

**INDEPENDENT MID-TERM EVALUATION OF THE UNDP  
PROJECT**

**“ BUILDING LOCAL CAPACITY FOR CONSERVATION  
AND SUSTAINABLE USE OF BIODIVERSITY IN THE  
OKAVANGO DELTA”**

**PIMS NO 2028**

**FINAL REPORT**

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## **1.EXECUTIVE SUMMARY**

### **1.1 Brief description of the project**

This project will test the hypothesis that biodiversity conservation goals can be achieved simultaneous to the delivery of socio-economic benefits through the process of mainstreaming biodiversity conservation and sustainable use objectives within production sectors. The project links ecosystem processes (and their structure and functioning) to the livelihoods of the human populations dependent on the goods and services provided by the highly dynamic wetland systems of the Okavango Delta.

The Okavango Delta, the second largest Ramsar Site in the world, is a globally important wetland ecosystem situated in northern Botswana. The dynamics of the system are driven by the pulses of water, nutrients and energy flowing in seasonal and temporal patterns through the entire Okavango catchment. While the ecological integrity of the wetland remains largely intact, there are signs that it is being slowly eroded in the face of gradually rising anthropogenic pressures.

The project addresses the need across Botswana's wetland environments to balance competing uses of water and other wetland resources, while providing for biodiversity conservation objectives. This need has led the Government of Botswana to develop a Draft National Wetlands Policy and Strategy (2000), which has stimulated the development of the Okavango Delta Management Plan (2002 - 2008) as a framework for sustainable development in the area. The ODMP is the first of a series of plans being written and implemented for the wetlands of Botswana.

The GEF- funded project "Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta" – (hereafter referred to as BioKavango) – has been designed to support the elaboration and implementation of the ODMP.

BioKavango has been developed to align with GEF Biodiversity Focus Area Strategic Priority Two (Mainstreaming Biodiversity in Production Landscapes and Seascapes).

The implementation approach is based on cross-institutional collaboration and synergism, with effective capacity building, policy review, pilot projects, and project oversight and feedback systems. It has been carefully embedded within the numerous related, but distinct, national and regional environmental initiatives that are ongoing in the greater Okavango Basin. It holds strong potential for replication elsewhere in southern Africa.

## **1.2 Context and purpose of the evaluation**

This Mid-Term Evaluation has been commissioned by the UNDP Country Office, Botswana for execution according to the guidance, rules and procedures for such evaluations established by UNDP and the GEF.

The evaluation is intended to provide an objective, independent assessment of the project design, scope, status of implementation, and capacity to achieve the set objectives. The assessment also collates and analyses lessons learned and best practices developed during the implementation of the project, providing information which will be considered during the further development of the project and of other environmental projects in Botswana.

## **1.3 Main conclusions, recommendations and performance ratings**

The project is now at mid-term, and has consolidated its management team and work plan after an initial period with high staff turnover and delays in procurement of specialist consultants, establishment of management structures and appointment of committees and reference groups.

Despite these challenges, the project is making significant progress in the majority of its activities and shows strong promise of realizing its objective and outcomes. The Project Steering Committee, BioKavango Project Management Committee and Reference Groups meet regularly, responsibilities are clear and reporting comprehensive and timely.

A detailed analysis of performance ratings based on outputs and outcomes against the log-frame is given with suggested remedial actions in section 7.5. A summary of the findings is given below.

### ***Project objective***

The overriding objective of the project is to remove barriers to biodiversity conservation by strengthening the capacity of core institutions and individuals; and through mainstreaming effective biodiversity management systems into production sectors. It is both a sustainable livelihoods and a biodiversity conservation project.

The indicators chosen to measure impact are measures of the area within which management practices are improved, and the status of key bird and mammal species. According to the PMU, the target area influenced by improved management systems introduced by the project now stands at 30% of the total project area, with the target for end of project at 60%. The monitoring of bird and mammal populations is fragmentary, but counts of one indicator species, Sitatunga, were noted to have increased in one concession area from 28 to 56 individuals between 1999 and 2008.

Whether the area under improved management has really seen changes on the ground, and whether the increase in Sitatunga populations in any way relates to project actions, is speculative at best. But the trends are positive.

The indicators for objective achievement by end of project might prove difficult to measure and verify, unless more robust tools are developed in the short term.

***Output 1. Enabling environment strengthened at both systemic and institutional levels.***

At start of project, a major barrier identified was the capacity deficit in biodiversity conservation institutions and systems outside of conventional protected areas. A primary target was to strengthen capacity, and the process adopted to fast-track the improvement, through placing competent professionals into key agencies, has proven very successful. Both the Tawana Land Board and the Department of Environment Affairs now have senior biodiversity advisors in Maun, available to guide both specific land use decisions and the implementation of the Okavango Delta Management Plan.

The ODMP has been approved by the Minister for Environmental Affairs as the overarching instrument for planning in the Delta, and the DEA will provide the Minister with a Cabinet memorandum as the basis for a Cabinet Directive to ensure the implementation of the ODMP across sectoral ministries and with financing from the NDP 10.

The project has led or supported the preparation of a wide range of policy reviews and guidelines, influencing government decisions at national and district level, and providing tools for all stakeholders to effect improved biodiversity management. These include - Okavango Delta Aquaculture Guidelines; Botswana Ecotourism Certification System; Assessment of Liquid Waste Systems; Code of Conduct for Operations of Joint Management Committees; Tourism related sites identification in the Okavango Delta; Botswana Ecotourism Best Practices Manual; Socio-economic survey of subsistence fishing in the Okavango Delta; etc.

Effective stakeholder participation has been strengthened by revitalizing the Okavango Fishers' Association and the Okavango Wetland Management Committee, and in assisting the review and approval of new constitutions for, and convening meetings of these organisations.

Training - of project team members in project and financial management, and of project participants (from traditional fishers to private lodge owners to members of the TWB) - has enjoyed special attention and wide participation. Manuals and guidelines have been produced and provide a suitable medium for sharing lessons learned.

The development of knowledge sharing systems, including the extension of the Okavango Delta Information System to the whole Basin, is advancing on schedule. Archiving legacy documentation, maps and photos held in the HOORC Library is using

interns and students to assist the task, both as a capacity building and as an outreach process.

The work plan of this component is on track and effective.

***Outcome 2. Biodiversity management objectives integrated into the water sector.***

Biokavango has formalized and strengthened its collaboration with OKACOM and the EPSMO project, where it plays the key role in biodiversity matters both at project level and as national representative for Botswana. The environmental flows assessment for the Okavango Delta and Basin, and the modeling studies of the interdependence of the hydrology, fisheries, tourism and economies of the basin are fundamental to the sustainable management of the region. The e-flows study has promise to provide a suitable conceptual model for the integration of the outcomes of the project's four components.

At a more local level, good progress has been made in working with 'champions' from tourism operations to assist DWA in the monitoring and control of the invasive aquatic weed *Salvinia molesta*. The demonstration projects at five tourist camps are now suitable models for replication in other areas suffering from aquatic weed infestation in the Delta and beyond.

Participation of tour camp staff in this and the water quality monitoring project is not without its challenges, due to the inconsistency of data collection by volunteers, and these pilot projects are thus vulnerable to failure if mitigation actions are not taken.

The planned project on monitoring of riverine woodland has been terminated due to funding constraints on the partner, and will not be implemented in the timeframe of the project, although aspects of the monitoring will be included in the ongoing work programme of HOORC.

The recently initiated wetland monitoring project, using macro-invertebrates as bio-indicators, is making good progress through building local capacity and establishing pilot demonstrations. This is a technically complex project and needs close coordination with the water quality monitoring project, both in space and time.

The progress in this component has improved over the past year, and with careful attention to the timely and consistent execution of responsibilities by the volunteer 'champions', should meet its targets by end of project.

***Outcome 3. The tourism sector is directly contributing to biodiversity conservation in the Delta.***

The project has supported the Botswana Tourism Board in the development of the Botswana Ecotourism Best Practices Manual, and the Botswana Ecotourism Certification System. In addition, it has supported the Tawana Land Board in the development of the Tourism Related Sites Identification process. These initiatives have direct and long-term impacts on improving biodiversity management in the Delta, and provide incentives to good practice by the tourism operators on a voluntary basis. The completion and publication of these reports demonstrates the effectiveness of the collaborative approach to mainstreaming biodiversity management in the Delta, and the commitment displayed by the leadership in BTB and TLB indicates that the process is now well rooted in partner implementers.

BioKavango commissioned a comprehensive review of waste management practices and needs in the Delta, with the recently completed report giving guidelines to tourist camp operators and other institutions with activities in the Delta. Some reservations have been expressed on the practicality of some of the report's recommendations, which need feasibility assessment before wide application. BioKavango is testing the proposed artificial wetland approach to sewage management in its pilot project at Thuso, and this demonstration will need further attention before it provides a convincing model of general utility.

The existence of conflicts over access to resources and opportunities in the Delta has been an important barrier to effective biodiversity conservation in some areas. BioKavango has initiated interventions to bring parties together to resolve conflicts, with promising results. One approach has been through the establishment of Joint Management Committees to support implementation of sustainable fisheries and veld product use.

The committees are operating well, but their longer-term impact within their communities, and on the achievement of sustainable use systems, must still be measured. Constraints in establishing a Community Trust to finance the development of tourism cultural village facilities at Tubu need to be overcome before the expected financial returns, which are the main driver of community interest in the eco-tourism industry, can be realized. Collaboration between the community and concessionaires is also dependent on establishing an income generating activity in a remote area with limited infrastructure but biodiversity interest and tourism potential.

The activities in this component are progressing at different paces – the partner activities on target, the pilot project rather slowly due to the inherent long lead-time experienced in community- based interventions.



***Outcome 4. Biodiversity friendly management methods are inducted into fisheries production systems.***

This component has focused on assisting traditional fisher communities to improve the efficiency and effectiveness of their activities to the advantage of the fisheries resource and to their wellbeing. The revitalization of the Okavango Fishers' Association and the Okavango Fisheries Management Committee has been critical to building institutional capacity, while training courses in fish identification and monitoring systems will help determine fish stocks, off-take and the impact of the newly promulgated Fish Protection Regulations. BioKavango is assisting in introducing the fishers to the new regulations, and in communicating the difficulties resulting from the regulations as experienced by traditional, commercial and recreational fishers to the Division of Fisheries of the Department of Wildlife and Protected Areas.

Collaboration with the poorly resourced Division of Fisheries is effective and greatly appreciated by the Division, which has inadequate staff to monitor the implementation of the new Fish Protection Regulations. BioKavango is promoting the practice of self-regulation by fishers in the remote areas of the Delta, where 'command and control' approaches have little chance of success.

BioKavango commissioned a review of aquaculture and its potential impacts, both positive and negative, in the Delta, and has completed guidelines to ensure safeguards against negative impacts. The completed report has been used in consultative workshops and is being further developed for incorporation into the national EIA regulations. BioKavango has also supported groups representative of fisher communities to undertake study visits to other community-based natural resource management initiatives in the Okavango and in Namibia as part of the capacity building programme.

Attempts to mobilize more efficient fisheries stock estimates and monitoring of off-take and sales by fisher communities in collaboration with the OFA are proceeding but need considerable improvement in design and implementation before becoming effective. This pilot project needs careful review. It is one of the only interventions in BioKavango that can give direct measurable benefits to stakeholders and biodiversity if effectively executed. For this reason, its strengthening is urgent. With a newly appointed project officer based at Shakawe, and with guidance from the project technical staff and mentoring in the operation of small businesses, the project can be made effective before the end of project.

This component is in need of ongoing support and mentoring – both at the institutional level (OFA) and at the pilot project level.

***Performance ratings***

In terms of the UNDP/GEF six-point rating scale, and based on the evaluation of design, implementation targets, management systems, outcomes, outputs and the overall impact achieved to date, the following ratings are recommended –

Overall progress towards achieving project objective – Satisfactory

Implementation – Satisfactory

Sustainability - Satisfactory

## **2.THE EVALUATION PROCESS**

### **2.1 Purpose of the evaluation**

The Terms of Reference of this Mid-Term Evaluation require the assessment of progress towards the achievement of the project objectives and outcomes, the identification of strengths and weaknesses in its implementation, an assessment of the likelihood of the project achieving its objectives and delivering its intended outputs within the planned timeframe and, where relevant, recommendations that might increase the likelihood of the project's success. The Terms of Reference for the MTE consultant are provided in Annex 1.

The evaluation will provide a rating of the project's performance using the six-point UNDP/GEF rating scale. Ratings will be provided for –  
(1) Outcome achievement, and (2) Implementation approach, (3) Sustainability.

### **2.2 Key issues addressed in terms of UNDP/GEF M&E requirements**

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives –

- i) To monitor and evaluate results and impacts;
- ii) To provide a basis for decision making on necessary amendments and improvements
- iii) To promote accountability for resource use; and
- iv) To document, provide feedback on, and disseminate lessons learned.

