism in low value areas could all serve to reduce the HWC.

### 7.3 Cumulative Impacts

The cumulative impacts are based on a matrix of time and developments at different scales (Table 2.).

**Table 2: Cumulative impacts as a result of developments identified during the survey. These are all ranked high, medium, low either positive or negative or, no impact**

|   | Impact short term  | Impact medium term  | Impact long term  |
|---|--|---|---|
| <b>Landscape developments</b>   |  |   |   |
| Development of Irrigated agricultural schemes   | Medium negative (impact on wetlands, aesthetics and potential inc. in HWC)           | Medium negative (impact on wetlands, aesthetics and potential inc. in HWC)                              | High negative (impact on wetlands, aesthetics and potential inc. in HWC)                                |
| Increase in settlement into landscape from outside communities  | Medium negative (Particularly in Sobe)   | High negative (Particularly along the roads and in Sobe)  | High negative (Esp. along roads and in Sobe and in areas of potential irrigated agriculture)            |
| Electrification of the Landscape  | Low negative, (loss of wilderness quality)   | Medium negative, (loss of wilderness quality)   | Medium negative, (loss of wilderness quality)   |
| Additional new tourism facilities established   | Low negative (increase in waste, resource use, tourist on tourists)                  | Medium negative (increase in liquid and solid waste, resource use, tourist on tourists)                 | Medium negative (increase in liquid and solid waste, resource use, tourist on tourists)                 |
| <b>Surrounding the Landscape</b>  |  |   |   |
| Settlement patterns to east   | Low negative (barrier to animal movements, inc. HWC, land pressure on conservancy)   | Medium negative (total barrier to animal movements, inc. HWC, land pressure on conservancy)             | High negative (total barrier to animal movements, inc. HWC, land pressure on conservancy)               |
| Loss of Namibia to Vic Falls tourism circuit (this should reduce as KAZA develops)                            | Medium negative (drop in tourism revenues and demand, reduced conservancy viability) | Low negative (drop in tourism revenues and demand, reduced conservancy viability)                       | Low negative (drop in tourism revenues and demand, reduced conservancy viability)                       |
| <b>National</b>   |  |   |   |
| Settlement policies   | Medium negative (policies to settle and develop Zambezi agriculture potential)       | High negative (policies to settle and develop Zambezi agriculture potential e.g. Green Scheme projects) | High negative (policies to settle and develop Zambezi agriculture potential e.g. Green Scheme projects) |
| Tourism policies  | Low positive   | Medium positive   | Medium positive   |
| Land levies MoL   | Low negative   | Low negative  | Low negative  |
| Tourism levies  | Low negative   | Low negative  | Low negative  |
| <b>International</b>  |  |   |   |
| World economic decline, (change in tourist sources)   | High negative  | Medium – low negative   |   |
| Climate change  |  | Low negative (Increase in crop failures)  | Medium negative (Crop failures, adaption to new crops, irrigation)                                      |
| Upstream water demand and irrigated agriculture   |  | Low negative  | Medium negative   |
| Political situation in Zimbabwe and Zambia  | Medium negative (Regional political instabilities)                                   | Low negative (Regional political problems minimal)  |   |
| Change in land use in countries adjacent to the Landscape (e.g. change from wildlife management to livestock) |  | Medium negative (Conversion of wildlife areas to agricultural due to land pressure)                     | High negative (Conversion of wildlife areas to agricultural due to land pressure)                       |
| KAZA  | Low positive   | Medium positive (Strongly marketed)   | High positive (World destination)   |

From this matrix, the key cumulative impacts can be summarised as follows:

- **Reduction in wetland water quantity and quality due to upstream and predominantly within Landscape proposed agricultural irrigation developments, settlements and lodge developments within the Kwando wetlands. This long term cumulative impact will undermine tourism and other ecosystem services.**



- Closure of migratory corridors, isolation of the protected areas within and adjacent to the Landscape due to linear and largely unplanned settlement patterns and formalisation of customary land tenure within the corridors.
- Decrease in support for protected areas and conservancies by people of the Landscape due to increasing levels of human wildlife conflict and stagnant or declining returns from tourism.
- Decline in wilderness quality, sense of place and aesthetic value due increase in noise and visual impacts for example from development of power distribution lines, tarred roads traffic and settlements.
- Increasing importance of the Landscape as a key component of the greater KAZA area and provision of vital linkages between Angola and Botswana and between the landscape and Zambia

## 7.4 Tourism Scenarios

Descriptions of the three scenarios are provided in detail below. The present situation/business-as usual is the baseline which relies on the existing 2003 Tourism Plan for the conservancies.

### 7.4.1 *Business as Usual*

- The existing low growth scenario where the tourism product remains unaltered, community benefits are limited and the Mudumu Landscape remains a transit area for tourists. Visitor levels go up and down depending on the world economy and the suitability/stability of the tourist destinations. The tourist season is short and limited to the cool dry season. HWC steadily increases while returns to the conservancies from tourism remain static.
- Management will stay scattered with individual enterprises and conservancies, as well as protected areas being managed and promoted as individual ventures. Cooperation remains limited to reactionary efforts around urgent issues such as poaching and fire and ad-hoc interaction on personal basis.
- The current facilities and numbers of visitors remains more or less the same with some seasonal fluctuation and trends such as the return of formal SADF soldiers to the area who are showing their friend and families where they operated. It is likely that the impacts on biodiversity and conservation will slightly worsen as no mitigation measures are put in place for waste-water, fire and/or wildlife impact which is likely to get worse because of increasing human population, ease of access (tar-road) and number of settlements.
- Levels of support from communities is likely to decline further as expectations about benefits from tourism are not met and the skilled (and understanding) residents leave the area in search of economic opportunities elsewhere.
- Infrastructure will see the completion of the tar-top on the C49 which will increase ease of access for 2x4 vehicles and increase traffic throughout the year (in the wet season).
- Tourism will remain a transit product with visitors combining the area with primary attractions such as the Victoria Falls and Moremi and length of stay will be limited to (below) 2 nights. Destination travel will be limited to Namibian nationals whose numbers are low, overnights will be camping and travel limited to (school) holidays.

### 7.4.2 *Medium Growth in Tourism Sector*

- A medium growth scenario where the number of tourism accommodation facilities remains the same but there is an increase in tourism activities and cultural tourism resulting in a longer visitor stay and duration of tourism season.
- Enhancing the activity options in the landscape requires improved management systems as access to protected areas (parks) is required and landscape level benefit sharing needs to occur. The cultural diversity is too limited for the average visitor and cultural visitor facilities cannot be developed sustainably on conservancy level. Access to the parks for activity based tourism also requires a (time and/or volume restricted<sup>2</sup>) concession system to be managed by the MET and developed in detail at park-planning level.

<sup>2</sup> Similar to the proposed concessions in the Sperrgebiet National Park as published in: 'Operationalising Tourism in the Sperrgebiet National Park'. MET – April 2012

- The key recommendations of the Mudumu Landscape Strategic Management Plan are implemented (Jones, 2013, pages 16-17). These recommendations include (1) tourism to be sustainable, mixed income, low impact, nature and activity based contributing significantly to the economy of the area in accordance to the CBNRM Policy; (2) a review and update of the 2003 Tourism Plan; (3) identification and development of tourism assets; (4) developing ways to guide tourism to less attractive conservancies or identifying other means to direct tourism income to these conservancies; (5) aligned with MET tourism plans; (6) have landscape, complex and conservancy level approaches.
- Current facilities and numbers of visitors are expected to stay the same but the length of stay will increase by one night/visitor and the benefit value is increased due to increased expenditure on activities. Activities are likely to be labour intensive creating additional employment opportunities at conservancy and private enterprise level.
- Impacts on biodiversity and conservation will increase due to an increased movement of tourists, vehicles and boats in the area. If planned carefully, the presence of tourists (and staff) more equally spread throughout the area and over an extended period (season) might improve biodiversity control and reduce poaching and illegal resource use. Activity capacity needs to be carefully managed by restricting numbers of people and sizes of equipment (boats, engine, vehicles, etc.)
- Levels of support from communities will depend on the understanding of what can be realistically expected from tourism in the area. Activity enhancement will not bring substantial cash-income into the conservancy accounts but will gradually increase the value of the landscape from a transit area to a destination area.
- Infrastructure will require expansion through (small) developments such as shelters, viewing platforms, additional (single) tracks and boating stations.
- Types of tourism will diversify more and include activity based (walking safaris, mobile camps), cultural, sports fishing and others based on local feasibility plans.

#### **7.4.3 High Growth in Tourism Sector**

- A high growth scenario based on a new vision for tourism in the landscape the diversification of tourism products and increase in facilities resulting in a longer visitor stay and duration of tourism season. The Landscape focuses on a resilient type of tourism, marketing the area as an affordable alternative to the Chobe National Park and Okavango Delta. There is an emphasis on non-consumptive tourism with new developments around the Nkasa Rupara National Park. Consumptive activities are also further developed and the area is a destination for professional hunting and sport fishing (catch and release). Sport elephant hunting is used to reduce HWC. The international importance of the wildlife linkages is fully recognized and marketed through KAZA.
- The management system requires a well-functioning landscape management system able to coordinate and promote tourism in the area. The individual conservancy management level needs to be replaced with an overarching landscape management model in which the national parks play an equal and active role in support of landscape management.
- The key recommendations of the Mudumu Landscape Strategic Management Plan are implemented (Jones, 2013, pages 16-17). These recommendations include (1) tourism to be sustainable, mixed income, low impact, nature and activity based contributing significantly to the economy of the area in accordance to the CBNRM Policy; (2) a review and update of the 2003 Tourism Plan; (3) identification and development of tourism assets; (4) developing ways to guide tourism to less attractive conservancies or identifying other means to direct tourism income to these conservancies; (5) aligned with MET tourism plans; (6) have landscape, complex and conservancy level approaches.
- Current facilities and numbers of visitors are increased, especially in & around Mamili (Nkasa Rupara) and Bwabwata National Park. Facilities cover the complete scope from camping to high-end lodges and self-catering facilities, including home-stays.
- Impacts on biodiversity and conservation will require careful monitoring and management to ensure ceilings are adhered to. Facilities, accommodation and (activity) transport cannot become too big. Access and supply traffic needs to be channelled along designated roads and tracks.
- Levels of support from communities is likely to increase as benefits improve on conservancy household level
- Infrastructure needs to improve with air-access in the landscape possible and 2x4 access (possible designated, safe parking) possible

- Types of tourism available will encompass all with non-consumptive tourism dominating throughout the year.