In particular, this evaluation will -

- Review the clarity of roles and responsibilities of the various individuals, agencies and institutions and the level of coordination between relevant players;
- Assess the level to which the Logical Framework Approach and performance indicators were used as project management tools;
- Evaluate partnership arrangements established for implementation of the project with relevant stakeholders involved in the country/region;
- Describe and assess efforts of UNDP in support of the implementing agency, and of regional and national institutions;
- Make recommendations as to how to improve project performance in terms of effectiveness and efficiency in achieving impact on institutional and capacity development and of the targeted conservation concerns;
- Provide ratings of project implementation using the UNDP/GEF rating scale.

In addition, the evaluation will provide an analysis of the way pilot projects have been implemented and monitored under the framework of the project. In particular, the evaluation will assess issues related to –

- Design, relevance and expected overall contribution of the pilot projects to the attainment of the BioKavango project goal and outcomes;
- Implementation strategy (ie. Strategies and tools put in place to systematically identify and document lessons learned from the pilot project);
- Strategy and plans for scaling-up project interventions after conclusion of the pilot phase.

### **2.3 Methodology of the evaluation**

The MTE comprised three components –

i). A desk review of the Project Document, Annual Reports, Project Implementation Reviews, consultants’ reports, meeting minutes, audit statements, promotional material and general literature on the Okavango Basin. Documents consulted are listed in Annex 2.

ii). Interviews with key project stakeholders, conducted between 26<sup>th</sup> April and 6<sup>th</sup> May 2009 in Maun and Gaborone.

iii). Field visits to project sites were undertaken to monitor the progress in implementing the pilot projects in the Delta at Xakanaxa, and along the Panhandle at Shakawe, Mohembo, Samochima and Tubu.

An itinerary of field visits and meetings is provided in Annex 3.

The evaluation team worked closely with the Project Management Unit, based at the Harry Oppenheimer Okavango Research Centre (HOORC) at the University of Botswana in Maun; the Department of Environmental Affairs (DEA) at the Ministry of Environment, Wildlife and Tourism (MEWT) in Maun and Gaborone, and with other relevant government agencies at both national and local level; the private sector and the communities involved in the pilot projects in selected sites.

In view of the diversity of stakeholders, informal semi-structured interviews were conducted in preference to more structured questionnaire based interventions.

A list of stakeholders interviewed is included in Annex 4.

### **2.4 Structure of the evaluation**

The MTE assessment focused on three aspects of the Project, viz. –

- i). Project design – including a review of the original project objectives, and an assessment of the conceptual model followed;
- ii). Project implementation – project management arrangements – including effectiveness of the UNDP Country Office and the Project Management Unit in implementing the project; the financial governance and administration; responsiveness

of the project management to adopt and implement changes in project execution based on partner and stakeholder feedback, etc;

iii). Project impact – achievements of the project to date against the original objectives, outputs and activities using the indicators as defined in the project document.

This report follows the structure recommended in the MTE TOR, with minor modifications to ensure a logical flow of the narrative. The GEF/UNDP reporting requirements provide for an iterative, additive and continuing growth of material from project inception to conclusion, resulting in some repetition and redundancy where specific and cross-cutting analyses follow one another. Such redundancy is unavoidable.

### **3.THE PROJECT AND ITS DEVELOPMENT CONTEXT**

#### **3.1 The Okavango Delta**

The Okavango River Basin covers 192 500 square km, rising in the highlands of Angola, passing along the Angolan/Namibian border, through the Caprivi Strip, into a narrow 'panhandle' and fanning out onto the floodplains of the Okavango Delta, a wetland of global biodiversity importance. It is one of the largest internal drainage basins in Africa.

The Delta comprises a perennially flooded core area of channels and swamps, of from 2000 to 3000 square km, surrounded by a seasonally flooded periphery of 4000 to 8000 square km. Only 2-3% of the water entering the Delta leaves its distal reaches – feeding at infrequent intervals, Lake Ngami, the Mababe Depression and Makgadikgadi Pans.

The biodiversity values of the Delta, recognized by its listing as a Ramsar Site in 1997, lie in the complex mosaic of floodplains, channels and inter-digitating stretches of low rises carrying woodlands, grasslands and riparian forest of great beauty. It is in the aesthetic appeal of the Okavango, with strong contrasts of wetland and savanna, and an abundance of various relatively common wildlife species, that the fame of the Delta lies. The Ramsar Site includes important populations of Slaty egret (*Egretta vinanceigula*) and Wattled crane (*Bugeranus carunculatus*), and an avifauna of 448 species, but compared with many other protected areas or biodiversity 'hotspots', is un-remarkable in global terms.

To the human populations of the area, the biodiversity values of the Delta lie in its ecosystem services and goods, not its species richness or species endemism. The pulsed flooding regime, and the rich fish, veld products and wildlife tourism opportunities that the ecosystem as a whole provides, are of much greater importance than any of its individual parts. It is in the maintenance of the whole functioning system, rather than specific elements, that the conservation and development challenges lie.

An estimated 80 000 people rely on the wetland resources of the Delta for part of their household economy.

Tourism, in particular wildlife based tourism, is the largest economic activity in the Delta with a turnover estimated in 2006 as in excess of US\$200 million. Over 80 lodges and campsites provide approximately 1800 beds in the Delta. The eco-tourism industry in Botswana follows a high cost/low volume policy, with facilities in the Delta targeting high wealth foreign visitors.

Community-based tourism is still in the early stage of development, with 14 registered Community-Based Organisations receiving US\$1,4 from joint venture operations in 2003. The activity is constrained by limited business management skills.

The Botswana constitution provides for open access to natural resources within Tribal Lands (which comprise 100% of the project area) for all citizens. Subsistence use of natural resources from the Okavango provides an important contribution to household economies – principally for fishing, basket making, thatching grass, reeds and poles for house construction, wood for fuel, and fruits and bulbs for food and dyeing.

Endemic foot and mouth disease prevents export of meat from the Delta, although pastoralism with cattle and goats is an important traditional activity in the periphery surrounding the floodplains. Rain-fed and flood recession agricultural production is limited by poor soils and distance from markets, and from the inherent unpredictability of floods and droughts.

### **3.2 Problems the project seeks to address**

The BioKavango Project is an intended and seamless follow-on to the Okavango Delta Management Plan(ODMP), which was prepared through a comprehensive, participative consultation process involving all key stakeholders. As a consequence, BioKavango could build on the very substantial intellectual and institutional framework provided by the ODMP. The ODMP, inter alia, addressed such issues as institutional arrangements; roles and responsibilities in planning; planning and management priorities; and the nature of projects and programmes needed to address the priorities identified. It made recommendations on implementation modalities. BioKavango was initiated as a primary implementation vehicle for the ODMP, providing a pilot activity which would test approaches and provide lessons on which replication elsewhere could be based.

Building on the ODMP experience, the BioKavango project team undertook a detailed situation analysis during the preparation of the Project Document. This identified, through wide stakeholder participation, the key barriers to achieving biodiversity conservation goals in the Okavango Delta.

The barriers include -

i). *A systemic and institutional capacity deficit for wetland management; (eg – absence of an integrated planning system; need to establish an ecological reserve for water resources; open access policy on all natural resources on tribal land which comprises the whole project area; need for management plans for protected areas which were developed in isolation with little consideration for ecological linkages).*

ii). Conflicts between user groups over access to wetland resources; (*eg - population in the Delta is outgrowing current plans for village development; open access to fishing without monitoring of use; need for models to link hydrology and ecological dynamics*).

iii). Weak access to knowledge required to guide decision making from local user level to regulatory authorities; (*eg - need for models of cooperative governance; need for specific policy/regulations for fisheries and aquaculture development; absence of unifying legislation addressing biodiversity conservation objectives; tensions between different authorities as to their respective mandates*).

iv). The absence of voluntary mechanisms and incentives to promote involvement by private industry (especially eco-tourism) in conservation. (*eg - promotion of business interests with little emphasis on biodiversity conservation; tourism industry – exclusive/ elitist/ untransformed/disenfranchising; lack of certification system and conservation standards for ecotourism*).

The background to these barriers and the approaches to their resolution will be detailed in the main body of this report (sections 5 et seq).

### **3.3 Immediate and developmental objectives**

The project has been developed as a direct outcome of the Okavango Delta Management Plan (ODMP). The ODMP itself builds on the planning initiatives which grew out of the ratification, by Botswana, of the Convention on Biological Diversity in 1997 and the listing of the Okavango as a Ramsar Site in 1997. In 2000 the government prepared a Draft National Wetland Policy and Strategy (NWPS). Both the NWPS and ODMP embrace the 'Ecosystem Approach' advocated by the CBD, and led, almost seamlessly, to the development of the BioKavango project to implement key elements of the ODMP.

The project design follows a hierarchy of vision, goal, objective, outcomes and outputs, a structure which conforms with national planning frameworks followed by most governments around the world.

Botswana's key policy document guiding planning activities is the National Vision 2016, '*towards prosperity for all*' which advocated the development of a Master Plan for the Okavango Delta.

The specific vision of the ODMP was –

*"A carefully managed, well functioning ecosystem that equitably and sustainably provides benefits for local, national and international stakeholders"*

Fitting within this vision, the BioKavango Project describes its long-term goal as -



*“The natural integrity and ecological services provided by Botswana’s wetlands are sustained”*

The specific, operational purpose or Project Objective of BioKavango is described in the Project Document as -

*“ Biodiversity management objectives are mainstreamed into the main production sectors of the Okavango Delta”*

Two primary indicators are given in the Project Document, which measure –

- i). Changes in the total production landscape under improved conservation management and*
- ii). The populations of selected wetland indicator species*

These indicators are either very difficult to quantify (land under improved conservation management) or too specific (indicator species) – to provide any convincing test of the mainstreaming biodiversity hypothesis. This problem will be addressed in the sections on results and conclusions.

The project is designed around four key components (or outcomes) which will contribute to achieving the Project Objective, namely –

Outcome 1. Enabling environment strengthened at both systemic and institutional levels.

Outcome 2. Biodiversity objectives integrated into the water sector.

Outcome 3. The tourism sector is directly contributing to biodiversity conservation objectives in the Okavango Delta.

Outcome 4. Biodiversity friendly management methods are inducted into fisheries production systems.

The components each have a suite of specific and cross-cutting activities delivering measurable outputs. Objective, outcomes and activities are integrated within the log-frame. The log-frame presented in the Project Document is necessarily preliminary, and its review and expansion as a key participatory tool in project management needs emphasis, as described in section 8.1.

### **3.4 Main stakeholders**

The Project Document lists stakeholders to include natural resource users (fishers and tour operators), resource regulators (national and district government departments), independent organisations (HOORC and NGOs), and local and visiting technical experts.

In addition, international institutions such as OKACOM, SADC, UNDP, etc, are important stakeholders

### **3.5 Results expected**

The project moves beyond the ODMP's commitment to the use of the Ecosystem Approach by setting itself the challenge of reaching its goals through implementing newly articulated mainstreaming concepts. It is thus highly innovative in testing the hypothesis that biodiversity conservation and human development goals can be achieved simultaneously through the mainstreaming of biodiversity objectives within production sectors. If successful, the approach may be adapted for replication elsewhere in Botswana and applicable to other wetlands within Southern Africa.

The results expected are spelt out in detail in the Logical Framework included in the Project Document. In its most concise description, the project's aim is to achieve biodiversity conservation and improved human wellbeing through all stakeholders accepting responsibility for biodiversity conservation as part of their normal activities, rather than as the responsibility of other persons or agencies. Mainstreaming biodiversity thus requires stakeholders –

“to internalize the goals of biodiversity conservation and the sustainable use of biological resources into economic sectors and development models, policies and programmes, and therefore into all human behaviour” .

The conceptual framework to the mainstreaming approach, which is fundamental to the success of the project, is discussed in section 4.1. In summary, the project will deliver improved human capacity through training and mentoring; improved institutional capacity by placing key professionals in decision support positions; improved biodiversity and land-use and natural resource management through pilot demonstration projects; strengthened institutions through effective partnerships and networks; heightened awareness of the value of biodiversity to human wellbeing; improved livelihoods through better small business activities; incentives to tourism operators through the development of standards and certification; etc.

The wide array of activities must contribute to a central focus on improved biodiversity conservation and sustainable livelihoods, and need effective integration of outputs to achieve the project goal.

### **3.6 Project start and duration**

The project was initially planned to start on 1<sup>st</sup> January 2006. Administrative delays were encountered and the Project Document was signed on 24<sup>th</sup> March 2006. Further delays at the implementing agency (the University of Botswana), relating to the

procurement of key project staff, resulted in the postponement of project implementation until 1<sup>st</sup> May 2006. The project will conclude by end April 2011.

## **4. PROJECT FORMULATION**

### **4.1 Conceptual model, the Ecosystem Approach and Mainstreaming Biodiversity**

The Project Document is comprehensive, well researched and well written. It provides a clear situation analysis of socio-economic context, threats to biodiversity and their root causes, stakeholder profile and the policy and legislative environment. Similarly, it responds fully to UNDP-GEF requirements in terms of strategy and project management arrangements, and the incremental cost analysis.

The project is one of the first of its kind to directly test the hypothesis that mainstreaming biodiversity across production sectors can simultaneously achieve conservation and socio-economic goals. The case for mainstreaming is technically well articulated in the Project Document, but perhaps could have been better communicated during the planning phase to stakeholders still unfamiliar with the concept. This is particularly important given the fact that the project tests new paradigms which embody many potentially weak assumptions which can influence the project's chances of success, and of its general replication in the region. These will be discussed in sections 6.1 and 7.1.

#### ***A conceptual model for mainstreaming***

In recent years, conservation biologists and development specialists have reached a high level of consensus on the key characteristics of successful mainstreaming initiatives. In essence, mainstreaming requires suites of pre-conditions, stimuli and implementation mechanisms. These could have been more fully explored during the project's preparation and used to communicate the special, indeed strong, comparative advantages of the Okavango case study.

As these concepts underpin the approach to this MTE process, they will be described at this point.

*Pre-conditions, or prerequisites, for mainstreaming include the following –*

i). Democratic and accountable governance.

In the case of Botswana, which is internationally judged as one of the strongest and most transparent democracies in Africa, this requirement is met. Governance includes social and environmental as well as political governance. Botswana reflects good environmental governance in several ways. First, over 17% of the country has been proclaimed as formal protected areas. Second, when compared with neighbouring countries, the state of its ecosystems, using the health of woodlands, roadside trees and the absence of charcoal production, is unusually good. Third, the absence of littering around urban and rural habitations indicates effective municipal waste management and responsible environmental behaviour by civil society.

ii). Awareness and knowledge.

The Okavango has long attracted the interest and active support of biodiversity conservationists, has received strong government support, and attracted substantial donor funding for conservation measures. In particular, a major water transfer scheme proposed during the 1970's met with wide based opposition from environmental groups both within Botswana and beyond, while considerable controversy and activism was triggered by the erection of veterinary fences in the 1980's.

The complexity of the Okavango ecosystem has fascinated scientists for decades, and over 300 research papers on the geology, ecology, climatology, limnology, anthropology, botany, land-use systems and wildlife of the Okavango have been published in peer-reviewed journals, and many more in popular publications and the grey literature.

In aspects of both awareness and knowledge, Okavango meets mainstreaming's pre-conditions.

iii). Organisational and institutional capacity.

As a relatively small nation, of some 2 million citizens, Botswana might not be expected to possess strong institutions. Yet in government, academic, private sector and NGO arenas, the country is well endowed if measured against most other countries of similar size and stage of development. The various institutions visited, and personnel interviewed during the MTE demonstrated a high level of capacity in both professional competence and access to resources. Some, such as the HOORC, and various tourism operations, were on a par with global excellence in their field.

While the depth of technical expertise is not uniformly strong, the standard of professionalism and commitment encountered in all participants interviewed was impressive. The human and physical resources available in most institutions visited were judged adequate to meet the pre-conditions for successful mainstreaming.

The second suite of elements necessary for mainstreaming include various *stimuli* – both internal and external to the system.

i). Resource decline.

Rapid decline, or the threat thereof, in any resource on which ecosystem functioning depends, will stimulate a focus of energy around the issue. Thus the threat of mass water transfers out of the system in the 1970s, or the disruption of migration patterns of large mammals in the 1980s, or the mass extermination of cattle as a disease control measure during the BPP outbreak in the 1990s, attracted widespread interest and action. The establishment of the HOORC in 1994 was a direct response to fears for the health of the Okavango ecosystem, while global concern for the future of major wetlands led to the establishment of the Ramsar Convention and the listing of Okavango as a Ramsar Site.

As a highly dynamic ecosystem, with threats of potential upstream water flow interruption, or of the impacts of global climate change, perceptions of resource decline have strengthened if not driven the conservation agenda in Okavango.

iii). Improved governance.

Mainstreaming cannot be achieved without good governance. It can furthermore be stimulated by improved governance. Thus the establishment of the Permanent Commission on the Okavango River Basin in 1994, the ratification of the Convention on Biological Diversity and the listing of Okavango as a Ramsar Site in 1997, and the development of the Okavango Delta Management Plan through the period 2002/2008, provided considerable impetus to the proposal to formalize the mainstreaming process via the BioKavango Project.

iii). Socio-economic incentives

One of the key barriers to achieving biodiversity conservation objectives in the Okavango Delta was identified as the lack of incentives to drive ecosystem-friendly behaviour. The project seeks to stimulate such changes in behaviour through its various pilot projects, a process with positive feedback loops to all participants if it succeeds.

*Mechanisms*

The third leg of the mainstreaming model relates to the mechanisms used in implementing the process. These include –

i). Effective communication

The ODMP established a very comprehensive stakeholder consultation and participation process, which has been built on by BioKavango. The implementation process, via such mechanisms as Reference Groups, Joint Management Committees, the Project Steering Committee and others, has provided a formal system of communication. However, as discussed later, both the communication and marketing of BioKavango could be stronger.

ii). Strengthening institutional capacity

A primary objective of BioKavango is the strengthening of both systemic and institutional capacity. Thus the project focuses on a primary determinant of effective mainstreaming.

iii). Enabling legislation and policy

The project also focuses on improving existing legislation and policy, through a series of detailed reviews of the current situation with recommendations on improvement in key areas of biodiversity management.

In summary, the project meets the key requirements for successful mainstreaming, while simultaneously testing four fundamental but challenging concepts –

- The building of 'living' conservation landscapes, through the mainstreaming (or integration) of biodiversity conservation in the policy frameworks and operational activities of production sectors;
- Adaptive management for dealing with landscape and social complexity – dealing with resource conflicts in an inclusive, developmental approach;
- The collaborative management of conservation by a multitude of stakeholders at different levels but influencing the same landscape, through continuous consultation and stimulated by incentives;
- The role of sustainable use of resources critical to stakeholders' livelihoods as a conservation tool.

### *Strategy*

The two-pronged strategy adopted by the project – to build capacity within the regulatory authorities and to transfer certain key responsibilities for biodiversity conservation to land users – is logical and appropriate, but tends to under-estimate the reality that *'mainstreaming is very difficult'*. This challenge will be discussed in section 7.1.

## **4.2 Project development and linkages with other initiatives in the sector**

Given the fact that the project evolved out of an existing and highly inclusive programme of environmental planning – the ODMP – it is not surprising that strong linkages with the wide diversity of projects in the sector, country and region were strengthened and expanded to ensure synergies and cost-effectiveness.

The Project Document provides a strong case on the relevance of the project to the UNDP-Botswana Country Programme on environment, especially in terms of the latter's objectives on governance, institutional capacity building and human resource development, environmental information management, and good practices in environmental impact assessment. The UNDP Country Programme had also provided financial support to the preparation of the Draft National Wetlands Policy and Strategy, which initiated the processes leading to the ODMP and the BioKavango Project.

The Project Document lists and details all current and recent activities relevant to the project, and the linkages to these have been strengthened by cross-representation on committees of each initiative. The key projects that have direct bearing on BioKavango's objectives include –

The Environmental Protection and Sustainable Management of the Okavango River Basin project – within the UNDP/GEF regional International Waters Programme – addressing trans-boundary water management issues, and developing and implementing a Strategic Action Programme (SAP);

An Integrated Water Resources Management Plan (IWMP) – funded as a medium sized project by UNDP – to provide a framework for balancing competing water demands from different economic sectors, and more specifically, developing information on which the ‘ecological reserve’ for the maintenance of the Okavango wetland may be determined;

The Okavango Integrated River Basin Project (IRBM) – a USAID funded regional programme – in particular, this project supports the establishment of the Permanent OKACOM Secretariat in Maun;

The Every River Has Its People Project (ERP) – another regional programme – funded by SIDA - and focusing on civil society capacity and community level leadership;

The Kavango – Zambezi TFCA (KAZA TFCA) – an initiative led by Conservation International, with five countries participating to establish a major conservation and development area inclusive of Okavango;

Other GEF initiatives include the UNEP/GEF Global Invasive Species Programme and the UNDP/GEF Southern Africa Biodiversity Support Programme – both of which address Invasive Alien Species issues.

The effectiveness of these linkages will be discussed under section 6.

### **4.3 Implementation approach**

The project’s implementation strategy aims at lifting barriers to mainstreaming biodiversity conservation objectives in three production sectors: water; tourism and fisheries. Each of these sectors is dependent on ecological goods and services provided by the Okavango River. These three sectors dominate resource uses within the Okavango Delta and are potential threats to biodiversity, but also provide good opportunities for testing the integration of biodiversity objectives within production sectors.

The implementation strategy to mainstreaming biodiversity into the water, fisheries and tourism sectors has two legs -

- i) Building capacity within the regulatory authorities responsible for resource use allocation and management to assimilate and apply biodiversity management objectives in decision-making, and



- ii) Transferring certain key responsibilities for biodiversity management to land users, ensuring that land use activities are undertaken with due diligence to conservation objectives.

The Project Document recognises that “command and control approaches alone will be inadequate to ensure effective and sustainable mainstreaming of biodiversity management objectives” in these sectors. Thus a critical innovation in its implementation strategy has been the placing of project staff into key institutions – such as the Department of Environment Affairs, the Tawana Land Board, and the HOORC – where they can directly interact with their colleagues in mobilizing the mainstreaming process from within, rather than from above or from outside.

Capacity building is linked not only to key institutions and their professional staff, but also to resource users ‘on the ground’ through its pilot projects. The implementation strategy rests mainly on the development of activities through strong partnerships with existing stakeholders in government, the private sector and resource users, including rural communities, fishers, and the tourism industry. These activities, and the pilot projects through which they are being implemented, are clustered within four components -

Outcome 1. – Enabling environment strengthened at both systemic and institutional level.

Outcome 2. – Biodiversity management objectives integrated into the water sector.

Outcome 3. – The tourism sector is directly contributing to biodiversity conservation objectives in the Okavango Delta.

Outcome 4. – Biodiversity friendly management methods are inducted into fisheries production systems.

The mechanisms of the implementation approach include training courses and the development of manuals and guidelines, reviews of key issues (policy, legislation) by specialist consultants, field demonstration pilot projects, information management and sharing, and building community based and cross-sectoral networks.

The process of developing the cooperative projects that form the substance of the BioKavango Project is led and facilitated by the Project Management Unit, based at the HOORC in Maun. The effective functioning of the PMU and its governance and subsidiary committees is perhaps the most critical determinant of the project’s successful implementation – a reality that is fully appreciated by project stakeholders (see section 5.2).

#### **4.4 Stakeholder participation**

The Project Document states that ‘the preparation team undertook extensive consultations with interested parties through a series of presentations and workshops during the preparation phase’. An ecotourism specialist was engaged to systematically

interview stakeholders in the tourist sector. The project team held workshops with community-level resource users, resource managers and tourism operators during the design stage. These wide-ranging consultations were undertaken to ensure that stakeholders at all levels were aware of the project and its objectives; stakeholders assisted in the identification of threats to biodiversity conservation and their root causes; existing monitoring and mitigation strategies are acknowledged and integrated into the project; and differing stakeholder capacity needs across the different production sectors were accommodated during the design phase and its later implementation.

The level and effectiveness of stakeholder participation in this project was strengthened by the background provided by the ODMP process, but also by the strong tradition in Botswana of using 'kgotlas' (public consultations through participation by all village members) as a key conflict resolution process. The local adage that "the Tswana's tongue is sharper than the Zulu's spear" aptly describes this characteristic.

#### **4.5 Replication approach and sustainability**

As a pilot project in the developing science of mainstreaming, BioKavango has been designed with the specific intention of replication. The Project Document provides a clear and pragmatic approach to replication both within Botswana's other wetland systems, and more generally, elsewhere in Botswana and the region. The principal mechanisms of replication will be through the lessons learned in the implementation of the four key pilot projects, and through products such as knowledge sharing innovations, training courses, handbooks and the broader use of the human capacity developed by the project.

Sustainability is being approached by integrating (mainstreaming) implementation costs within sectoral budgets in government, securing long term commitments from the private sector, and most importantly, the placement of key professionals in tenured positions in relevant government, academic and private sector institutions.

#### **4.6 Country relevance and drivenness**

As indicated in sections 3.3, 4.1 and 4.2, the project is fully consistent with the national vision, and national policies and strategies to protect biodiversity and wetland ecosystems, and is strongly supported by the authorities at national and local levels.

Ownership at national level is strengthened by the chairing of the Project Steering Committee by the Department of Environmental Affairs, by the strong representation of other national departments on the PSC and its subsidiary committees, and by the key role played by the University of Botswana as the project implementing agency.

At local levels, the active involvement of user and community groups such as the Okavango Fishers' Association and the Joint Management Committees provides direct access to and influence on project decisions by civil society.