#### 7.4.4 Assessment of the Environmental & Social Impacts Associated with Each Tourism Scenario

Two assessments are made, one is based on the internationally accepted performance areas for tourism and the other is an assessment based on the cumulative impacts.

**Table 3: Assessment of scenario impacts for Performance Areas (partially after IFC 2012 Guidelines).** These are all ranked high, medium, low either positive or negative or, no impact from +++ to --- . Business-as-usual acts as a baseline.

| Component Based on the IFC Standards  | Business-as-Usual | Medium Growth Scenario | High Growth Scenario |
|---|-------------------|------------------------|----------------------|
| <b>Assessment and Management of Environmental and Social Risks and Impacts</b>          |                   |                        |                      |
| Environmental risks reduced   | 0                 | -                      | -                    |
| Key systems processes protected   | +                 | +                      | ++                   |
| Key thresholds not exceeded   | 0                 | 0                      | 0                    |
| Social risks addressed  | 0                 | 0                      | 0                    |
| Community grievances addressed  | -                 | +                      | ++                   |
| Community participation   | +                 | ++                     | ++                   |
| <b>Resource Efficiency and Pollution Prevention</b>                                     |                   |                        |                      |
| High GHG emissions  | 0                 | 0                      | 0                    |
| Adaptability to CC  | +                 | ++                     | ++                   |
| Transboundary impacts   | 0                 | 0                      | 0                    |
| Air pollution   | 0                 | 0                      | 0                    |
| Surface water pollution   | -                 | -                      | --                   |
| International waterways affected  | -                 | --                     | ---                  |
| Solid waste production and pollution  | -                 | --                     | ---                  |
| Production of hazardous waste materials   | -                 | -                      | -                    |
| Fuelwood resource use   | -w                | -                      | -                    |
| Veld products depletion   | 0                 | -                      | -                    |
| Overgrazing   | 0                 | 0                      | 0                    |
| High energy use   | 0                 | 0                      | 0                    |
| High water use  | 0                 | 0                      | 0                    |
| <b>Community Health, Safety, and Security</b>   |                   |                        |                      |
| Health & disease exposure   | -                 | --                     | ---                  |
| Exposure to hazardous equipment/materials   | 0                 | 0                      | 0                    |
| Loss of ecosystems services   | 0                 | 0                      | 0                    |
| <b>Land Acquisition and Involuntary Resettlement</b>                                    |                   |                        |                      |
| Involuntary displacement of people from their land                                      | 0                 | 0                      | 0                    |
| Voluntary displacement  | 0                 | 0                      | 0                    |
| Economic displacement   | 0                 | 0                      | 0                    |
| <b>Biodiversity Conservation and Sustainable Management of Living Natural Resources</b> |                   |                        |                      |
| Loss of natural habitat   | 0                 | 0                      | 0                    |
| Loss of critical habitat  | 0                 | 0                      | 0                    |
| Alien invasive species  | -                 | -                      | -                    |
| Loss of biodiversity  | 0                 | 0                      | 0                    |
| Loss or reduction of PAs  | 0                 | +                      | +                    |
| Reduced function of ecosystems services   |                   |                        |                      |
| <b>Indigenous Peoples</b>   |                   |                        |                      |
| Loss of traditional land ownership  | 0                 | 0                      | 0                    |
| Loss of traditional natural resources   | 0                 | 0                      | 0                    |
| Loss of traditional rights  | 0                 | 0                      | 0                    |
| <b>Cultural Heritage</b>  |                   |                        |                      |
| Loss of cultural heritage sites   | 0                 | 0                      | 0                    |
| Loss of cultural resources  | -                 | -                      | -                    |
| Loss of indigenous knowledge  | 0                 | +                      | +                    |

The above table indicates that:

- 
- Environmental and social risks will be reduced with a high tourism growth scenario but potential impacts relating to resource efficiency and pollution prevention will increase with an increase in tourism;
- The health and disease exposure of local communities will increase with increased tourism particularly cultural tourism;
- There are no issues under land acquisition and resettlement nor loss of land or other rights by indigenous peoples;
- Biodiversity conservation will improve slightly under the high growth scenario, and
- The loss of indigenous knowledge will be slowed with a growth in cultural tourism.

**Table 4: Assessment of the three tourism development scenarios in relation to the cumulative impacts identified in the landscape assessment**

| Cumulative Impacts  | Business-as-Usual | Medium Growth Scenario | High Growth Scenario |
|---|-------------------|------------------------|----------------------|
| <b>Reduction in wetland water quantity and quality</b>                                    |                   |                        |                      |
| Upstream developments (Angola)  | Increase          | Increase               | Increase             |
| Developments within Landscape (irrigation)  | Increase          | Possible increase      | Possible decline     |
| Lodges  | No change         | Increase               | Increase             |
| <b>Closure of migratory corridors, isolation of the protected areas</b>                   |                   |                        |                      |
| Linear development of settlements   | Rapid increase    | Increase               | Increase             |
| Land allocation within corridors  | Rapid increase    | Increase               | Limited Increase     |
| Conflicting land uses   | Rapid increase    | Increase               | Limited Increase     |
| <b>Decrease in public support for protected areas and conservancies</b>                   |                   |                        |                      |
| Increasing HWC  | Increase          | Increase               | Increase             |
| Tourism industry  | Decline           | Recovery               | Growth               |
| Relative value from tourism   | Decline           | Static                 | Growth               |
| <b>Decline in wilderness quality, sense of place and aesthetic value</b>                  |                   |                        |                      |
| Road infrastructure   | Increase          | Increase               | Increase             |
| Street lighting   | Increase          | Increase               | Increase             |
| Road and entertainment centre noise   | Unmanaged         | Partially managed      | Partially managed    |
| Visual impacts (power lines, litter)  | Unmanaged         | Partially managed      | Partially managed    |
| <b>Increasing importance of the Landscape as a key component of the greater KAZA area</b> |                   |                        |                      |
| Wildlife movement linkages across KAZA  | Some retained     | Retained               | Improved             |

The assessment of scenario impacts for Performance Areas indicates that the high tourism growth scenario is the best social and environmental option. It will significantly contribute to a positive impact on tourism allowing for a resilient and sustainable industry which provides visitors with a destination.

The cumulative impacts all get worse under the business as usual situation. They are, in some cases, addressed under the medium growth scenario and are, in some cases, addressed under the optimum tourism growth scenario.

It is important to note that the present, “business as usual”, situation is not only stagnant; it is also slightly negative from the environmental and social perspective. Although it is recommended to pursue a high growth scenario able to provide relevant benefits across the landscape although external factors around tourism are more likely to support a medium growth scenario as the realistic development option.

# CHAPTER 8

## STRATEGIC ENVIRONMENTAL MANAGEMENT RECOMMENDATIONS FOR TOURISM IN THE LANDSCAPE

### 8.1 Vision and Objectives

#### 8.1.1 Vision for the Landscape

Based on the conservancy and parks management plans, and with inputs from the Landscape Committee, the vision for the Mudumu Landscape is suggested to be:

*“To conserve biodiversity and functioning wildlife systems across the landscape while maintaining ecosystems services, through effective landscape-level management and the transformation of the area from a transit route to a sustainable eco-tourism destination, thus leading to enhanced benefit flows to the people of the area.”*

#### 8.1.2 Landscape Objectives

Sustainable tourism in the Mudumu landscape will be achieved through the following objectives, which set out to:

- **Conserve biodiversity and wildlife systems** for the development and diversification of sustainable tourism. Through effective management and participation, in the conservation of proven corridors across the landscape and the identification and status of biodiversity, mitigation of HWC, control of settlement patterns, enforcement of zoning and reduction in poaching.
- **Maintain ecosystems services** to ensure environmental flows and functioning are not degraded thus providing conditions for a quality tourism product. Enforcing environmental standards in all tourism establishments as identified in the SEA
- **Establish effective landscape level management.** Effective management authority established with the mandate, authority and support of stakeholders being able to manage at the landscape level by 2014.
- **Transform the landscape to an ecotourism destination** through diversification, sustainable growth and overall tourism landscape design, which includes:
  - » Enhancement of cultural, heritage and ecotourism products;
  - » Diversify tourism activities;
  - » Provision of stable, destination type consumptive and non-consumptive tourism;
  - » The setting of Limits of Acceptable Change (LACs) for the wetlands, national parks and cultural and activity tourism
- **Enhance benefit flows** through improved benefits at the landscape and local levels. These should be measured through employment, training, skills enhancement and capacity building (note not financial due to impact of the road development).

### 8.2 Institutional Responsibilities and SEA Enforcement

Within the Landscape, the existing roles and responsibilities and the proposed roles are outlined in Table 5 below.