At a regional level, the strong and continuing endorsement of the project by OKACOM is important. The project, through HOORC, is directly representing Botswana on the OKACOM Biodiversity Task Group, and holds a respected position in the various technical issues – TDS, E-flows, biodiversity – that OKACOM addresses. Lessons learned in BioKavango will feed directly into the OKACOM programme, providing both guidance and replication from the BioKavango experience. This will be of special relevance once the Angolan partners increase their use of the capacity building opportunities provided by HOORC.

#### **4.7 The Logical Framework**

The Project Document provides a preliminary Logical Framework Analysis, which has been built on and strengthened as the project has advanced. The use of the logical framework process through repeated and participative review of progress, and adaptive management through project planning workshops, is a fundamental process for developing stakeholder buy-in to its objectives.

The choice of indicators – (i) “the area of wetland, where user groups are actively taking measures to protect biodiversity as part of production practice”, and (ii) “populations of wetland indicator species sustained” seem, at first consideration, to be highly appropriate and measurable. However, they fail to link clearly to the sustainable livelihoods objective of the project, and are very difficult to quantify. In the application of the indicators, an assumption is made that the total area occupied by communities participating in the project automatically qualifies as having been improved in biodiversity conservation – a very weak assumption.

Secondly, the assumption that populations of the target species – Slaty egret, Wattled crane, Red lechwe and Sitatunga, had been accurately assessed at the commencement of the project, serving as a baseline for monitoring management impact – is also very weak. The population fluctuations of indicator species might also be independent of

project related impacts, and any conclusions drawn from the results might be erroneous. Despite these weaknesses, the short time-frame of the project limits the use of more meaningful measures of improved livelihoods – such as the Human Development Index - and funding constraints prohibit more accurate and consistent estimates of bird and mammal populations.

At the outcomes level, the choice of indicators is far more appropriate and measurable. Each outcome is to be achieved through a suite of activities producing measurable outputs, and the detailed log-frame used in annual reporting provides an effective management and monitoring tool.

## **5. IMPLEMENTATION**

### **5.1 Implementation approach**

The project implementation approach has been described in section 4.3 above, and its results are described in section 6 below. To avoid unnecessary duplication, details in this section will be limited to those elements not discussed elsewhere in this report.

### **5.2 Management structure and institutional arrangements**

The Project management structure comprises a Project Steering Committee (PSC), a BioKavango Project Management Committee (BPMC), a Project Assurance Group (PAG), a Project Management Unit (PMU), Reference Groups and Stakeholder Consultative Forums.

The Project Steering Committee is chaired by the Department of Environmental Affairs, which is effectively the project's 'owner'. The DEA serves as the National Focal Point to the CBD, Ramsar, CITES and other MEAs, and is thus well placed to provide guidance on global trends in biodiversity policy and strategy to the Project team.

The PSC is responsible for making executive decisions for the project and provide guidance (institutional, political, and operational) as required by the project management. The PSC provides oversight and communication to the project from throughout the public and private sector and donor community and vice-versa. It achieves its aims through the National Project Coordinator (NPC) of the Project Management Unit. The NPC attends the meetings of the PSC ex-officio.

The Project Management Unit is based at the University of Botswana's Harry Oppenheimer Okavango Research Centre (HOORC) 15 kms outside Maun. The NPC and team have been provided with excellent office accommodation and support facilities at HOORC, which itself is a hub of environmental research, discussion and intellectual development focusing on the Okavango.

The fact that the National Project Coordinator was directly involved in the development of the Project Document, and has extensive experience as a professional in various capacities in Botswana, ensured a seamless transition from project planning to implementation.

The PMU is staffed by a small but competent team of specialists with experience in range management, wildlife management, fisheries research and limnology, and tourism, with financial administration and secretariat support. The ambitious nature of the project, covering a very wide range of technical fields, places serious challenges on the PMU capacity. This is particularly evident in terms of assessing some of the consultants' reports and recommendations, where extended experience or specific

technical knowledge is needed to evaluate some aspects. Examples of this shortcoming will be discussed in section 6.

In order to provide the PMU (based in Maun) with support for day-to-day operational decisions, the PSC (based in Gaborone) approved the establishment of the BPMC in 2008.

The BPMC is chaired by the Deputy Director of the HOORC. The BPMC includes expertise in public health, anthropology, planning, tourism, and financial management, and with the PMU's capacity in rangeland ecology, fisheries and aquatic ecology, wildlife biology and tourism, natural resources management and community development, a strong body of expertise is available for project guidance and implementation.

In particular, the BPMC ensures that UB/HOORC is kept in the loop on project management dynamics, specifically serving to –

- ensure that the project operates within the contractual requirements of the UNDP;
- ensure that the project complies with UB policies and procedures, especially regarding staffing and co-financing arrangements;
- optimize the benefits for UB/HOORC and UB at large; and
- facilitate the transfer of BioKavango activities to HOORC at project conclusion.

The BPMC thus ensures good governance in the project at an operational level, with the chair providing high-level representation on the PSC. From discussions with most of the members of the BPMC, the committee appears to be functioning very effectively.

In addition to hosting the PMU, the University of Botswana also provides administrative support, and as project implementing agency, is ultimately responsible for fiduciary and audit matters. Discussions with the senior management of UB, and with the UNDP CO, indicate that the financial management of the project is operating smoothly, although payments to some service providers was noted to have been slower than ideal. This is not an unusual situation for projects with geographically and administratively dispersed arrangements.

The original project management structure included Technical Advisory Groups, but these have now been replaced by Reference Groups that are appointed by the PSC for specific tasks such as guidance in the formulation of the Terms of Reference for Consultants, and the review of their reports.

The Stakeholder Consultative Forums are intended to ensure that grassroots inputs are available to guide and monitor project progress. The Okavango Wetland Management Committee (OWMC) serves this function.

The interviews held during the MTE indicated that the management structures are functioning well and have been modified during the course of the project (establishment of the BPMC; restructuring of Technical Advisory Groups; appointment of a deputy to the NPC) to improve effectiveness.

The frequency of contacts between the PMU team and stakeholders is constrained by logistics, and by the difficulty in placing field staff in remote centres. This is a serious problem that will continue to limit the effectiveness of the project, as meetings will tend to deal with issues at a superficial level. Physical presence is key to mainstreaming, and while this is being achieved at the higher levels of staffing, grass-roots interactions on a day-to-day level are limited.

Attendance of meetings by some stakeholders has been less than ideal, but was accounted for by the PMU as a consequence of 'participation fatigue' rather than lack of commitment. It is reasonable to expect that meeting attendance will decline as the project beds down, but it is essential that the participation of key stakeholders be ensured throughout the project.

This problem has been overcome in the case of the generic Technical Advisory Groups, which have been replaced by task-specific Reference Groups. Participants in the Reference Groups, which meet to advise on the terms of reference for and evaluation of consultants' reports, noted satisfaction with the system and in particular their level of empowerment in the decision making process. This response came from both the private sector and from village representatives.

The relatively small size of the Botswana population, the mobility of its key leadership players, and the ease of communication across the country despite its size means that the formation and maintenance of informal as well as formal partnerships is relatively easy. As a result, the National Project Coordinator and the PMU team have been successful in establishing an effective network of partners beyond the formal structures of the project. The network plays a key role in ensuring the effective implementation of the project.

### **5.3 Monitoring and evaluation**

Monitoring and evaluation is conducted according to established UNDP and GEF procedures. Quarterly progress and financial reports are prepared by the PMU and submitted to the PSC. A joint Annual Project Review is undertaken by the PMU and UNDP CO. Project Implementation Reviews were undertaken in 2007 and 2008.

The timeliness and quality of reporting by the PMU is highly satisfactory. As is often the case, an optimistic view is expressed on most issues, often a little too generous given the challenges to meeting certain objectives. Examples will be cited in section 6.

The logical framework matrix provides impact indicators for project implementation, along with their means of verification. These form the base on which the project's M&E system is built. It is easier to present fairly generalized statements on progress in activity implementation than to present objective, accurately quantified evaluations. Thus the strengths and weaknesses in the present M&E process will be addressed in some detail in the Recommendations, section 8.

#### **5.4 Stakeholder participation**

As noted earlier, BioKavango has built on the very strong background of stakeholder participation used during the ODMP process. In undertaking topic-specific stakeholder consultations, it has used external specialists to lead the building of the capacity of participants unfamiliar with the technical issues involved. This has been particularly important in dealing with previously alienated or vulnerable groups (such as the integration of indigenous minority communities into the commercial fishing activities at Mohembo), or conflict situations (such as that between traditional fishers and tourist operators).

The process followed has recognized the need for repeated interaction, rather than one-off courses that leave a superficial legacy. The development of the Tubu Joint Management Committee has already involved four workshops, with documentation and procedures adapted to participants with limited literacy skills. The process has worked from first principles – such as first establishing an agreed Code of Ethics for the JMC. There is never the less a need for manuals to be translated into Tswana to make them more accessible to rural communities.

Stakeholder participation must be fully inclusive of all interested and effected parties – and the absence of key stakeholders – such as tourism concessionaires or Tawana Land Board representatives at certain consultations, has been criticized by some participants. Such weaknesses are inherent in stakeholder participation processes, especially in societies with limited human resources.

A risk in stakeholder participation and planning processes is the development of high levels of expectation on the part of participants. Failure to deliver benefits to stakeholders can result in resistance or rejection of such interventions later in the project. Many of the groups visited in the field exhibited some frustration with the pace of delivery, but none indicated the desire to withdraw from BioKavango. On the contrary, most demonstrated great appreciation for the positive outcomes of BioKavango, especially in terms of reducing tensions between competing resource users.

A significant challenge to effective mainstreaming in rural areas beset with high levels of under-employment and un-employment, coupled with low literacy skills, is that



project managers have great difficulty in transferring responsibilities to local stakeholders. The lack of uptake of responsibility is as much a result of historic causes – such as traditional power structures - as it is due to the realities of subsistence living in resource limited environments. Thus the communities visited along the Panhandle admitted to the need for ‘subsistence poaching’ of both fish and mammals – this being the only option in many situations. Attempts to implement sophisticated philosophies (such as mainstreaming biodiversity conservation) or commercial activities (such as sustainable, market-based fisheries) are simply unrealistic if pursued in the short-term. This makes the development and maintenance of effective stakeholder participation critical.

The Okavango Fishers’ Association considered that ‘the life and death of committees is person dependent’ – pointing to the vulnerability of institutions in resource limited societies. Furthermore, convening meetings requires support for attendees, who have neither transport nor access to food or accommodation, for which subsidies are needed to sustain participation. BioKavango provided such support, resulting in well-attended meetings with positive outcomes, but the sustainability of this process is not planned, although the training workshops have emphasised the need for the OFA to take ownership of responsibilities such as fund-raising to ensure continuity.

## **5.5 Financial planning and administration**

### ***Expenditure per component***

The Annual Report for 2008 provides an analysis of planned and actual expenditure for the 2008 financial year, plus budget estimates and a workplan for 2009. These data serve to provide an assessment of the overall financial planning and management of the project in full operation.

Budget for 2008 was BWP7,475,000 and expenditure was BWP6,244,220. The variance – of an under-expenditure of 16%, (8% in 2007) was explained as due primarily to delays in initiation of consultancies due to lengthy procurement procedures and further due to disputes over mandates of certain partner agencies (TLB and BTB). This situation is not unusual and the PMU and PSC have responded by incorporating the experience into their institutional learning. Basically, BioKavango operates through partnerships, and understanding the operating systems of each partner, and the ambitions and limitations of each partner is part of the capacity building process of project managers. Without challenges, there is no learning.

Expenditure per ‘outcome’ or component has varied between components, both as a consequence of staffing arrangements and due to internal re-allocation of funds available. Thus the original budget at CEO endorsement was distributed between components 1 – Enabling environment; 2 – water; 3 – tourism; and 4 – fisheries; by the percentages 79, 7, 9, and 4%. After initiation, the budget was restructured to reflect investment in each of the components – in 2008 the percentage distribution was 38, 26,

22, and 13%. Outcome 1,(enabling environment) carries the costs of the overall management of the project, and is thus large in proportion to the other components.

Under-expenditure in the components during 2008 was 9; 28; 21 and 10% of budget, reflecting the delays in consultancies and fairly rapid PMU staff turnover during the year.

### ***Financial planning***

The Annual Report for 2008 provides comments on the causes of variances, but does not mention how budgeting decisions are made. It is probable that budget is adjusted in project to respond to changing situations of staffing, but without deviating from the agreed log-frame. The PSC is empowered to make internal adjustments within the budget, with UNDP approval, and it seems that the management of the operational budget to respond to changing situations is effective as an adaptive management tool. An example of this is the restructuring of staffing and funds to address the need to provide the NPC with support, to appoint a Water Component Coordinator at a higher rank than originally provided, and to appoint a Community Conservation Coordinator in Shakawe with incentives beyond those originally budgeted.

There is perhaps a need, in the log-frame workshop proposed under Recommendations (section 8.1), to revisit the financial planning process and how it complies with the log-frame approach.

### ***Financial controls and audit***

At the time of the MTE, the only Audit Report available for BioKavango was that for the 2007 financial year. However, the report, by Price WaterhouseCoopers, indicated that the financial controls and administration by the implementing agency – University of Botswana - complied with best practice. Their findings, inter alia, stated –

- “The annual work plan was compared with the Project Budget Balance (PBB). There were no significant differences.
- The Expenditure Detail Report (EDR) and the Combined Delivery Report were compared and the balances were reconciled.
- Salaries, consultancy charges and volunteer’s payments were tested with the respective contracts. No material exceptions were noted.”
- 

In terms of monitoring and evaluation, the Audit Report noted –

“Monitoring and evaluation is being carried out according to what is stipulated in the project document. The following documentation has been verified during our audit –

- Inception report
- Annual Project Report/Project Implementation Reviews
- Quarterly progress reports

- Minutes of the Project Steering Committee meeting”

The recommendations made in the Management Letter of the previous Audit Report (2006) had all been addressed and it is evident from the Audit Report that at the time of the MTE, the financial controls and administration of UNDP funds allocate to the project were fully compliant with the standards required. From discussions with both UNDP CO, and UB senior management, there is little reason to believe that this situation will not be reflected in the audit report for 2008, which was not available to the MTE, as it had not yet been finalized.

### ***Co-financing***

The strong national and international support for BioKavango is demonstrated by the honouring of co-financing commitments from all partners. The Project Document at CEO endorsement indicated co-financing of US\$12.13 million, while by the time of the MTE, commitments stood at US\$15.96 million and actual disbursements at US\$10.67 million.

### ***Cost effectiveness***

From the information available to the MTE, the use of funds appears to have been effective and without wastage. The only activity that had to be terminated was that in partnership with the University of Virginia, on Monitoring Riparian Woodland – but here the decision to terminate the project - due to failure of obtaining expected co-financing – was timely and with limited opportunity cost or direct cost to BioKavango.

## 5.6 Replication approach

The project promises to provide a suite of lessons on the viability of mainstreaming biodiversity conservation through production sectors. The degree to which these lessons are applicable to other areas will vary widely.

Within Botswana, where the development of an enabling environment of improved legislation and of individual and institutional capacity is a primary element of the project, the replication of best practice should be relatively simple. This especially will apply to projects in other wetland areas, such as the Chobe – Linyanti and the Makgadikgadi.

The Project Document Part 7 provides a replication strategy, with ambitious but relevant interventions aimed at extending the impact of BioKavango. A budget of US\$1,165 million is proposed for the implementation of the replication strategy, but funds for the strategy are not included in the existing project budget. The targeted interventions apply mostly to national application, and many of the interventions could be initiated within the existing budget or within the proposed NDP10 budgets.

Replication beyond Botswana is not so simple. Mainstreaming is dependent on a wide range of prerequisites, as described in section 4.1. Few countries in southern Africa share the combination of good governance, economic strength and strong environmental responsibility that is enjoyed by Botswana. Without these prerequisites, the ability to transfer the core lessons learned might fail.

This does not reduce the importance of the project. It is essentially a pilot to test a general hypothesis, and as such it is of global relevance. It is critically important that actions be taken in the next year to mobilize the replication strategy, at least for activities within Botswana, primarily to retain the skills developed in BioKavango but also to test the wider application of lessons learned.

## **6. RESULTS**

The progress in meeting the project objective, outcomes and outputs is detailed in the 2008 Annual Report and summarized in the Log-frame and GEF Mainstreaming tracking tool – Annexes 5 and 6 attached. In this MTE the detail will not be repeated. Emphasis will rather be placed on issues important to the MTE purpose – independent, external commentary on project strengths and weaknesses that are considered to need attention at mid-term.

### **6.1 The use of the Log-Frame as a management and monitoring tool**

The use of the Logical Framework Approach is a fundamental pillar of GEF/UNDP project management and performance monitoring. It is thus the first point of reference for any project assessment, such as PIR and MTE. It is implicit, in using the LFA, that a high coherence exists not only between the log-frame elements – objective, outcomes, activities and outputs as described in the Project Document, but also in the day-to-day operations of the project.

Such coherence is not immediately obvious in the activities and reports examined in the MTE. Perhaps the integration of activities across components will develop as the project matures, but at this stage such a synthesis is not apparent. This does not deny the fact that the log-frame has been a very useful structure upon which to hang the various components and activities for the control of workplans and budgets – and for reporting on these elements.

The log-frame should provide a common, shared vision around the project objective, something that is hidden behind the successive tiers of outcomes/indicators/activities/outputs in the project description. In effect, one cannot see the wood for the trees, nor the linkages between, for instance, sustainable commercial fishing and the stability of the Wattled crane population. The project's success indicators (at project objective level) have been fixed since commencement, and cannot and should not be changed, but they do weaken the development of a case for the success or otherwise of the project, which will be measured against the objective indicators rather than the more relevant sustainable livelihoods outcomes, which appear lower in the analysis hierarchy.

The cumulative result of the project is thus difficult to assess – a task which is easy at activity level, but not across all components and the project objective as a whole.

Towards clarifying the structure and content of the log-frame, an internal PMU mini-workshop was held during the MTE which reviewed the 2008 version of the log-frame and made several suggestions on improvements to its logic. The revised log-frame (Annex 5) does not fully incorporate the suggestions made in the workshop, and tends to give an optimistic view on progress. For instance, it notes that one and a half waste water polishing systems are in place, where in reality the technology is not yet

functioning in the rehabilitated plant, and the feasibility of using the system in the Delta is still untested. The workshop fell short of achieving its full potential as a management tool in that it was attended only by PMU staff and the MTE team, and not a wider spectrum of stakeholders. The potential use of the log-frame as an adaptive management tool has thus not been fully exploited and its use to ensure stakeholder buy-in missed.

A follow-up workshop with wider stakeholder representation is recommended

## **6.2 Progress in activities and benefits to participants**

The Project Document presents a detailed participation strategy indicating the expected benefits to stakeholders. The stakeholder strategy appears to be being fully and effectively implemented at the activity level. The challenge of any such strategy is the reality that many if not most participants are experiencing 'participation fatigue', and as a consequence reduced attendance of workshops, training courses and committee meetings. Despite this, the MTE found all participants interviewed were very willing to make time for discussion, and all expressed satisfaction with their level of empowerment to influence decisions affecting them. In one case, interviewees queried how the MTE (but not the project) would benefit them – an interesting point which demonstrated the seriousness with which they regarded the MTE process.

Examples of the 'ownership' of the project by its stakeholders are given throughout this report. Whether the enthusiasm displayed was genuine, or merely due to the inherent politeness of the Botswana people, is difficult to judge. It might also be that the project is still too young to have produced disappointment for failing to deliver on expectations. But all participants interviewed seemed to have a clear idea of what benefits they might accrue from the project, what their roles and relationships with other stakeholders are, and the confidence to move forward with optimism. Specific examples of the opinion of stakeholders around their perceived benefits are given below, from each of the project components.

### ***Outcome 1. Enabling environment strengthened at both systemic and institutional level***

The benefits of participation were nowhere more clearly articulated than at the meeting with the Tawana Land Board. This land tenure governing body had, until BioKavango, little formal understanding of what biodiversity implied, but its chair commented that as rural people, its members all had a direct personal understanding of the value of their natural resources, species and ecosystem processes. Informed decision taking is a legal requirement for this statutory body – which can be sued for unfair or unwise decisions. The Board appreciated the training the project was providing its members on the topic, and especially the placement of a 'Biodiversity

Advisor' to the Board. The fact that the Board has already institutionalized the post is as much a confirmation of the value of such advice in their decision making process as it is testimony to the persuasive skills of the advisor seconded by UB to the post for the period of BioKavango.

The Board also recognizes the need for ongoing training and mentoring of its members due to the high turnover rate of the membership – elected by the community – and thus the need to institutionalise the post of biodiversity advisor to ensure continuity and to reduce dependence on HOORC.

The Tawana Land Board had financed a consultancy to identify sites for tourism facilities in the Delta. As the primary arbiter of land tenure, and of leases, the TLB holds ultimate responsibility for decisions directly affecting the tourism industry. Using BioKavango guidance, the TWB has developed a detailed GIS data-base and spatial planning system to support decisions on where sites for future land allocations for tourism facilities might be located. The TLB will identify sites, advertise their availability, and refer all applications to the Botswana Tourism Board for advice on the tourism and business merits of each application. The TWB Biodiversity Advisor will consider the environmental aspects of each application.

The BioKavango intervention, through facilitating the secondment of a highly qualified biodiversity advisor to the TLB, has been effective in mainstreaming biodiversity knowledge and decision making skills at whole District level, where such guidance can have far reaching positive impact on biodiversity conservation throughout the project area.

### ***Outcome 2. Biodiversity management objectives integrated into the water sector***

A further example of the benefits of BioKavango to stakeholders is given by the *Salvinia molesta* control project.

*Salvinia* was first reported from the Chobe, at Kasangulu, in 1948. In 1986 it was recorded in the Kwando/Linyanti drainage, at which time biological control using the weevil was initiated. The programme has continued with a combination of biological and mechanical methods ever since.

With the advent of BioKavango, the opportunity to develop a collaborative project of monitoring and control using the support of tourism operations based in affected areas of the Delta was identified. As a pilot, five tour companies have committed staff and facilities to assist the Department of Water Affairs in strengthening its existing Invasive Alien Species control programme. Expertise in DWA has provided leadership at workshops and training courses to prepare tour guide staff from the lodge operators in the breeding and distribution of the weevil used in *Salvinia* control. The tour operators have demonstrated keen support for the project, committing to expand and make more visible the project activities at their lodges, given the interest that their clients have

expressed in the activity. They have also committed to continuing the project beyond the life of BioKavango.

While the BioKavango contribution in itself will not resolve the problem of invasive alien species in the Delta, the impact of the pilot project as both an awareness raising process and as a weed control activity has been very positive. This is of significant importance not only to the Delta, but also to other wetlands in Botswana and the region, where cooperative efforts can mainstream responsibility for invasive species control beyond the limited resources of agencies such as the DWA.

***Outcome 3. The tourism sector is directly contributing to biodiversity conservation in the Delta***

The tourism industry in the Delta is sharply divided between the high-end operations of major concessionaires and the small, emerging tour guides. It is apparent that some dissatisfaction exists between these two tiers of the industry, and has resulted in the expectation, by the Botswana Guides Association (BOGA) that BioKavango might help 'level the playing field'.

In 1998, when tour guide licensing became mandatory, many of the Motswana guides, well equipped in field knowledge and tracking skills, feared that they would be excluded from their profession by unfair examination procedures. They were advised to form an association to represent their views. BOGA, established in 2000, now has a membership of 360, and has been an active participant in BioKavango, serving on several Reference Groups, such as those on eco-tourism certification, waste management, identification of tourism sites in the Delta, etc.

BOGA has approached BK, with which they have strong and cordial relations, regarding BOGA's proposal to establish a cultural/eco-tourism centre on a property which they own in Maun. They view their site as more accessible to their members than the BTB proposal to use the new Maun International Airport facilities. The BOGA view has merit in terms of access to local tour guides and particularly BOGA's quest for capital investment for a head office facility for their association. The BTB alternative has much stronger marketing visibility, and does not exclude the opportunity for BOGA to have a presence in the venue.

It is probable that BioKavango will not be able to meet the expectations that BOGA has for capital investment in the cultural/eco-tourism centre that they have proposed. But the existence of BioKavango has helped facilitate discussions around the tensions between the big and small operators in a neutral and empowering forum, leading to the resolution of potential conflicts between key players in the eco-tourism industry.



#### ***Outcome 4. Biodiversity friendly management methods are inducted into fisheries production systems***

BioKavango intervention in the fisheries sector has been positively viewed by both the DWNP Fisheries Division and by the traditional and commercial fisher communities interviewed.

The Fisheries Division of the Department of Wildlife and National Parks is responsible for extension services, research, and aquaculture. The Division has limited human resources, with only four officers in Ngamiland, a major challenge given the size and inaccessibility of much of the Delta. The Division is responsible for the implementation of the Fisheries Regulations of 2008, which seek to regulate use of the fish resources – previously under an open access regime.

The Okavango Fishers' Association was originally established to provide a voice for traditional fishers, but went into demise after a few years, until revitalised by BioKavango. In 2008, the OKA held their first Annual General Meeting in several years, which was regarded as a great success, thanks to the guidance and support of the BioKavango. The project has provided support in training and mentoring the OKA committees in their roles.

The Fisheries Division has benefited through BioKavango support for its activities in fish stock monitoring with improved techniques; training courses in fish identification; the revival of the OFA; the resolution of tensions between fishing communities and tour operators; and through the commissioning of a consultancy on aquaculture guidelines and the preparation of an aquaculture best practice manual.