**Table 5: Institutional Roles and Responsibilities**

| <b>Institution</b>                              | <b>Role</b>  | <b>Required Role for the Landscape</b>  |
|---|--|---|
| KAZA  |  | Establish sustainable thresholds; identify environmentally suitable development and use options; increase understanding of ecological function of the KAZA area as a whole  |
| <b>Government of Namibia</b>                    |  |   |
| Ministries                                      | Responsible for a sector of government public administration. Formulate policy and strategies            | Allow for selective implementation of policy on a site specific basis where objectives at the appropriate scale are different to that of the ministry   |
| Departments (Central Government)                | Implement policy objectives through plans and programmes   | Judicial implementation of plans and programmes so that they support the objectives of the Landscape and do not undermine ecosystem integrity or lead to the collapse of ecosystem services. Support MET in identifying how and where the integrity of the ecosystem can be improved and impacts on biodiversity reduced. |
| Line ministry departments at the district level | Implement departmental plans and programmes at the district level  | Selectively implement programmes that support the Landscape objectives and halt plans and programmes that are undermining the system integrity. Increase flexibility in responding to impacts identified and providing feedback to policy makers.   |
| MET   | Environmental protection<br>Biodiversity Conservation<br>Tourism Development                             | Environmental authority auditing to ensure that the requirements of the SEMP are being implemented by the various responsible parties<br>Facilitate & approve tourism joint-ventures<br>Formulate and implement PA management plans   |
| Council   | Community representation   | Represent communities and provide informed feedback so that the Landscape becomes a reality on the ground.  |
| <b>Civil Society</b>                            |  |   |
| NGOs (at the regional level)                    |  | To support the implementation of the landscape SEA within their specific mandates.  |
| Representative bodies for user groups           | Promote the interests of members and maintain standards  | Inform and educate members as to the Landscape objectives, identify areas of impact created by interest group activities and means to reduce or remove impacts, actively participate in the management and monitoring of the Landscape  |
| Landscape Committee                             | To facilitate the management of the Landscape to meet its principal objective                            | Unchanged, but focus on the big issues, be aware of thresholds being crossed and bring resilience thinking into management approaches.<br>Coordination, awareness of institutional responsibilities and the courage to reject inappropriate development strategies  |
| Conservancies                                   | Manage common property resources within demarcated boundaries through a constituted membership structure | Implement management decisions by the landscape at conservancy level<br>Contribute to affective landscape management through their membership structures  |
| Village authorities                             | Tribal administration supports development initiatives and implements customary law.                     | Implement CBNRM at the appropriate scale and locations.   |
| Community-based Organisations (CBOs)            | Represent specific interest groups and CBNRM   |   |

### **8.3 Implementation Framework**

The SEA preparation is the first stage in the process and probably the simplest. It needs to follow a path in which the SEA urgency and requirements are transmitted to the people, users, sectors and administrators of the Landscape.

Once the SEA is approved, management actions have to be monitored and evaluated and the actions updated and improved while at the same time research into the thresholds needs to be on going so that the targets can be refined or changed.

A feedback loop allowing for adaptive management is crucial. The loop seeks to improve management and refine the targets by responding to research, monitoring and evaluation on an annual basis. The link to the public (both in terms of information distribution and consultations) is crucial to maintaining support. Where issues arise and focused stakeholder meetings can address the issues, these should be held by the appropriate authority and supported by MET.

### **8.4 Environmental Quality Objectives**

Environmental quality objectives (EQOs) are to be identified based on national obligations and in response to pressures. They should form an attempt to provide a strategic level standard or target or LAC (limits of acceptable change) for each of the main issues. For example, if the concern is the proliferation of lodges along the river system, EQO is to state the acceptable number of beds per unit of river system. The EQO is not fixed; should adaptive management monitoring by the landscape indicate that at such a level there is no impact on environment or loss of tourism value, then numbers can be experimentally increased and a new limit set. These limits are normally set on international and national standards or experiences.

To incorporate the adaptive management approach, the targets linked to EQO specific actions are to be reviewed annually and, based on improved understanding of the thresholds, revised, made available for public consultation and then approved by the Landscape Committee and authorised by MET. It is critical that revisions are made based on improved information only and not in response to pressure from user groups.

The tables below outline the EQOs and agreed management actions for each landscape objective.



**Table 6: Environmental Quality Objectives to Support Conservation of Biodiversity and Wildlife Systems**

| EQO  | Management Actions and Mitigations  | Target / Goal  | Importance to the Landscape | Responsible Party   | Time frame   |
|--|---|--|-----------------------------|---|--|
| Wildlife diversity and numbers maintained      | Manage wildlife populations to maintain biodiversity and where necessary maintain biodiversity through re-introductions   | Establish the trends in wildlife populations so as to allow sound management decisions. Reintroductions into areas where there is sound conservation   | High                        | Conservancies, TAs, NGOs, JVPs, led by MET – all stakeholders!  | Trends established by end year 2<br>Reintroductions into areas low in biodiversity by year 3<br>Urgent, immediate action over the next 2 years |
| Reduce poaching of wildlife to pre-2011 levels | Increase MET staffing in areas where road construction coincides with areas of high wildlife concentrations. Increased law enforcement within conservancies<br>Effectively establish wildlife corridors particularly where they cross roads or intersect with arable lands  | Poaching reduced to pre-2011 levels. Note that the level of poaching is a perception and concern of Landscape committee members and not documented cases<br>Wildlife corridors are identified in collaboration with conservancies and formally protected/declared.<br>Corridors mapped, ranked and acknowledged by planners. | Very high                   | MET, conservancies, communities, Nampol, NDF,   | Corridors identified within 6 months.  |
| Stabilise or reduce the levels of HWC          | Protocols for land use in corridors established.<br>Conduct information awareness campaigns about existence and location of wildlife corridors. Note: There is extensive information but it needs to be drawn up as specific routes ranked for importance. Results are to be distributed to planners and conservancies. Corridors to be marked on all tracks crossing them.<br>Elephant and predator populations outside of PAs and corridors to be maintained at socially acceptable levels.<br>HWC abatement is focused on the directly affected parties along the fringes of movement corridors. | Corridor zones adopted in the Land Use Plan.<br>All conservancy residents are aware of location of corridors, and of risks associated with living and farming in them.<br>Socially acceptable elephant and predator levels outside PAs and corridors agreed.<br>HWC is stabilised or reduced                                 | High                        | KAZA, Individual farmers, with support from orgs. MET for consumptive use options, land use planners<br>KAZA, MPLCA, MET, Conservancies | Corridors formally declared within 2 years   |
|  |   |  | High                        | MPLCA, Conservancies, TAs   | As soon as corridors identified, aligned and zoned.  |
|  |   |  | Medium                      | MET, Conservancies  | Ongoing  |
|  |   |  | Medium                      | Conservancies, TAs, MPLCA   | HWC reduction support focused on key communities within 1 year<br>Timing as above.   |
|  | Innovative approaches, improved planning of settlement, consumptive tourism. See corridor development process outline page 9 in MLSMP   | Land use zoning in conservancies implemented.  | Very high                   | KAZA, conservancies, TA, Nam-Place, MET, IRDNC, SAREP, Min. Lands, Min Agriculture,   |  |

| EQO   | Management Actions and Mitigations   | Target / Goal  | Importance to the Landscape | Responsible Party   | Time frame   |
|---|--|--|-----------------------------|---|--|
| Share information on trends in wildlife populations so as to allow sound management decisions | Research undertaken into wildlife population trends and sharing of the information to allow sound decision making  | Formal system of sharing research information established  | High                        | MET, MPLCA, NACSO, IRDNC, WWF to share                    | Info collation established, ongoing                      |
| Protect the wild crocodile population   | Information on wild crocodile populations and the sustainable levels of harvesting of their eggs is required to establish if harvesting of crocodile eggs from wild populations will impact on populations | Sustainable offtake of wild crocodile eggs established   | High.                       | MET, Min Trade, MNC, Mashi TA, MPLCA, Communal Land Board | 3 months to establish info & set limits for egg harvest, |
| Protect the wild crocodile population   | Offtake must be regulated in accordance with established sustainable quota   | Offtake data used to establish quota and allocate permits for egg harvesting                       | High                        | MET, Min Trade, MNC, Mashi TA, MPLCA, Communal Land Board | 3 months (to establish info) , then ongoing              |
| Maintain healthy populations of sport fish  | Identify and establish fish reserves with no fishing at all. Establish protocols for all lodges for catch and release of sport fish  | Protected zones identified and established. Sport fishing implementing catch and release protocols | High                        | Foundation*, Min Fish, lodges, MPLCA, TAs                 | 18 months (to get reserves est. and protocols agreed)    |
| Control invasive plant species within the Landscape wetlands                                  | Establish a programme to manage alien invasive species (aquatic weeds such as <i>Salvinia</i> , wetland weeds such as castor oil, lantana)   | Formal programme established, information available, public informed                               | Low                         | Min Forestry, Min Ag                                      | Ongoing  |

\*MPLCA / IRDNC will need to approach them for this assistance.

**Table 7: Environmental Quality Objectives to Enhance Key Ecosystem Services**

| EQO                                   | Management Actions and Mitigations  | Target / Goal   | Importance to the Landscape | Responsible Party  | Time frame   |
|---------------------------------------|---|---|-----------------------------|--|--|
| Enhance ecotourism value of landscape | Prepare and adopt suitable ecotourism guidelines to guide the interface between visitors and the Landscape. | Suitable eco-tourism guidelines adopted.  | High                        | JVPs, MET, Conservancies   | Drafted within 12 months, agreed and implemented within 18 months  |
| Maintain wetlands ecosystem function  | Maintain flood pulse, dry season flows, flooding  | Establish, through a joint river basin committee, cooperation between Angola and the Landscape on basin developments. | High                        | MPLCA – link to transboundary CBO forums, KAZA, NTB, Water authority | Long term, establish the principle within 12 months and the Namibian Government to establish a form a joint basin committee within 5 years |

| EQO  | Management Actions and Mitigations   | Target / Goal  | Importance to the Landscape | Responsible Party   | Time frame  |
|--|--|--|-----------------------------|---|---|
| Maintain wetland water quality   | Identifying and managing point sources of pollution. Discharge standards identified  | Pont sources of water pollution identified. Management in place to ensure discharges into the wetlands meet national water standards   | Very high                   | Min Fish, JVPs, local communities, MET (for EIAs), Dep Water, KAZA, NTB                             | Identification and agreement on standards within 6 months. Implementation within 2 years. Monitoring annually at peak of tourism season           |
| Maintain wildlife movement routes into and across the Landscape  | Greatly increased cooperation with KAZA and direct neighbours in Angola, Botswana and Zambia   | Movement routes documented and importance of each established. Formal linkages between KAZA and the Landscape Committee  | High                        | KAZA, conservancies, TA, Nam-Place, MET, IRDNC, Min. Lands, Min Agriculture, independent researches | 12 months   |
| Limit noise from road truck traffic to acceptable levels   | Mitigation plan to halt the reduction of wilderness value of sites adjacent to the main road   | Mitigation prepared and implemented  | medium                      | JVPs, MET, Conservancies, NamPol  | Within 12 months  |
| Control the rise of sources of noise adjacent to tourism zones   | Plan and establish noise reduction zones within the conservancies to support the tourism value of key tourist establishments.  | Noise reduction zones agreed, established and enforced by the Conservancies  | High                        | Conservancies, VDCs, Nampol, Min Education, MPLCA - lobbying  | Ongoing, within 12 months   |
| Reduce visual Impact of developments   | EIAs for all developments within the Landscape to include assessment of and mitigation for potential visual impacts  | Visual impact assessment prepared for all major developments. Visual and aesthetic guidelines established and adopted by conservancies   | High                        | Physical Planners, TAs, VDCs, Conservancies   | Ongoing with each development. Guidelines established within 12 months  |
| Manage solid and hazardous waste effectively and sustainably   | Establish an effective solid and hazardous waste management system with waste reduction strategies.  | Landscape level waste management system established. Waste management plans prepared for Individual conservancies and JVs. Approach to the management of hazardous waste established | High                        | Nam-Place, RC, MET, KAZA  | Ongoing, Kongola Landfill almost completed. Waste management plans to be prepared within 12 months of completion of landfill site.                |
| Monitor and manage natural resources used for tourism (e.g. veld products used for craft production, firewood) | Identify (through evaluation of Event Book data) which resources require management and at which locations. Management plans for resources of concern to be prepared | Any threats to resources identified. Management and monitoring plans in place. Resources sustainably managed   | High                        | Conservancies and Conservancy Game Guards   | Ongoing, resource types and hotspots identified within 3 months, any additional monitoring add to Event Books systems and managed within 6 months |

**Table 8: Environmental Quality Objectives to Promote Effective Landscape-Level Management**

| EQO   | Management Actions and Mitigations   | Target / Goal   | Importance to the Landscape | Responsible Party  | Time frame   |
|---|--|---|-----------------------------|--|--|
| Enhance legal authority and capacity of the Landscape authority enhanced              | Establish landscape authority with legal authority responsible for planning and implementation of decisions.   | Legal authority and capacity of the Landscape authority enhanced to allow for planning and implementation of actions at the landscape level.  | Very high                   | MET, MPLCA members   | Formal authority and information distribution mechanisms within 18 months                        |
| Adopt and share a landscape level vision  | Ensure that information about decisions is communicated effectively to regional planners and conservancies   | Formal information distribution mechanisms established  | Very high                   | MET, MPLCA members   | Ongoing  |
| Align regional planning to Landscape objectives                                       | Review and formally adopt a vision for the Landscape<br>Ensure that Regional planning is aligned to the Landscape objectives.  | Vision adopted and verified with stakeholders<br>Regional planning aligned with Landscape objectives  | High                        | MPLCA members  | Within 3 months  |
|   | Raise awareness of existing plans such as economic or physical development plans prepared at the Regional or National levels Identify and mitigate potential conflicting land uses (e.g. Green Scheme, illegal settlement) before they become a threat to the Landscape. | Regional planning aligned with Landscape objectives   | High                        | KAZA, conservancies, MET, TA, Nam-Place, MET, IRDNC, Min. Lands, Min Agriculture<br>KAZA, conservancies, TA, IRDNC | 12 months  |
| Align existing MPLCA plans  | Management Plan to align with the findings of the SEA<br>Prepare macro-level plans for enhancement of the Landscape.<br>MPLCA to approach WWF for PLCA-level compilation of Event Book data  | Potential conflicting land uses identified and concerns and potential mitigations formally registered with respective planners.<br>Communication between Plans reviewed and aligned<br>Macro-level plans prepared | Very high                   | Min Lands, KAZA (corridor consultancy), MET, MPLCA   | 2 years  |
| Use existing Event Book data for management   | JMCs to meet regularly and formally address identified concerns, so that serious conflicts are avoided   | Concerns regularly addressed and issues steadily addressed  | High                        | MPLCA coordinator  | Within 6 months  |
| Maintain channels for addressing concerns between conservancies and private operators |  |   | Medium                      | MPLCA committee, Nam-Place<br>MPLCA, MET, planning authorities   | Within 12 months   |
|   |  |   | High                        | MPLCA, JMCs, JVs, Conservancies  | Ongoing but needs to be more formal within and between ministries<br>JMC meetings every 3 months |

**Table 9: Environmental Quality Objectives to Transform the Landscape to an Ecotourism Destination**

| EQO  | Management Actions and Mitigations  | Target / Goal   | Importance to the Landscape | Responsible Party   | Time frame  |
|--|---|---|-----------------------------|---|---|
| Adopt and share a landscape level tourism vision   | Key stakeholders to agree on and adopt a shared vision for tourism within the landscape which outlines the approach to tourism  | Shared vision adopted   | High                        | MPLCA & JVPs, NTB, MET  | 6 months  |
| Establish elements of the tourism strategy   | Establish a single clear marketing strategy for the Landscape<br>Ensure accommodation, activities and cultural facilities and skills are in place to support the marketing strategy<br>Prepare sustainable ecotourism guidelines  | Marketing strategy established and actively promoting the Landscape<br>Ecotourism facilities available; activity based tourism opportunities established and cultural tourism in place<br>Suitable eco-tourism guidelines adopted   | High                        | Nam-Place, MPLCA, NTB<br>JVPs, NTB, Open Africa [an NGO], Nam-Place<br>JVPs, MET, Conservancies   | After facilities and cultural tourism is developed<br>Established over 2 years<br>Drafted within 12 months, agreed and implemented within 18 months<br>1 year |
| Establish a resilient tourism base to reduce the impact of global economic fluctuations<br>Maintain a dynamic, fresh landscape | MET to support the development of the sustainable ecotourism route through provision of facilities and quotas<br>Diversify the range of tourism products to appeal to a broader cross-section of tourists<br>Non-functional tourism facilities, cultural sites and craft centres to be fully decommissioned.<br>Clear policy on redundant structures in conservancies drafted and adopted | Facilities and quotas agreed and allocated to support the sustainable ecotourism developments<br>A wide range of activities and facilities are in place to support different tourism sectors and provide offerings for different seasons.<br>Non-functional tourism facilities, cultural sites and centres fully decommissioned.<br>Policy adopted, or such principles incorporated in eco-tourism guidelines | High                        | MET, MPLCA<br>JVPs, NTB, Open Africa [NGO], Nam-Place [to do website]<br>Conservancies, TAs, Communal Land Board, NTB, MET<br>Conservancies, TAs, Communal Land Board, NTB, MET | 2 years<br>1 year<br>Drafted within 12 months, agreed and implemented within 18 months  |

**Table 10: Environmental Quality Objectives to Enhance Benefit Flows to People in the Area**

| EQO  | Management Actions and Mitigations  | Target / Goal   | Importance to the Landscape | Responsible Party   | Time frame                           |
|--|---|---|-----------------------------|---|--------------------------------------|
| Establish LACs for visitor numbers and facilities within the framework of a resilient tourism plan<br>Distribute returns from tourism lodge leases equitably | Establish the number and type of facilities and visitor LACs.<br>Revise existing tourism plan to reflect the vision for the Landscape<br>Negotiate with the Ministry of Lands for fair and limited land lease fees and equitable returns from the Ministry based on the lease fees.   | LACs established for accommodation by type, activities and craft centres<br>Existing tourism plan is vision-driven  | High                        | MPLCA, KAZA<br>MPLCA  | Within 12 months<br>Within 6 months  |
| Develop cultural tourism   | Address the issue of equitable returns to conservancies from lodge developments<br>Existing cultural tourism sites are poorly maintained by the conservancies and hardly used by operators.   | Deal providing equitable returns from Ministry of Lands lease fees concluded  | Very high                   | MPLCA, Min Lands, MET, Local Govt, JVPs, HAN.   | Ongoing but to be urgently addressed |
| Strengthen capacity of conservancies to market themselves independently  | Establish a place, within the overall Landscape vision and marketing strategy for individual conservancies to market themselves.<br>Conservancies to seek support from NGOs (e.g. Peace Corps to build capacity in skills, other NGOs who can help with resources)<br>Set targets which include village clean ups campaigns, skills development, employment, renovation of conservancy facilities, enhancement of cultural attributes, craft production etc.) | Equitable returns negotiated and operational<br>Cultural tourism sites are a well-functioning resource within the Landscape's tourist attractions<br>Opportunity for conservancies to market themselves established within the overall landscape approach   | High                        | Conservancies, IRDNC, MET, communities<br>Conservancies, IRDNC, MET, communities, JVs | 1 year<br>2 years                    |
| Ensure conservancy reinvestment into their own tourism ventures  | Establish minimum percent of levies to be reinvested into community tourism ventures/ training/ facilities.<br>Conduct awareness raising campaigns to reduce expectations of direct benefits to community members<br>Institute consumptive tourism in areas of low aesthetic value  | Conservancy staff are able to maintain a website, and have access to a computer and internet connection<br>Sustainable tourism targets established<br>Percent of levies to be reinvested has been identified<br>Community members are realistic about balancing short-term and long-term benefits | Medium                      | Conservancies, IRDNC, MET, communities  | 1 year                               |
| Develop tourism opportunities in areas of low tourism value but high wildlife concentrations   | Improved conservancy hiring and staff retention procedures.   | Procedures to hire suitable skills and retain trained staff established   | High                        | Conservancies, MET, NGOs  | Ongoing, 1 year                      |
| Build and retain conservancy staff skills  |   |   | High                        | Conservancies, MET, NGOs  | Ongoing                              |
|  |   |   | High                        | MET, Conservancies, JVs   | 1 year                               |
|  |   |   | High                        | Conservancies, NGOs   | 1 year                               |



# CHAPTER 9

## CONCLUSIONS AND KEY RECOMMENDATIONS

### 9.1 Conclusions

The Landscape has a relatively cohesive wildlife system bound together by a number of national parks and community conservancies. The different components of the landscape have been organised and involved in tourism for more than a decade.

The Mudumu Landscape is of high strategic value as a biodiversity and tourism area. Both its wildlife assets and tourism value are under threat of internal and, to a lesser extent, external influences. Human-wildlife conflicts, especially poaching, are on the rise. Tourism benefit expectations are high while effective tourism values are actually quite low. Occupancy numbers at accommodation establishments remain low. There is limited diversity in the tourism product offered, which is also concentrated in a small section (and ecosystem) of the landscape. Current infrastructure developments (such as the tarring of the Mamili loop road C49) will lead to an increase in linear settlement, impacting both the visual appeal of the area and restricting wildlife movements.

The following cumulative impacts were identified:

- Reduction in wilderness value and sense of place through development, noise, and visual impacts
- Loss of wetland ecological function and decline in water quality
- Closure or loss of wildlife movement corridors through linear and largely unplanned settlement
- Decline in support for parks and conservancies due to high levels of HWC and the decline in tourism's contribution to the local economy
- The Landscape is and will become increasingly important to the ecological functioning of KAZA.