In the opinion of the Fisheries Division, Biokavango came at the right time, acting as a stimulus to and catalyst of positive action. This view is shared by the fishing communities, who see Biokavango as championing their cause for new access arrangements, such as 'set asides' in preference to zonation of the river/fisheries resources, which would limit their fishing grounds in the upper panhandle. The tour operators would prefer zonation, ensuring exclusive access to certain areas and privacy.

The role of BioKavango in addressing conflicts in the fisheries sector is not universally understood or appreciated nor is the problem of sustainable fishing livelihoods easily resolved by donor agency intervention. The complexity of fisheries resource management will be discussed in section 6.3 below.

### 6.3 Cost effectiveness

The strong, indeed firm, leadership provided the project by the PSC, BPMC and the NPC results in the majority of project activities proceeding on time and on budget. Projects such as BioKavango are vulnerable to implementation delays, staff turnover, and non-delivery by some partners. BioKavango has handled most of these challenges very cost-effectively. There are, however, some indications of areas of weakness that the MTE needs to record, often offset by strengths within the same Outcome component. A few examples – of both strengths and weaknesses - follow.

#### ***Outcome 1 Enabling environment strengthened at both systemic and institutional levels***

##### *Knowledge management system in place*

The HOORC Library in Maun was asked by BioKavango to develop a knowledge sharing system. As the HOORC is the official repository for information and documentation on the Okavango, the Library holds extensive book, document and photographic collections and constitutes a branch of the main library of University of Botswana in Gaborone. The information system at HOORC, Maun, comprises the Library, the GIS Laboratory, the Environmental Analysis Laboratory and the Natural Collections – including the Peter Smith Herbarium.

A key component of the library's assets are the legacy collections of anthropologist H J Heinz; botanist Peter Smith; and ecologist Richard Bell. Initiated by the ODMP, and continued with BioKavango support, the library's journals, maps and photographic collections are being conserved in hard copy and digital format to create a unique collection of field knowledge of great historic value. Library staff and interns from communities in the Delta, are being trained in various techniques for documentation conservation, data-basing and general knowledge management. Priority is being given to capacity building within the information sharing project. The Library has prepared 'fact sheets' on aspects of the Okavango Delta, and contributes regular articles about the Delta to the local and national press.

Impressive progress has been made in the archiving and curation of 'heritage' documentation and in making this accessible. The investment in this activity is small relative to other BioKavango activities, but the benefits are long-term and help consolidate the intellectual capital developed by the project.

A second activity in information management is the strengthening of the Okavango Delta Information System (ODIS) to become more user-friendly and secondly, to expand its cover to include the whole Basin (OBIS). A lap top operated data-base, independent of the internet, is being developed for field use.

ODIS was initiated during the development of the ODMP, but, like most similar systems, needs considerable refinement and a broader base of information, especially on

biodiversity components, before it is of significant use. This will involve considerable further investment, some of which is available within the BioKavango budget, but experience in developing biodiversity information systems elsewhere in Africa (Kruger National Park; Western Cape) has shown that such endeavours can become 'bottomless pits' for funding resources. The provision of appropriate biodiversity information requires extensive field data gathering over large temporal and spatial scales – which is currently not available in Botswana.

The cost effectiveness of the ODIS/OBIS projects is greatly dependent on the information system adopted at the start, and the quality of data entered. Much of the biodiversity data available for Botswana was not collected with data-basing in mind, and much is not accurately geo-referenced. These factors are great challenges, as is the essential long-term curation of the databases for wide access by users. The need for a cautious approach, and careful attention to lessons learned by the developers of similar systems in Africa, is advised.

## ***Outcome 2. Biodiversity management objectives integrated into the water sector***

### *Implementation of the water quality monitoring programme*

The inclusion of a water quality monitoring project in BioKavango is being implemented by BioKavango via the HOORC 's analytical chemistry laboratory, which has entered into a long term contract to undertake systematic environmental monitoring throughout the Delta in terms of a MOU signed with the DEA during 2008.

While water quality is not currently a major threat in the Delta, the need for a strong information baseline is fundamental to informed management. The cost of implementing a monitoring programme is high, but HOORC has received a very substantial EU grant to equip the analytical chemistry laboratory with state-of-the-art instrumentation. There is probably no better-equipped laboratory for this purpose in the region – both a strength and a risk – as the complexity of the technologies available to HOORC might easily exceed capacity to operate and maintain the infrastructure. Current staffing levels might suffice, but even with these the facility will require regular and high cost servicing – already some instruments stand in-operable due to breakdowns.

The existing monitoring programme initiated by HOORC in 1999 has been expanded with BioKavango support, particularly through partnerships with several tour operators, who provide staff to be trained in the collection and measurement of water quality parameters. The logistics of water collection, transport and analysis in the vast Delta are a particular challenge, and BioKavango has been able to provide assistance in resolving some of these constraints.

However – the skills needed to collect, analyse and record water quality data in the field, using tourist guides with limited technical backgrounds, and limited incentives, is problematic. Instrumentation breakdowns in the field are evident, and capacity to

repair equipment or even to identify the source of potential errors is limited. It is important that the PMU team give regular training and evaluation of the pilot project, because water quality monitoring is only of use if it is regular, consistent and long term.

A further matter of concern is the lack of clear linkages between the water quality monitoring pilot project and the macro-invertebrate monitoring. Unless these two activities are directly linked in space and time, any cause/effect relationship expected will be difficult to test. The macro-invertebrate project has only recently commenced, and it is essential that its linkages with the water quality monitoring project are consolidated.

It was reported that the water quality data now available for a full year would be utilized in the e-flows modeling project. Such data series will need to run for at least 10 years to make possible any meaningful understanding of the system's dynamics.

The cost effectiveness of the water monitoring projects need careful assessment beyond that possible on the basis of the material available to the MTE. That water quality monitoring is essential is not in question, it is merely the cost effectiveness of using safari field guides as data gatherers that could make the programme vulnerable.

***Outcome 3. The tourism sector is directly contributing to biodiversity conservation in the Delta.***

A unique feature of the Okavango is its very high eco-tourism income per capita of its Motswana population. This results from four factors –

- The unusual beauty and diversity of its landscapes and wildlife,
- Botswana's low volume/high value tourism policy,
- The internationally competitive quality of the tourist operations, and
- The low population density of Ngamiland.

Given the significance of the eco-tourism/ wildlife tourism industry has in the Ngamiland economy, it is no surprise that it is a major stakeholder in BioKavango. The strong professional capacity and investor experience of the large safari operators separates them significantly from the emerging small, Motswana tour guides and mobile safari entrants. As a consequence, tensions have occasionally developed between the two sectors.

Reliable and inclusive statistics on the eco-tourism industry are difficult to access, with figures ranging from 50 000 to 150 000 visitors per annum. Good statistics are obviously essential for strategic planning in the industry – a priority objective of the recently established Botswana Tourism Board.

Of 50 000 visitors to Moremi Game Reserve in 2007/08, approximately 50% were from South Africa (mainly self-drive), 15% from Europe, 10% 'other foreign' and only

5% Botswanan. Tour operators flew more than 25 000 visitors into their lodges during the 2007/08 year. Most of these came from Europe and North America.

As a component of the mutual benefits derived from the ecotourism opportunity, both local communities and tour operators have, with some exceptions, displayed an increasing level of responsibility for the resource on which the benefits are based. As a result, the co-financing of tourism-related costs of BioKavango has been strong. Investments included hosting of project team and participants in the lodges, participating in workshops, reference groups, symposia; installing solar heating, activated sewage and other 'green' technologies; employing environmental officers; training of tour guides in environmental management, staff support for pilot projects such as the *Salvinia* monitoring and control project; water sampling; etc.

Opinion on the effectiveness of BioKavango varied among tour operators interviewed. While all were positive about the general aims and impact of the project, views on individual pilot projects ranged from supportive to dismissive.

The recommendations of the Waste Management consultant's report were not strongly endorsed. Tour operators, with extended field experience of the complexity of the Delta and the challenges of living among elephants and hippo, were not convinced that artificial wetlands were viable through dry seasons when the large pachyderms might be pressed for water, nor did site conditions really favour the proposed water polishing systems over either conventional septic tank and soak-away or activated sludge sewage systems. The full costs, including environmental costs, of transporting materials for the construction of even small-scale artificial wetlands, were considered to be prohibitive when compared to the other technologies.

Tour operators also differed in their assessment of the Joint Management Committees as mediators in issues of resource conflict – feeling that this was a matter for government attention. While there was some support for the intervention with the Okavango Fishers' Association, the view was expressed that policy implementation should be left to the national and district governments. "The relations between the industry and local communities should be managed by government – BioKavango cannot play a useful role here – they should focus on research and monitoring, setting of minimum standards, etc".

The reality that both levels of government suffer from severe capacity difficulties was recognized as an obstacle – but the view on BioKavango's role is based on the assumption that the project is essentially an academic, research activity. This assumption is clearly wrong, but the view that technocrats should not be involved at the implementation level, especially with rural communities, underlies the perception.

Concern was also expressed about the viability or usefulness of some of the research and monitoring projects – such as those on macro-invertebrate and water sampling and on riparian forest monitoring. Offers by some tour operators to assist were either not followed up or the projects themselves seemed to be too superficial to give meaningful

results. These views might have been influenced by the aborted riparian woodland monitoring project, or the very recently initiated macro-invertebrates project. There exists a level of indifference to BioKavango among some of the tour operators, perhaps based on their view that they know the Delta better than any of the 'Gaborone-based bureaucrats' - or simply because of other prejudices. Despite these, it is fair to say the tour industry is positive about the project, and their misgivings are no different from those experienced between field operators 'at the coal face' and policy people anywhere in the world. In short, one gains the impression of a healthy relationship existing between the tourism industry and the project, and that the industry's support for co-financing will continue.

***Outcome 4. Biodiversity friendly management methods are inducted into fisheries production systems***

Commercial fishing operations and sales points are being run by the local fisher communities themselves, and are perceived to be successful because of this. This conclusion – on the 'success' of the commercial fisheries, needs to be interrogated. While it is true that the consortia now have centralized sales points, with 10% of sales income going to the OFA, the level of success is debatable. The two sales points visited, at Samochima and Mohembo– were far from convincing as financially viable operations. Despite adequate funding by the GEF Small Grants Programme in 2005, the new facility built for fish sales at Samochima is unfinished, with doors, windows, and ceiling falling in, one of the rooms being used as accommodation, the chest freezers standing abandoned, and the operation actually being run out of the falling down mud building which the new structure was meant to replace. The facility, like the sewage water polishing wetland at Thuso, is another example of donor aid that has not achieved its desired outcome. The building itself is grossly over-designed – far too large a facility for the small sales volume, is provided with unnecessary office space, storerooms, etc – well beyond the community's needs. A building one-third the size, properly finished to meet basic fishing industry hygiene standards, would have better served the community – now burdened with two non-functional facilities.

The wood and corrugated iron shed used by the Mohembo Coop is even less adequate. Served by a direct link to the national electricity grid, but comprising three or four rusting chest freezers in a shed that must reach temperatures into the high 40s in summer, with no secure standby generator, the facility is rudimentary in the extreme.

It is this type of project, which aims to lift rural communities out of the cycle of poverty, which sadly keeps them locked in the downward spiral. While offering minor, short-term gains, the facilities have little hope of long-term financial sustainability due to the absence of any business plan, facility maintenance, or attention to basic hygiene standards for a food-based industry. Training in small business management is an urgent need.

## ***Aquaculture***

With regard to aquaculture, support for the preparation of guidelines before the development of an aquaculture industry is regarded as a very positive contribution from BioKavango. However, the Consultants' report is rather generous on the potential of aquaculture in the Delta, or at least does not emphasise the serious difficulties that have been experienced in establishing aquaculture operations in Africa, even with substantial government support. The recent experience in the aquaculture development project on the Cubango River in Namibia should be carefully examined before further investment is made in this failure-prone sector.

### **6.4 Role of UNDP Country Office**

The UNDP Country office in Gaborone has administered a successful National Environmental Support Programme in Botswana for many years and has therefore built a strong network within government, Non-governmental and private sector stakeholders in the country's biodiversity. It has had close involvement with the development of the ODMP, and as a committed party to its implementation, was an obvious choice as a funding partner. UNDP has extensive experience within the region in the successful implementation of GEF Biodiversity Focal Area projects, and has played a leading role in developing the conceptual framework of the mainstreaming model in biodiversity conservation.

The MTE found that a strong and positive relationship exists between the UNDP CO and the BioKavango PMU, and no reports of administrative, management or intellectual differences were heard regarding the relationship.

### **6.5 Pilot projects**

The purpose of pilot projects is to test novel approaches to familiar problems which have proven difficult to resolve through traditional methods. Pilot projects are therefore by their nature high risk – and the trick is to reduce the magnitude of risks. Financial, reputational or opportunity risks are involved.