Effective management of the area requires a cohesive vision at landscape level which is currently missing. The tourism development expectations at individual conservancy level are not in line with the feasibility of the larger area or with planning. This is because the differences between river-front and in-land tourism appeal is high, as is the difference between established tourism ventures and the potential for new market entries.

### 9.2 Key recommendations

#### 9.2.1 *Biodiversity and Wildlife Conservation*

Active management in reducing human wildlife conflict is required. Hunting zones should be adapted in this regard and should changes in wildlife movements through road constructions and subsequent settlements into account. Riverine vegetation and fish-species conservation should be increased to ensure the biodiversity of the wetland remains intact.

Increases in number and size of crop fields and (fire) wood harvesting should be addressed more activity at landscape level by ensuring zonation plans are implemented and controlled. The mapping and formal adoption of wildlife corridors will be critical to biodiversity and sustainable tourism within, across and beyond the Landscape.

#### 9.2.2 *Ecosystem Services*

Upstream impact into the Kwando wetland needs to be monitored both locally (Kongola bridge) and through interactional dialogue with KASA partners to ensure the ecological system remains intact. Ecotourism guidelines for the operations along



the river need to be formulated based on Namibian standards and the Eco Award certification.

### 9.2.3 *Landscape Level Management*

The single biggest challenge for the Mudumu landscape rests in the poor management at Landscape level. A clear vision for the landscape must be developed. Stakeholders' awareness and understanding of landscape level tourism management needs to be enhanced first, after which a proper landscape level management plan should be formulated and implemented. The expectations **around community benefits from** tourism and participation in tourism (and tourism management) will become more realistic through such planning process as well if a common objective is pursued.

### 9.2.4 *Tourism Potential*

As the current tourism situation is under pressure and lacks landscape wide benefits, the business as usual scenario is not recommended for the Mudumu Landscape. **The most realistic recommendation is based on a medium growth of tourism** through the provision of additional tourism products, branded in the concept of an eco-tourism route. These products should emphasise the use of a diversified resource base emphasising cultural products, seasonal attractions and packages and a wider variety of natural products such as hides, floating decks and (guided) access to protected areas. Consumptive tourism should be structured in areas where scenic appeal is less obvious, if species distribution allows.

The Landscape requires rebranding, based on the Tourism SEA, a complete revision of the existing tourism plan and incorporation of the recommendations contained in the Strategic Management Plan. The rebranded product must be culturally rich, focusing on the Landscape being a destination for nature and activity based tourism at the heart of KAZA.

### 9.2.5 *Benefit Flows*

Expectations around tourism benefits are currently driven by conservancy level objectives which lead to increased competition and reduced benefits. There needs to be a greater understanding about how best to manage equitable distribution of benefits. Apart from general awareness-raising, there are other specific ways that benefit flows can be enhanced. The issue of land lease levies must be urgently negotiated. Ongoing capacity building is needed to help conservancies market their areas and activities. Diversification of products, including that are more suitable to the inland areas (such as trophy hunting) should allow for more employment and JMC fees. Conservancies also need to explore ways to work at sharing their JMC incomes across conservancies.

# CHAPTER 10

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## CHAPTER 11

### *APPENDIX 1: ATTENDANCE LIST FOR THE MPLCA SEA CONSULTATIVE MEETING, KATIMA MULILO, JUNE 10TH, 2013*

| <b>Name</b>       | <b>Organisation</b>    |
|-------------------|------------------------|
| Otto von Kaschke  | Namushasha river Lodge |
| Olavi Makuti      | SED Consultants        |
| David Uushona     | SED Consultants        |
| Metha Uushona     | SED Consultants        |
| Leonard Mokanya   | Nam-Place              |
| Rian Bester       | Camp Kwado             |
| Friedrich Alpers  | IRDNC                  |
| Djukwe Reani      | KA                     |
| M. Beaven         | IRDNC                  |
| L. James          | Dzosi Conservancy      |
| Elvis Mulongo     | KAZA                   |
| A. Kaine          | Sobbe E.O              |
| Tutalife Jennifer | Mayuni Conservancy     |
| Muchaka Joubert   | Mashi Conservancy      |
| Uri Matundu       | Nam-Place              |
| G. Kaapii         | Cultural Project       |
| M. Sibalatani     | Nam-Place              |
| D. Parry          | EcoSurv                |
| L. Cassidy        | EcoSurv                |
| W.Schalken        | EHRafrica              |
| John Kawana       | MAWF                   |
| C. Munanzi        | Wuparo Conservancy     |
| Sanjahi Mathe     | MLR                    |
| Limbo Jonathan    | Mayeyi TA              |
| Patrick Chali     | Kwando Conservancy     |

## *APPENDIX 2: SUMMARY OF THE STAKEHOLDER CONSULTATIVE MEETING (KATIMA MULILO, 10TH JUNE 2013)*

Views of where we are, and where we could be:

It is an opportunity for the whole complex – especially when it comes to sustainability, we are a virgin land and things can be directed in a good direction with good guidance. There are opportunities to get things in the right direction. The growth potential of the region is still huge, the area is vast, the potential and the benefit for the communities is still huge if managed in the proper way – that's why it's important to be cooperating.

Does anyone feel we have reached the limits? Are lodges full? Lodges are still not fully booked all year round. Gondwana Namibia is now operating in Caprivi, but we are a large operation with an intensive marketing operation – our vision for occupancy in the near future should be reasonably good. However, there are a lot of unknown factors, regarding what the Caprivi can offer in terms of tourism experiences. What type of package to offer the tourist – here the emphasis currently lies on wildlife, and scenery – these are uppermost. Have we reached saturation of these? I don't know, I'm not sure yet, it is possible there is a danger of over commercialisation, but in terms of potential tourists entering the area, we feel there is still potential for growth.

I want to redefine the tourism potential for new activities, we need innovative activities beyond the traditional products, we need new products, and need to capture new markets.

I think the community and conservancies can play a big role in this. For example, village visits: a clean village, a guided tour. There are lots of opportunities to collaborate with the communities, there are wonderful areas we can visit, but we don't get the support even if it would bring more money and we have the tourists ready to spend. We need the communities to get it right with diversifying.

And sustainability – why don't we do something different to Kasane, why don't we be the eco-destination, the green, sustainable destination? It may be difficult, but we can try, because it will be a better experience, a cleaner experience.

What is preventing a lodge from marketing itself as an eco-experience? Conservancies are not involved, because the villages that the tourist have to drive to have litter issues – so it's about bringing eco-practices into daily life, so that the tourist experience is not contradictory.

Looking at the current situation, there are some potentials – there are some locations in the park, but they have not been offered to us. But we find there are other challenges, the tourists – maybe it is about marketing, we are still lacking marketing opportunities, community based tourism struggles to compete and market itself. We have a new Open Africa, they bring some updates, we have some new marketing strategies, but are not there yet. The only thing for us here is to work together and support tourism marketing, we need government tourism officers to help us coordinate such activities.

Looking at the example of community tourism enterprises, we have enough facilities, but the tourists are not coming yet. We could have more tourists, but the existing facilities are still not getting full, so if we built new facilities, would they survive?.

There are not enough facilities, some conservancies don't even have any sites; each conservancy needs to have something.

From July to October/November there are not enough lodges. For the rest of the year, there are too many. Seasonality is a big issue in Caprivi. So creative products would extend the season – yes. Diversifying, including focus on birds, plants, villages/

culture – these aspects are there all year round. There are some villages that are gems, which are being destroyed by cement kuka shops. MET need to understand the needs of tourists, not just of hunters; tourism is the biggest employer in this country.

MET has a new structure now, they are planning a tourism office in the region, not sure if it will just be Rundu, but possibly per region. The structure is done, implementation is on, the issue now is recruitment. This development should assist with product development.

In Caprivi, we need more, we have hunting – the trophies that are now being produced, they are not good quality, so we need to start looking at alternatives. We always talk about lodge operators, why not have home-stays, in real traditional conditions – not just lodges, lodges, lodges.

We get a lot of requests for that, and for bush walks, and bush camping, but there is no operator offering that. If the conservancies can pick up on something like that, it would be well received, there is income that could be generated by that. The communities should develop something and approach the operators.

I disagree, you [operators] should go to the village, find the conservancy, you go there, and make it happen. Make the connection.

For me, I think it will happen. Now we are talking about this tourism route, if we have home-stays along that route, where you can stop and eat lunch cooked by an African woman, you can sleep in a hut, through this route we can start implementing these things.

There is still potential, there are some activities that can be supported under Nam-Place, at least pilot projects. Especially in those conservancies that don't have much wildlife. It needs to be facilitated – the match-making – why can't IRDNC do that anymore? We are tied up with other stuff. It must be planned, IRDNC is, to be honest, a bit stretched. Poaching is keeping IRDNC busy.

For the tourists that come, we are just a middle stop – we are not yet a true destination. Caprivi needs to build its attractions. There is not enough diversification; we all offer the same things. The communities can open new activities, tourists are varied, let's see all of them be attracted here.

Is it a limitation of the area, are you too confined in your activities? Cycling, biking – there are a lot of other activities we could try.

Poaching is a problem, being charged by wounded elephants, seeing lion skins, these send the tourists away.

Is Caprivi as a whole being marketed? Community areas cannot manage the marketing.

What efforts do conservancies make to market their areas? Do they have a budget for that? Private sector takes money out of their business to do that. Answer: No, we are not doing that. Michael: Leaving a good memory, experience, that is the best marketing.

You need to sacrifice resources to get the reward. Conservancy representative: It's not about getting a consultancy done. We are thinking government can market for us. It's not that we don't want to, but we are working in the framework of government, and we don't have the experience. We are losing opportunities due to lack of know-how and technical knowledge. Michael: does a single conservancy have a website? I don't think that is something that you cannot afford.

Tour operator: What in the conservancies needs marketing exactly? We need to let communities know the basic marketing tools – and these are clean villages, and children not throwing stones. But what are you marketing? The campsites and cultural



villages are not marketed. There is only one campsite near Malili (Bamil is closed). Marketing from conservancies should start at the concept level – “what is actually a conservancy”, and the idea of its organisation and what it provides. Making it possible for private joint ventures to take place, that is what they should focus on. But I don’t think it is a government issue, that is not the right way.