In selecting topics for the suite of pilot projects initiated in BioKavango, the project studied the experience of the ODMP process and identified specific 'hotspot' issues that the ODMP had revealed.

The BioKavango pilot projects have been selected with the objective of "demonstrating how best to incorporate biodiversity management into day-to-day production practices. A strong emphasis is placed on participation and engagement between the various stakeholders, and building partnerships between government, private sector and rural communities. It is anticipated that the conservation methods that will be

piloted will have application in other wetlands in Botswana. To this end, the project maintains a strong focus on replication.”

The topics chosen for pilot projects respond to the barriers to biodiversity conservation identified in the ODMP, and therefore relate directly to nationally identified priorities. They include the following fields of work –

- *Salvinia molesta* control and monitoring
- Water quality monitoring
- Wetland monitoring using aquatic macro-invertebrates
- Waste management improvement
- Joint management systems for veld products and tourism
- Biodiversity friendly fisheries

The implementation of the pilot projects has focused on securing the active voluntary participation of tour operators and their staff, local fisher communities, and institutional partners. The process requires special leadership skills, the identification of volunteer ‘champions’, selection of appropriate technologies and the effective training in their use. Each of these prerequisites comes with risks. In reviewing the field operations of these pilot projects, it was clear that although good progress was being made, all suffered from levels of difficulty which need to be addressed if they are to succeed. None is yet up and running – as a programme – although one or two sites are well advanced.

The challenges are both socio-economic and technological. As an example of the former, the issue of conflicts around access to fisheries resources and the difficulties in addressing these will be used.

### ***Conflicts around fisheries resources***

A brief background to the fisheries situation is needed. During the outbreak of contagious bovine pleuro-pneumonia in the 1990s, the government implemented a cattle eradication programme, removing a primary protein source from the traditionally pastoral communities living along the margins of the Panhandle and Delta. Foreign aid agencies (NORAD) provided fishing nets to these communities, increasing their catch per unit effort above traditional hook and line and basket techniques. This change in activity, including the establishment of small-scale commercial fisheries, coincided with the growth of recreational fishing based at the tour operators’ lodges, resulting in conflicts over access to and off-take impacts on the fish stocks.

Fishing has long been a traditional livelihood in the Panhandle and Delta. It continues as such due to the resource being free, and the market readily accessible. The open-access rights of all Botswana nationals to natural resources was perceived to be a threat to both the fisheries resource and to the tourism/recreational fishing activity. Incidents of conflict between tour operators and fishers, although relatively isolated,



sparked heated interaction and posed a significant challenge to the desire for 'cooperative governance' of resources.

In reality, the various fishing activities target different species in different areas and at different times. Recreational fishers target mainly tiger fish in the deeper channels, commercial gillnet fishers target bream and non-sport species in the deeper floodplains, and basket fishers use the shallow floodplains during flood recession. This resource partitioning is not absolute, but indicates the somewhat different modes of operation.

Conflict arises around two issues. First, traditional fishers believe that they have no impact on the fish stocks, which are replenished by successive flood cycles, either from upstream sources, or by the re-connection of the vast network of lagoons and channels at full flood. Researchers at HOORC share the fishers' opinion that fish stocks are robust enough to survive periodic gill netting and other extraction activities.

In contrast, the tour operators believe that the stocks of tiger fish and large mouthed bream - sport fishing target species - are diminishing due to the incidental, indiscriminant take of the commercial gill net fishers. The reduced stocks result in reduced success of the clients and a potential drop in income. Traditional fishers viewed the recreational fishing competitions as a cause of decline in fish stocks – a view challenged by the tour operators on the grounds that the competitions had strictly regulated catch limits. Tour operators saw over-fishing with hook and line by commercial fishers to be a primary cause of depletion of sport species.

Perhaps more important in the conflict is that around access to sectors of the river system. The tour operators wish to have exclusive access to stretches of water, undisturbed by the presence of 'noisy' fisher-folk. The commercial fishers have practiced fishing at night, beating the water to drive fish into their gill nets, thereby disturbing the peaceful ambiance expected by the clients of tour operators. They see their rights to open access being unfairly restricted by the tour operators, and were strongly offended by their nets being removed or damaged by certain lodge owners. Access to lagoons is especially important during low flood levels – when basket fishing is practiced.

It would appear that the seriousness of conflicts has been a little exaggerated, a facet of rural life in resource-limited areas. The resolution of the tensions is never the less a necessary pre-requisite to achieving the project objectives.

While appearing trivial as an issue of concern in such a vast wetland, the reality is that isolated instances of direct altercation between the two groups – European, wealthy, recreational fishers, and African, poor, subsistence fishers, has become a major barrier to cooperative resource management in the Delta.

Exacerbating the conflict, from the traditional and commercial fishers perspective, is that their dependence on fishing (as an economic opportunity of last resort) is driven

by lack of other options – especially in terms of a protein source for single mother households and the elderly. Thus fishing, regarded as a highly labour intensive and risky occupation, is not popular among the better schooled younger generation, who are regarded by their elders as less skilled and inefficient fishermen – lacking the rich traditional knowledge of the fishing craft that the elders hold.

The fisheries activity is also subject to the dynamics of the regional economy, with cattle farming being more popular when grazing is abundant and disease less prevalent, or when government incentives are available.

### ***Water quality and quantity***

The Okavango ecosystem is water driven. Attention has thus far focused on water quantity rather than quality. BioKavango has recognized the importance of water quality issues in the nutrient poor system, especially with regard to agricultural chemicals and tsetse fly control operations using pesticides. Other point sources of eutrophication include the sewage disposal arrangements at tourist lodges, and the ferry station at Mohembo, where no provision is made for toilets for the thousands of passengers that cross the Kavango River at this point. Occasional fish die-offs due to anaerobic water flushes, probably of biogenic origin, cause concern and need explanation rather than speculation.

The absence of robust baseline data is a fundamental barrier to informed management of the ecosystem – and has therefore been given priority in the project.

## **6.6 The GEF/UNDP Mainstreaming Tracking Tool**

During the MTE, a mini-workshop of the PMU was held to review the Tracking Tool results previously submitted to UNDP Regional Office. The revised version is attached as Annex 6.

The Tracking Tool is obviously a useful source of generic information of progress in mainstreaming across all GEF/UNDP projects, but the individual data sets and the aggregated results appear too coarse to be of real value in tracking impact. This is especially the case where impacts are quantified in terms of hectares influenced by improved management practices, or estimates of population size of indicator species. The responses to individual questions in the tool, in the case of BioKavango, have been generously optimistic.

The questions relating to qualitative impacts, such as enabling activities, are difficult to quantify but may have very significant positive impacts – such as the setting up of a Biodiversity Coordinator's office in DEA, or the secondment of a Biodiversity Advisor to

TLB – actions that have wide impact but are difficult to aggregate across projects in the GEF/UNDP programmes.

Despite these short-comings, the Tracking Tool is a useful vehicle for stimulating debate within the project team, which should be encouraged to regularly review the indicators being used to measure mainstreaming impact.

## **7. CONCLUSIONS**

The broad diversity of activities included in BioKavango vary considerably in their degree of complexity and likelihood of success. What is critical in terms of return on investment is the generic impacts at landscape and livelihoods scales. Given that the project has been effectively operational for less than three years, and that most interventions are necessarily long-term, it might be premature to give firm conclusions at this time, but a few general remarks, leading to specific recommendations, can be offered.

### **7.1 Has mainstreaming been achieved?**

Mainstreaming is a pulsed process, succeeding not through a single intervention, but through a series of waves of intervention energies – with peaks and troughs. Similar to the pulses of floods and droughts experienced through the Okavango Basin, the ebb and flow of activism, policy influence and change is a constant and dynamic process.

In the case of the BioKavango, a succession of interventions provided the backdrop to the project's mainstreaming process. In brief, the cycle of pulses was firstly stimulated by reaction to a proposed major water transfer scheme in the 1970s, then in response to veterinary cordon fences in the 1980s, then the establishment of the HOORC in 1994, the ratification of the CBD and the listing of the Ramsar Site in 1997 and the publication of the Draft National Wetlands Strategy and Policy in 2000. The ODMP was the next step, leading logically to the first phase of implementation provided by BioKavango. It should not be concluded that the job is now fully on course, nor to assume that total success in all the project interventions is a realistic expectation. Mainstreaming will always be a lengthy and difficult process. The key intervention is to initiate the process with one or two good pilot interventions. The lesson is – 'think big, start small'.

Donors should therefore be realistic about the timeframes and success rate of mainstreaming approaches. The expectation that the BK should deliver significant results within five years is a little optimistic, even with most prerequisites for mainstreaming being in place.

Despite these challenges, very positive steps have been taken through BioKavango, as a successor to the ODMP, to mainstream biodiversity policy and practice through both national and district governments, and through private sector and rural communities. The quick answer is yes, mainstreaming is being achieved.

## **7.2 Has biodiversity conservation been strengthened?**

Key mainstreaming initiatives led by Biokavango included the secondment of a Biodiversity Advisor to the Tawana Land Board and the appointment of a Biodiversity Coordinator in the DEA. Land use decisions are perhaps the most critical instruments effecting good or bad biodiversity management.

This innovative step of appointing a Biodiversity Advisor to the TLB means that the Board has not only been given direct, internal, access to biodiversity information and decision tools, but also accepts such advice as being from within, not from above or from outside. An analysis of decisions taken and implemented by the TLB, favorable to biodiversity good practice, can now be made by checking Board minutes from before and after the appointment of the Biodiversity Advisor, providing a measure of the degree to which positive biodiversity management decisions are being made.

Similar semi-quantitative analyses may be made of the direct impacts of each of the new regulatory instruments resulting not only from BioKavango but principally from the mainstreaming process commenced as far back as the signing of the CBD.

The appointment of the Biodiversity Coordinator within the DEA means that the environmental agenda resulting from the ODMP can be facilitated across government departments and throughout Ngamiland, from a single office in the district capital, rather than from Gaborone. The task of mobilizing biodiversity mainstreaming actions within the different government departments, within a highly centralized governance system, is not trivial, but the framework is now in place and with the strong team in the PMU, DEA and TLB, has a good chance of success.

The direct 'added value' to biodiversity conservation (at species, habitat and ecosystem levels) has not yet been quantified. The absence of regular game counts across the Delta, and the fragmentary nature of wildlife population assessments undertaken by some of the tourism operators, makes quantitative measures of fluctuations in the indicator species selected for the project very difficult if not impossible. The trends reported in the Annual Report look positive, but are based on too small a sample over too short a period to provide an early answer to the question.

## **7.3 Has capacity been built?**

Capacity building, like mainstreaming, is a process, not an event. It is therefore important that each capacity building exercise in BioKavango be carefully evaluated and the results integrated into the project learning cycle as a whole. It is very easy, when different topics are covered by different trainers, at different places and times, and with different trainees, to lose the collective feedback – each piece being seen through different rather than a common lens. The delegation of training actions to

different members of the PMU team, or consultants, can lead to loss of added value through the feedback loop unless regular refresher courses are provided.

The capacity building process is seldom very effective when implemented in communities which have limited formal education and which are unfamiliar with modern terminology and jargon. In this respect, the introduction of the Tuba Joint Management Committee to strategic planning might have been a fruitless exercise had it not been tackled from a grass-roots issues and experiential approach. The objective was not to make strategic planners out of rural pastoralists, but to introduce participants to collective decision making around resource use. In contrast, the training manuals on Biodiversity Mainstreaming prepared for the Tawana Land Board appear to be far too technical and even abstract for the task. Neither the 'ecosystem approach' nor 'mainstreaming' are concepts that can be easily communicated, even within sophisticated societies. They are concepts introduced by academics in the 1990s and confounded by policy makers and technocrats – perhaps in an attempt to replace the failed 'integrated rural development' approaches of the 1970s and '80s. The Biodiversity Advisor will need to give ongoing mentorship to Board members, using the developing programme of mainstreaming as a case study in which they directly participate.

#### **7.4 Is the process sustainable?**

The long-term sustainability of the BioKavango process is favoured by many initiatives and commitments referred to during the MTE consultations. These include –

- One of the most important factors contributing to the long-term sustainability of the project's programme (but not the project as a specific entity) is the secondment of UB tenured or contract staff to BioKavango, with the potential of career growth and continuity of 'institutional memory' within the Okavango programmes led by HOORC. This UB support of the project is reinforced by the chairing of the BPMC by the HOORC Deputy Director, who displays real commitment to the BK.
- The early recognition, by the BPMC, of the need for an exit or transition strategy is also a good indicator of preparedness for the end of project and the carrying forward of the programme within their individual and institutional responsibilities.
- The integration of components of BioKavango operational costs into the UB/HOORC budget.
- The inclusion of 'civil society engagement' in the objectives of the new UB Strategic Plan – whereby community oriented research and developmental projects will be more directly incorporated into the UB business plans – mainstreamed rather than merely 'add on' components of the HOORC agenda.