With marketing, we are not talking about campsites. It’s about the natural things that are found, the attractions. We have problems with communications, the villages don’t have electricity. The conservancies need people who are technically minded. We are living with lions every day, but they are not allowed to be shot, we are sitting with those types of things because we don’t know where to go to get help to deal with them. We have so many things we could market, (natural), but we don’t have the technology, and we don’t have the skills.

Uri: we are now doing marketing through Nam-Place. We did advertise a few of the campsites and produce brochures. But there is not even a sign board on the road to show there is a campsite in Wuparo. I have offered to do a website for them, but they have never taken us up on it.

Conservancy representative: We are not managing tourism here, the tourists are just doing what they want. We aren’t controlling tourism, the tourists are. Caprivi is not properly on the map. A map is a very good point.

I said earlier that marketing is easy for the lodges, but hard for campsites. NACOBTA was helping, but that is the shortcoming. We gave them a lot of knowledge and they are happy to take it when they can.

When we talk about marketing, we are not talking about just the facilities, we are talking about the broader picture – what is a conservancy, what is a landscape? We are not failing to do the marketing, we have NGOs helping; it is just that we are not doing enough.

Michael: they might have people with capacity in the community, but when they elect themselves in position, they somehow side-line the technical people. I don’t know if this is about resource-sharing? Some people have skills and knowledge they are willing to give for free. Maybe it’s because they are not related to the leaders that they are not taken on? Conservancies are not taking on their own graduates - why? People are not sharing their skills out of competition.

Government did not groom the people. They created the conservancy and then left.

Is there a workshop on marketing we can run?

Conservancies don’t know this word “tourism”. That is why we are still bumping ourselves with hunting.

Wildlife management: Tourism is not a threat to wildlife resources. Even properly managed hunting can be beneficial. Human-wildlife conflict is a big problem with crops and fields. It ends up being a tourism problem when the wildlife is shot as a result.

Is the biodiversity resource sufficient to sustain tourism? Are there places where the environment hampers tourism? Focusing on the natural resources base, are there some places where there is degradation or a shortage of wildlife? We could definitely do with more wildlife, especially compared to Botswana?

Michael: Compared to Botswana – but to do so we would have to have Botswana’s elevation. The natural habitat in Caprivi is too low and wet. There are some times of the year when we have more wildlife (the seasonality spoken about). There are some places we could expand into with more wildlife.

The thing is that government wants to avoid lodges in prime wildlife areas. But they don’t want to stop the activities, just the

structures. In some places, it is about road condition?

Beavan IRDNC: In the area that is affected it is also an issue of illegal hunting. We are not doing enough to control poaching, especially by foreigners who come in to encourage our people to do illegal hunting. The wildlife population is decreasing, and their behaviour is changing. This will affect tourists and tourism. There are a lot of elephant carcasses in the parks and state forests? No-one is patrolling.

Poaching is the biggest impact in the whole of Caprivi, there are carcasses everywhere. It will stop tourists coming. There are angry elephants that charge vehicles.

Poaching is increasing. The new road is bringing much more. The tarring of the road will make it worse. Road contractors are involved in poaching.

Agriculture department representative: Comparing Botswana and Caprivi raises a concern: if we bring more animals, what impact will it have on farming communities? People have ongoing troubles with wildlife in their crops. There are more losses now from fields. The situation needs an economic analysis – are people worse off now because the tourism income does not compensate for increased losses of crops?

The human-wildlife conflict in areas like Shangwari has become problematic. Life has become difficult for women, for example, when collecting water from river. But there are some introduced species, that don't threaten lives.

Some of us think that it is not more animals; it is just that the animals are running away from the protected areas where they are now being poached.

Otto: Another impact of the new tarred road is that it is going to change the aesthetics of whole region. The road will be a lot more popular and accessible. There will be more linear settlement, leading to the restriction of animal movement and road-kills. KAZA is trying to think about this, but it emphasises the need to introduce zoning.

All conservancies have zonation plans, but implementation is the issue, effective management is the limitation. Zonation works on paper, but we are talking about big migratory species. We are trying to put in corridors, but we are supposed to get support from MET which is not yet coming. They want these things (zones/corridors) to be done, but how are we supposed to do them? We agree on what is needed, but there is never any action because they are not helping with implementation. We are not supported.

That is why human-wildlife conflict is there as a major issue. Practical cooperation between MET and the communities is needed, but MET is not there to facilitate.

Agriculture and Lands (note Lands, not MET, is the custodian) had a discussion, Agriculture is trying to encourage Lands to come up with a land use plan to help minimise HWC. I am not sure how it ended, the proposed workshop was never held. Beavan IRDNC: On land use plans, it was said that if a wildlife attacked livestock in the park there would be no compensation, but if wildlife comes to villages, can we shoot them? This is still not clear.

Resource use and management: Land board is planning [has planned?] a new lease system. The issue is largely around the lease fee. There is a concern that it is a double tax, as we already pay to community. Now we are expected to pay the land board too. And yes, they have the right, but we need to sit down and talk about how it plays out. Economically, it reduces what we can reinvest, or we would have to deduct what we pay to the community.

Conservancy representative: We have also raised this issue. We felt it was a concern since we already find that the amount that the tour operators pay to us is high and that they would struggle to pay again. There is a lot that we conservancies are already

contributing for our lease income, so we are still searching for clarity [Note: this is a national issue].

Are there any conflicting development plans? Many feel the road will bring in conflict. The Green Scheme is only a conflict if put in the wrong area, but this is not finalised yet. It was a private investor. It had been proposed for the northern part of Kwando conservancy, close to the Zambian border.

In Sobe, we have conflict with our eastern neighbours. The area to the east is not a conservancy, and there are people that have their kraals and homesteads there and they are encroaching.

A crocodile farm is proposed for Kongola, but I have not heard any more about its development. The threat would be from gathering wild eggs, which was what they suggested in their proposal.

There are no real resource use conflicts related to river, it is more to do with land based resources.

The river has a catchment outside the region – a dam or rice project outside could be a threat.

Fishing is one percent of the lodges' income, and we are now seeing big decreases in nembwe and tigerfish numbers, not sure why. It could be Deltamethrin being sprayed for tsetse fly control? The Kwando/Linyanti system is also experiencing a change to a wet phase with higher flood levels.

Skills availability in the conservancy is a challenge to lodge employment. NACOBTA? Some training for selected individuals is taking place, but it is not always clear who gets invited for the training. Also, the skills leave the area – how to keep the skills in the area, all skills, not just hospitality, tourism?

The NTB application process is a disaster. I've been trying to register a company for 2 years, but still not there due to the bureaucracy, forms, papers required.

Monitoring data: Event Book data are being used, not just for general meetings, but also for donors. The data is a resource, and its use is now being increased. Can its use be formalised? It should be shared, and formalised for landscape management.

Other issues:

Does Namibia want to attract foreign investors to invest? If so, we need a bit more support from Home Affairs. Home Affairs is a challenge to attracting more investment.

With the drought there could be conflict between cattle farms and some of these prime wildlife areas. Are there emergency grazing zones? Yes, but if there is serious trouble, no one will observe the zones.

The issue of political stability is always a potential threat.

Competing land uses: people are increasing, cattle are increasing, wildlife are increasing – but where is the space? Any increase in tourist might increase conflict. We may need to make distinct choices. Michael: the conflicts will get worse, Agriculture is trying to promote cattle and crops, everyone wants to benefit from all livelihoods.

[Note: Brian Child Wet-Dry model Wet = agric, Dry = wildlife tourism - Caprivi is caught on the cusp.]

Let's get the parks working properly; that will solve a lot of the conflicts.

Elvis: KAZA is coordinating the introduction of corridors, but that is still in a planning stage. The thinking is laid out in the Mudumu Landscape Strategic Management Plan.

Access in the parks: There are enough tracks. We don't want more, and don't want tar roads.

Access in the conservancies: The tracks are there, but they need signs and roadsides should be cleared, but no new tracks are needed.

Noise: Shebeens can be a problem, but not sure what Nam-Place can do about it. In Singalangwe and Susuwe, with prevailing winds, the EMT station could be source on noise for tourism developments.

Water quality: The only issue is that people are washing their cars at the bridge. Is spraying DDT ongoing? That is an unknown – perhaps it is still ongoing in upstream neighbours?

*APPENDIX 3: ATTENDANCE LIST FOR THE  
MPLCA SEA CONSULTATIVE MEETING,  
KATIMA MULILO, 17th October, 2013*

| <b>Name</b>           | <b>Organisation</b>                  |
|-----------------------|--------------------------------------|
| Patrick Chali         | Kwandu Conservancy                   |
| Uri Mutundu           | NAMPLACE                             |
| Nadja le Roux         | IRDNC                                |
| Michael Sibatani      | NAMPLACE                             |
| Friedrich Alpers      | SAREP / IRDNC                        |
| Beaven Munali Bashohe | IRDNC                                |
| J.L. Limbo            | TA Mayeyi                            |
| J.M. Mulauli          | Wuparo Conservancy                   |
| Manyando Herritah     | Sobbe Conservancy                    |
| Kawana John           | Directory of Forestry, Katima Mulilo |
| Otto von Kaschke      | Namushasha River Lodge               |
| Shadrack Siloka       | MET                                  |
| James Lizazi          | Dzozzi Conservancy                   |
| James Sambu           | MET                                  |
| Victor K. Kumanina    | TA Mashi                             |
| Justin Smith          | US Peace Corps                       |
| Erasmus Bukulo        | Mayuni Conservancy                   |
| Elvis Mulongo         | KAZA                                 |
| Lin Cassidy           | Ecosurv                              |

## APPENDIX 4: SURVEY INSTRUMENT TO ASSESS THE EXISTING MUDUMU LANDSCAPE TOURISM SECTOR



### Tourism Baseline Survey Instrument - Mudumu Landscape

Please provide the following information to your landscape coordinator.

| Description of Facility   |  |
|---|--|
| Name of facility  |  |
| Type of tourism facility: (e.g. lodge, hunting camp, B&B, campsite, etc.) |  |
| Location (coordinates)  |  |
| Southing/latitude   |  |
| Northing/longitude  |  |
| Location (access road)  |  |
| Contact person (Name)   |  |
| Contacts (Email or telephone)   |  |

| Visitors   |  |
|--|--|
| Type of visitor units (tents, bungalows/chalet, rooms)       |  |
| No. of accommodation units (excluding camping)               |  |
| Total no. of beds:   |  |
| Estimated total no. of bed nights for 2012                   |  |
| Period (months of the year) of highest visitor numbers:      |  |
| Camping facilities (do you allow for or provide camp sites)? |  |
| No. of camp sites:   |  |
| Estimated total no. of campers for 2012:                     |  |

| Rates and Charges  |  |
|--|--|
| Rack rates per visitor per day (bed night rates 2012)                                      |  |
| Please indicate if rate is bed only, B&B, DB&B or full board                               |  |
| Rates per person camping per day (please indicate whether rate is per camper or camp site) |  |

| <b>Fees Paid (please indicate if not applicable)</b>            |  |
|---|--|
| Annual land rent paid 2012                                      |  |
| Levies paid to conservancies 2012 (Type and amount per visitor) |  |

| <b>Activities provided</b>   |  |
|--|--|
| List all activities provided   |  |
| Most popular activities  |  |
| Additional activities you would like to provide on your property as well as in the larger landscape (including the Bwabwata, Mudumu & Mamili Park) |  |

| <b>Hunting (if listed as an activity above, please complete this section)</b>          |  |
|--|--|
| Estimated no. of trophies taken in 2012  |  |
| Estimated no. of bed nights by hunters in 2012   |  |
| List in order of importance the 3 most important hunting species at your establishment |  |

| <b>Staff</b>                                      |  |
|---|--|
| Total no. of staff in your employment (permanent) |  |
| No of designated tourism employees                |  |
| Division of tourism employee levels:              |  |
| Cleaners and support                              |  |
| Management and supervisors                        |  |
| Specialist staff (hunting guides etc.)            |  |
| No. of staff resident on site                     |  |

| <b>Utilities</b>   |  |
|--|--|
| List all sources of power used (e.g. mains grid, generator, solar, wind) |  |
| What is the main source of power?  |  |
| If firewood is used, where is it obtained from?                          |  |
| Is firewood readily available?   |  |
| How is solid waste (rubbish) disposed of?                                |  |
| What rubbish items are recycled?   |  |
| How is sewage treated? (pit latrines, septic tanks, conservancy tanks)   |  |

Do you have any issues or concerns about the landscapes concept that you would like to raise, particularly with regards to tourism?



## APPENDIX 5: MUDUMU LANDSCAPE RESILIENCE ASSESSMENT NARRATIVE

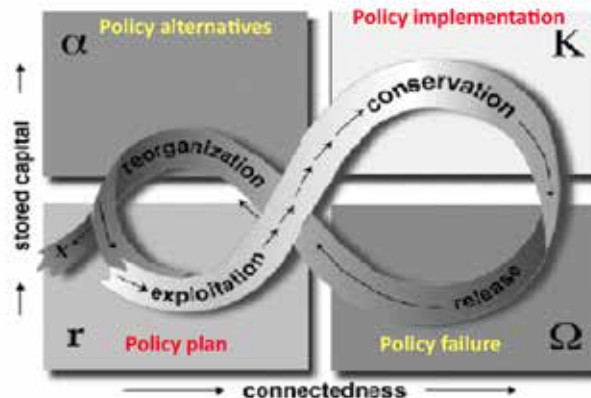
### A INTRODUCTION TO RESILIENCE THEORY AND PRACTICE

#### Resilience Terminology

Several key ideas and concepts of resilience thinking are briefly outlined in the following paragraphs.

Ecosystems, social systems and social-ecological systems (SES) are **self-organizing systems** and in SES the ecological and social domains are strongly interlinked. Changes in ecosystems, social systems and SESs are driven by two kinds of change: (i) external (environmental) and (ii) internal where systems go through internally generated cycles of change – known as adaptive cycles (Fig. 1).

#### Adaptive cycle – resource management policy



Can be applied to social, institutional and political dynamics as well as to ecological and economic systems and strongly linked social-ecological systems

Source: Gunderson et al (2002)

**Figure 3: Diagrammatic representation of an adaptive cycle. The arrows within the loops indicate the rates of change with exploitation and conservation phases being slow and release and reorganisation being rapid.**

Resilience is the “amount of change a system can undergo (its capacity to absorb disturbance) and remain within the same regime - essentially retaining the same function, structure and feedbacks.” (Walker and Salt 2006). The system is able to retain the same identity although reorganisation following a disturbance may not take it back to precisely the same state - change and adaptation are constantly present. Resilience is a conceptual framework for understanding how **persistence** and **transformation** coexist in SES and it involves three, intertwined concepts, namely, **Thresholds, Adaptability, and Transformation**.

There are **limits** to how much a system can be changed and still recover. Beyond those limits, or **thresholds**, it functions differently and changes to some other state, i.e. a transition between states occurs that may or may not be reversible. Thresholds occur in both ecological systems and social systems and when there is a change in feedbacks, when they occur across scales and result in cascading effects, and across scales and domains (ecological, economic, social) and can have cascading effects.

Adaptability (general resilience) is the capacity of the system to cope with shocks and surprises and the following attributes tend to confer adaptability and maintain system resilience:

High diversity and redundancy, and especially response diversity.

Being modular in structure and not over-connected  
Detecting and responding quickly to change (having tight feedback loops)  
Being 'open' (e.g. immigration and emigration, dispersal)  
Reserves, both biophysical (e.g. seed banks) and social (e.g. memory and experience)  
Trust, leadership and social networks (social capital)  
Overlapping institutions and polycentric governance.

There are four important points about resilience and adaptation:

You cannot understand or effectively manage a system by focusing on one scale. Attention needs to be given to at least three scales the focal scale, the scale above and the scale below the focal scale. Increasing resilience at one scale, or pursuing efficiency (e.g. maximum sustained yield) at one scale can reduce resilience at other scales.

Making a system very resilient in one way, at one scale, can cause it to lose resilience in other ways, at other scales. There are trade-offs in applying resilience in practice

Resilience is NOT about not changing or trying to keep a system constant by preventing disturbance, these actions reduce resilience. For example a forest or woodland from which fire is always excluded loses its resilience to fire. Most losses of resilience are unintended consequences of resource management narrowly focused on optimisation - single resource decisions with multiple resource consequences.

Resilience per se is neither 'good' nor 'bad'. Undesirable states of systems can be highly resilient (e.g. dictatorships, saline landscapes, bush encroached rangelands).

**Transformability.** If a shift into a "bad" state has happened or is inevitable, or if the current state is no longer a desirable one, the only option is **transformation**. Transformability is the capacity to become a fundamentally different system when ecological, social and/or economic conditions make the existing system untenable.

### Approach to Resilience Analysis

The main steps for a resilience analysis are as follows:

**Define the system** - focal and related scales, and resilience of what to and to what?

System boundaries, scales; what is the region? the "focal" scale? scales above and below?

Stakeholders, governance (formal, informal)

Key assets, values, ecosystem services

Disturbances, shocks, trends and drivers. What are the "characteristic" disturbances, and their disturbance regimes (rainfall variation – floods, droughts, frosts)? What rare shocks have occurred in the past and may occur in the future (e.g. climatic, particular pests, civil unrest)? Or completely novel shocks such as new markets, emerging diseases? What have been the major trends and drivers and drivers in the system (e.g. climate change, demography, energy prices)? For trends, develop a timeline /historical profile (how did it get to be like it is now)?

**Examine system dynamics** and assess resilience (i.e. resilience of specific components of the system or specified resilience and thresholds, general resilience [see paragraph 4 above], and transformation and transformability). This entails examining known thresholds, thresholds of potential concern, state and transition models, which transitions may be characterised by thresholds, what feedbacks are involved in the process, and short and long term spatial and temporal changes in the system.

For each of the identified valued system goods and services, what are the underlying **controlling variables** that determine them, and do any of them have threshold levels? This set of controlling variables determines the state of the system at any time, and its resilience (e.g. for crop production -- soil fertility / condition, rainfall, labour; or for biodiversity the proportion of native habitat, levels of fragmentation and connectivity).

For each S&T 'model' the following questions need to be explored: Could any of the transitions have threshold effects? What are the controlling (slow) variables, that may have thresholds on them? What feedbacks are involved?

**Interacting thresholds** across scales (i.e. focal scale and upper and lower scales) and domains (ecological economic, social) also need to be explored. From what is known and from the State & Transition exercise can potential thresholds for each scale/ domain be identified?

**Determinants of transformability** also need to be examined and include such factors as the preparedness to change, what the options are for change, and the capacity to change - with governance issues often being the major determinants. Achieving transformational change depends on the kind and strength of governance and those responsible for correcting inappropriate governance are often the root of the problem.

**Examining options for interventions** involves considering the kinds and scales of interventions that may be possible (e.g. policy and governance, financial assistance, information and education), the sequencing of interventions, developing an adaptive management program and examining where transformational change may be called for. What form interventions may take will depend on where in the adaptive cycle the system is.

**In summary.** How do you *do* a resilience assessment, and how do you apply it to planning and management? There is no 'recipe'; no set procedure or sequence of actions.

## **B A ROUGH HISTORY OF THE MUDUMU LANDSCAPE AREA**

A short understanding of the history of events within the Landscape gives an idea to what shaped the present land uses and communities (partially after [http://en.wikipedia.org/wiki/Caprivi\\_Strip](http://en.wikipedia.org/wiki/Caprivi_Strip)).

The eastern Caprivi is made up of a number of different ethnic groups who, apart from the Khoisan communities, moved into the area between 14-1600 AD. The communities are the BaYei, Hambukushu, BaFwe and BaSubiya.

Sebetwane and the Patsa people migrated north from South Africa during the mfecane and founded a Kololo empire in western Zambia which included the Caprivi area 1838-9. This was visited by Livingstone in 1851. The empire did not persist very long and by the 1880's the Bakololo were overthrown and absorbed into the Lozi. The Sesotho based language is all that remains of the Sebetwane period.

Eastern Caprivi then fell under the German authorities when the German Chancellor Leo von Caprivi (in office 1890-1894) negotiated the acquisition of the land in an 1890. He arranged for Caprivi to be annexed to German South-West Africa in order to give Germany access to the Zambezi River and a route to Africa's east coast.

During the Namibian war for independence and democratic government, people in the Caprivi formed a liberation struggle army (CANO). The liberation struggle occurred from 1970 - 1979 and during this time the RSA government began establishing an independent state out of Caprivi.

The concept of an independent state led to a more recent Caprivi situation which involved armed conflict between the Caprivi Liberation Army (CLA), a rebel group aiming for the secession of the Caprivi Strip (led by Mishake Muyongo), and the Namibian government. The main incident occurred on the 2<sup>nd</sup> August 1999 which was suppressed by the Namibian armed forces. The rebels took refuge in Botswana and were later returned to Namibia under a bilateral agreement.

There has been other disputes between Namibia and Botswana including the long-standing dispute over Kasikili/Sedudu. In December 1999, the International Court of Justice ruled that the main channel, and hence the international boundary, lay to the north of the island, thus making the island part of Botswana.

The Caprivi Strip remains politically volatile and Namibian armed forces control the main access points into and out of Eastern Caprivi.

In the 1990s a number of protected areas were established that built on the existing tribal game reserves and hunting areas, these were Bwabwata, Mudumu and Nkasa Rupara National Parks.

During the same period conservancies were formed to manage wildlife and tourism resources.

IRDNC was involved in supporting the establishment of the conservancies and maintain a strong presence in Eastern Caprivi.

A family of French tourists were murdered in the Caprivi Strip in January 2000 by Angolan rebels.

Tourism management plans were prepared for the Conservancies of the Landscape in 2004.

Mudumu Landscape Strategic Management Plan 2012-2015 is the most recent document linked to the Landscape.

### **System Boundary**

The Landscape is bounded by the Linyanti/Kwando River system to the south and west and by the western end of the Bwabwata National Park Core Zone. To the north the boundary is the national boundary and the State Forest Reserve. The eastern boundary is made up by the Sobbe and Dzoti Conservancies.

Apart from the wetlands system, there are no natural boundaries and the Kwando/Linyanti River and wetlands is the fulcrum around which two important wildlife systems interact i.e. the Namibian wildlife system and the Botswana wildlife system. These two systems meet and overlap at the river which provides critical dry season water and forage. The river forms a political boundary between Botswana and Namibia.

The Landscape provides two critical corridors, one between Botswana, through Bwabwata National Park to the Luiana National Park in Angola. This corridor is 30 km wide at its narrowest point as a result of veterinary fencing established by Botswana. The second is between Botswana and Zambia through the Mudumu National Park, Sobbe Conservancy, National Forest and into Sioma-Ngwezi in Zambia.

**The Main Issues Identified**

*Social*

Political instability in Caprivi and Zimbabwe (from a tourists perspective)

Increase in arable farm allocation within the conservancies.

Economic

Few economic opportunities apart from subsistence farming and animal husbandry

Large differences between the conservancies in terms of NR and tourism value

Caprivi is considered a transit route to "better" wildlife and tourism destinations within Namibia and Zimbabwe and Botswana.

I.e. Caprivi is not a destination, rather a transit stop over

High levels of HWC due to expanded range of elephant

Ecosystem Function

All protected areas, Nkasa Rupara, Mudumu and Bwabwata national parks have strong ecosystem linkages to Botswana (Kwando Wildlife Management Area) and to a lesser extent Angola and Zambia – the need for KAZA

The Kwando/Linyanti is an important dry season habitat for the extensive wildlife populations in northern Botswana and Bwabwata National Park.

The key issues are therefore:

- Political (in)stability.
- Caprivi’s image as a transit route between the prime Namibian destinations and the Chobe and Victoria Falls area.
- Narrowness of the Botswana – Bwabwata – Angola corridor. The fencing of which is outside the control of the landscape.
- Settlement into wildlife corridors and HWC reducing public support in low tourism value conservancies. This is because the Kwando/Linyanti wetlands are an interface between the communities of the Eastern Caprivi and the northern Botswana/Bwabwata and Angolan wildlife systems.

**C WHAT IS SPECIFIC RESILIENCE REQUIRED FOR IN THE MUDUMU LANDSCAPE?**

- Political instability (internal or regional)
- Increase of barriers to wildlife movement
- HWC/ increasing or expanding elephant populations
- Downturn in the global tourism market
- Increased abstraction of water from catchment, reduced flows and pollution

| Driver                        | Controlling Variable   | Threshold   |
|-------------------------------|--|---|
| <b>Known Thresholds</b>       |  |   |
| Barriers to wildlife movement | Settlement patterns within the Landscape; Animal disease control fencing in Botswana | Increase HWC within Sobbe, Mashi and Ralyerwa; Any reduction of the 30 km Kwando – veterinary fence gap |

|   |   |  |
|---|---|--|
| HWC   | Increased need for arable and grazing land. Increase in and wider distribution of elephant increasing the disruption wildlife causes to livelihoods | Returns from tourism perceived to be < loss to HWC                                 |
| Thresholds of Potential Concern                           |   |  |
| Political instability                                     | Social resentment towards central government  | Militant leadership; economic decline  |
| Downturn in the global tourism market                     | World economy   | Eastern Caprivi loses its place as a tourism transit route                         |
| Upstream water demand impacting on dry season river flows | Irrigated arable agricultural development in the catchment  | Drying up of the lower Kwando system. Probably not an issue within the next decade |

## D SYSTEM MATRIX OF THE MUDUMU LANDSCAPE ACROSS DOMAIN AND SCALE

The SEA is at the landscape level (our focal scale) but is affected by issues at the national scale and at the smaller specific land ownership scale. The three domains are the biophysical, the economic and the social. The matrix contains variable that could affect thresholds or regime shifts. The arrows indicate impacts or change effects should a threshold be crossed.

| Domain      | Scale   |   |  |
|-------------|---|---|--|
|             | Conservancy/PA  | Landscape   | Wildlife System  |
| Biophysical | The Mudumu NP - Sobbe - forestry corridor provides link between Mudumu and Zambia | Bwabwata corridor between Angola and Botswana important | Wetlands are important dry season habitats for the broader wildlife system |
|             | Nkasa Rupara NP has important wetland   | Limited wildlife linkages through the conservancies     | KAZA ecosystems mgt.   |
|             | Bwabwata core area nb corridor  | Mudumu NP provides potential linkages to Zambia         |  |
|             |   | Wetlands of high tourism and ecosystem value            |  |
| Economic    | Non-consumptive tourism   | New landfill  | Botswana veterinary decisions and mgmt. of WMAs                            |
|             | Consumptive tourism possible Mashi, Sobbe, Dzoti and Wuparo                       | Tourism circuit (transit not destination)               | Angola mgmt. of Luiana NP  |
|             | Sobbe Conservancy has little non consumptive tourism value                        | High HWC due to expanding elephant populations          | Success of KAZA  |
|             | Green Scheme in Kwando Conservancy  | Livestock husbandry important                           | Namibia's political relationship with Caprivi                              |
|             | Pot. economic decline   | Arable agriculture important                            |  |
| Social      | Livestock ownership (communal)  | Poverty and subsistence farming                         | Political support for KAZA   |
|             | Potential discontent with tourism   | Political dissatisfaction                               |  |

Implications of the matrix are:

- The key ecosystem linkages of the Landscape depend largely on the success of KAZA. This means that much of the ecological value of the Landscape depends on processes and institutions at a higher level than the Landscape.
- The wetlands are the key habitat in terms of wildlife systems and very important for non-consumptive tourism.
- Mudumu National Park and linkages to Zambia have potential consumptive tourism benefits.
- There are many different components acting on the community support for tourism, Should tourism slow down, route change, HWC increase and overall poverty increase, there will be little support for either tourism or wildlife populations.

## **E POTENTIAL FUTURE SHOCKS THAT WILL IMPACT ON THE MUDUMU LANDSCAPE**

- Failure of KAZA or changes in biodiversity status of Botswana's Kwando Wildlife Management Area or Angola's Luiana National Park
- Development of the Green Scheme (irrigated agriculture in Kwando Conservancy)
- Tourism market decline
- Political instability/revolution
- Climate change

## **F GENERAL RESILIENCE**

In general the communities of the Caprivi are resilient to economic changes as they are primarily subsistence economies. They have, though, little resilience to climatic fluctuations, drought, animal and crop diseases as they have few reserves to carry them when annual crops fail.

The type of tourism in Caprivi has reasonably high resilience to changes in its market and customers. The camps and lodges can quickly vary capacity to absorb additional tourist or reduce their operations when there is a lack of demand. The region, though, is not a destination and will therefore be affected by changes in the destination areas/countries.

## **G TRANSFORMABILITY**

### **Tourism**

Caprivi has been politically unstable due to its history (illogically part of Namibia) and caught up in the liberation struggles of both Namibia and Angola. Its tourism focus should therefore be on a resilient tourist, the local and regional markets with limited reliance on international tourism.

The conservancies of Kwando, Myuni and to a lesser extent Mashi will maintain reasonable levels of tourism based on transit traffic. The other southern conservancies of Balyero, Wuparo and Dzoti require destination based tourism.

Establishment of a viable consumptive tourism industry in the conservancies surrounding Mudumu National Park would also create resilient tourism with Caprivi as a destination.

### **High reliance on Botswana, Bwabwata and Angolan wildlife systems**

In general the entire Landscape relies on the wetlands and the Botswana and Bwabwata wildlife areas as a base for its tourism. Any changes in the management of these wildlife systems (such as increased veterinary fencing) would have a major impact on the Landscape's wildlife system and related tourism. Should Botswana close the 30 km gap between the Kwando River and the veterinary fence on the Caprivi Strip, the importance of Mashi Conservancy as a north south corridor will increase significantly.

### **Human-Wildlife Conflict**

The approach of creating a corridor between Botswana and Zambia has increased the range and densities of elephant. This is leading to high HWC levels with the population being subsistence arable and pastoral farmers. Improved land use zoning, enforcement and the use of consumptive tourism in low value areas could all serve to reduce the HWC.







Project Coordination Unit

Ministry of Environment and Tourism  
Department of Environmental Affairs (DEA)

3rd Floor Capital Center, Levinson Arcade  
Private Bag 13306, Windhoek, Namibia  
Tel: +264-61-2842728/26 Fax: +264-61-249795