- The most important, high level, indicator of sustaining the BioKavango process is the inclusion, across sectors, and via the different Ministries and their component Divisions, of the budgets needed to implement the ODMP, within the NPD 10 which covers the period 2009/2014. There is thus a large measure of temporal overlap with the funding streams of BioKavango and NPD 10, allowing for the current co-financing to gradually replace the GEF provision for the incremental costs of the project.
- A second high-level indicator is the fact that BioKavango is effectively 'owned' by DEA – indeed the process of ODMP development and genesis into BioKavango has been championed, if not driven, by the DEA leadership. The intellectual threads or linkages across the DEA/BioKavango/HOORC provide the shared thinking that is critical to sustaining projects beyond their relatively short lifetimes. Intellectual coherence is even more important than mere funding mechanisms – without shared thinking and a shared vision, such projects die at end of the funding cycle.
- Good governance is a further pre-requisite for process sustainability. Dysfunctional governance rapidly leads to loss of trust and credibility, loss of confidence by project participants, dissolution and the demise of collaboration. The good governance displayed within BioKavango, from the PSC, BPMC, PMU and Reference Groups suggests that the image of the project will leave a legacy that can easily be carried into the future – regardless of identity or funding source.
- The expansion of the ODIS information system into a basin-wide OBIS, supported by OKACOM, provides regional relevance to the BioKavango-led information sharing initiative – embedding the utility of the database within the developing cohort of environmental managers throughout the region.
- The growth of skills through the collaboration between OKACOM and BioKavango, supported via the broad-based skills available in HOORC, in developing the Transboundary Diagnostic Assessment, and determining ecological flow and ecosystem reserve needs, provides another network of expertise and mutual benefit that will continue contributing value beyond BioKavango.
- The signing of a Memorandum of Understanding between HOORC and DEA in 2008, whereby HOORC undertakes to conduct, on behalf of DEA, a systematic and comprehensive environmental monitoring programme in the Okavango, with NPD 10 funding 'mainstreamed' via DEA for this purpose.
- Fundamental to the mainstreaming process is the influence of policy and behaviour. The impact that BioKavango has had through the policy reviews undertaken ( on usufruct rights, aquaculture, tourism sites, waste management, etc), with wide consultation and feedback loops, must be of major significance to improving environmental behaviour and responsible governance across many sectors. While hard-edged legislation has not yet emerged from the majority of the BioKavango reviews, the process is as important as the product. One might very easily under-value the slow but systematic, almost insidious, influence on peoples' mindsets occasioned by

their participation in such review processes. The waste management, fisheries use, eco-tourism certification, and site selection reports might have imperfections, but they are a major step forward in guiding better practice. The mere participation in their development will have exposed a wide audience of influential persons, from lodge owners to fishers and pastoralists, to value judgments that need to be made on a daily basis. The accumulative value of this is not trivial.

- Given the long history of good environmental governance displayed at most levels of government and society in Botswana, there is little doubt that the BioKavango process is sustainable in the long term.

### **7.5 Outcomes rating – achievement of overall project objective and outcomes; implementation approach; and sustainability – with suggestions on remedial actions**

#### ***General***

In assessing the progress being made in BioKavango, it is important to recognize that it is an intervention designed specifically to test the biodiversity mainstreaming hypothesis that underpins GEF Biodiversity Focal Area Strategic priority 2. It is not merely another GEF project supporting biodiversity conservation at the national scale, or biodiversity within protected areas. In addition, BioKavango is a sustainable livelihoods and biodiversity-focused project, implemented through the mainstreaming of biodiversity conservation and sustainable development objectives across several production sectors. It seeks to achieve its goal firstly by removing barriers at the systemic and institutional level, and secondly by testing and then replicating pilot projects in each of the project's component areas. Its implementation process emphasizes the development of partnerships and associated co-financing of costs.

In developing and implementing the project, attention has had to be given to challenges both within and beyond the control of the project team. External challenges include Botswana's traditional open access regime on natural resources, the highly centralized power-base of government, the disparities between wealthy and poor stakeholders, unpredictable floods, droughts and stock disease outbreaks, and the emerging global issues of economic downturn and climate change. Internal challenges include difficulties in staff procurement and retention, the logistics of working over a large, often seasonally inaccessible project area with limited travel budgets, and perceptions among some stakeholders that the project is essentially an academic, research project rather than a conservation and development endeavour.

In responding to the challenges, the project has had the advantage of a strong background to participative programme development and implementation provided by the ODMP experience, a strong tradition in consultative decision making at village level through *legotlas*, and a very supportive political and governance environment.



Comment on progress and weaknesses in elements of the project, and remedial actions, follow, with a rating according to the GEF/UNDP six-point scale. Additional recommendations on remedial actions are detailed in section 8.

<i>Overall Project Objectives</i>		
<i>Strengths &amp; Positive Outcomes</i>	<i>Weaknesses &amp; Remedial Action</i>	<i>Rating</i>
<p>BioKavango has made impressive progress towards achieving its objective - “Biodiversity management objectives are mainstreamed into the major production sectors of the Okavango Delta”.</p> <p>Progress has been demonstrated in each of the four components of the work plan, some moving faster than others, but all now in a healthy state of implementation.</p> <p>Perhaps the most significant progress has been achieved in the level of institutional strengthening, with key appointments and networks being established at local, national and regional levels. Biodiversity management principles and techniques have been incorporated into the day-to-day operations of diverse institutions through subtle or more overt mechanisms.</p> <p>Success indicators include the impact of seconded staff and contract appointments to key positions in DEA, TLB and HOORC; the high profile the project has been given in government at national and district levels; the high level of co-financing received from the tourism sector; the excellent collaboration of partners in DWA, DEA, UB, and OKACOM; the respect resulting from good project governance; the demonstrated relevance to local communities of the pilot projects; successful conflict-reduction interventions, and the visible competence and professionalism of the project team.</p> <p>At activity level, many significant</p>	<p>Areas of weakness are evident at project and component level, but can be remedied within the project timeframe.</p> <p>1. A need exists for the stronger integration of the numerous and diverse activities into a linked conceptual model around the goal and objective of BioKavango. Biokavango offers a unique opportunity to develop a model of hydrological/ecological/livelihood interactions at an extended landscape scale. At present, the many activities appear to be progressing in isolation from one another. This is not uncommon in complex, multi-disciplinary projects, given the focus needed on day-to-day priorities. But a synthesis of where the different elements are headed and how the threads will ultimately be drawn together, is urgently needed. A positive step toward the synthesis of lessons learned was the organization, by BioKavango, of a highly successful ‘International Wetlands Conference’ in early 2008. A similar meeting, providing a preliminary synthesis of BioKavango progress might be helpful in bringing international experience and exposure to the project as it heads towards conclusion.</p> <p>2. Another cross-cutting need is the greater and more inclusive use of the Logical Framework Approach to project adaptive and participative management. The log-frame is a very useful tool, but needs careful crafting and word choice to ensure that its logic is robust. At present, the linkages between objective, outcomes and activities are not always clear, and the indicators and means of verification for some are either very difficult to measure or are not clearly linked to the project objective. This weakness must be addressed, and in particular the measurement and monitoring of the key indicators and their means of verification strengthened.</p> <p>3. In revisiting the log-frame, further attention must be given to mobilizing the project exit strategy. At present, the exit strategy seems to lie in the funding of the NPD 10 budget and its</p>	<p>In summary, the progress towards achieving the project objective, in terms of implementation approach, country ownership, co-financing, stakeholder participation and benefits, sustainability, and technical content has at the time of the MTE, been assessed as ‘Satisfactory’.</p>

<p>outputs have been produced. Many of these result from partnerships and responsibilities established during the ODMP development, but demonstrate the effective transition from ODMP to BioKavango, and the progress of mainstreaming emerging from the Ecosystem Approach philosophy embedded in the ODMP. The results of the various reviews on Usufruct rights, Community Based Natural Resource Management Policy, Okavango Ramsar Site Tourism Development Plan, Okavango Ramsar Site Integrated Land Use Plan, Liquid Waste Systems for Tourism Establishments, Botswana Ecotourism Certification System, Okavango Delta Aquaculture Guidelines, and many more, serve to better inform decisions and actions that contribute directly to achieving the project objective and goal.</p>	<p>allocation to OMPD implementation tasks across the different sectoral departments of government. This is a fair assumption, but it might be fatal if the expectations of the ODMP are not executed.</p> <p>4. Some weaknesses at activity level need attention - such as the efficiency and appropriateness of artificial wetland water polishing systems for the Delta, the likelihood of success and appropriateness of fisheries catch and water quality monitoring systems, and the relevance of some of the training manuals for their chosen audience. But these weaknesses can be addressed and remedied by the project management assisted where necessary by the strong network of professional specialists that have participated as consultants and committee members of BioKavango. Increased monitoring and feedback of training course impacts is needed.</p> <p>5. The absence of a communications strategy needs to be addressed, not necessarily at great cost, but through highlighting the successes of the partners, and synthesizing lessons learned for communication both nationally and internationally. Within country, greater use should be made of opportunities to advocate biodiversity best practice through the BioKavango/UB/DEA/UNDP network.</p>	
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<i>Implementation approach</i>		
<i>Strengths &amp; Positive Outcomes</i>	<i>Weaknesses &amp; remedial actions</i>	<i>Rating - implementation</i>
<p>The implementation of Biokavango is underpinned by the mainstreaming conceptual model – thus differing significantly from conventional protected area approaches to biodiversity conservation. The approach is innovative and not without significant risks – and is more dependent on strong, sustained, partnerships than protected area approaches. This is where the strength of the project lies - in its catalytic and synergistic role through partnerships. As a stand-alone activity, it would have achieved very little. But by adopting and broad-based collaborative approach, much of lasting value will result.</p> <p>Mainstreaming is not a simple process. Success comes from repeated iterations of processes with common goals – a ‘successive approximation’ approach which builds on sequential waves of energy – of which BioKavango is merely one.</p> <p>The strong legacy of government-led interventions in biodiversity at the policy and planning scale (CBD, RAMSAR, NWPS, NBSAP, ODMP, etc) provided BioKavango with a receptive institutional environment, and the prerequisites for effective mainstreaming of good governance, a strong knowledge base, and appropriate stimuli. BioKavango fits well into the mainstreaming conceptual model as the mechanism whereby the hypothesis can be tested.</p> <p>As such it is a project of national, regional and international importance, of value beyond its direct conservation outcomes in Botswana.</p> <p>The BioKavango project is being implemented through a well-structured management system comprising a Project Steering Committee, a Project Management Unit and diverse Stakeholders, together with subsidiary committees and partner institutions. The structure ensures clarity of roles among stakeholders.</p> <p>The Project Management Unit includes a highly motivated and dedicated team of environmental and development professionals and support staff.</p> <p>BioKavango enjoys broad-based support and ownership from all sectors of Botswana’s national and local government, academic institutions and the tourism industry.</p> <p>The activities within each component are being</p>	<p>1. The pilot projects are being implemented in a widely dispersed network of sites throughout the Delta, ensuring that the project’s impact is felt throughout the study area. A possible weakness resulting from this geographic spread of sites is in the logistical challenges and in the difficulty of providing frequent mentoring and monitoring of the activities of the volunteer collaborators.</p> <p>Fewer sites, more rigorously monitored, might be more appropriate, but would reduce the breadth of visibility and participation. Continuous training and mentoring, with formal and regular evaluation of the capacity building impacts, is essential, and might need strengthening.</p>	<p>In terms of implementation approach and progress with the various activities, the assessment, based on an analysis of project documentation, consultants’ reports, interviews and visits to a sample of project sites, is that progress is ‘Satisfactory’.</p>

<p>undertaken by partners, principally the HOORC, TLB, DEA, DWA; and through pilot projects led directly by the project managers in collaboration with ‘champions’ in the tourism and traditional and commercial fisheries sectors. Use is also being made of specialist consultants, mostly Botswana based, with only limited dependence on foreign consultants – ensuring sustainability, within country, of skills.</p> <p>The University of Botswana, through the Harry Oppenheimer Okavango Research Centre (HOORC), Maun, is an appropriate, well resourced and competently administered institutional host for the Project. The perception that this affiliation gives the project too academic an image is a minor concern – what is critical to mainstreaming is the independence and intellectual rigour of the facilitating agency. In this respect, UB-HOORC fit the requirement perfectly.</p>		
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<i>Sustainability</i>		
<i>Strengths &amp; positive outcomes</i>	<i>Weaknesses &amp; remedial actions</i>	<i>Rating - sustainability</i>
<p>The sustainability of the projects outcomes will be directly dependent on the success of the mainstreaming approach, embedding responsibility for biodiversity management in the wide range of project stakeholders, rather than in the continued existence of BioKavango as an entity in its own right. Thus sustainability will be ensured through the removal of barriers and the development of broad-based capacity.</p> <p>The strengthened institutional capacity at TLB, DEA, HOORC, and in institutions such as the OFA, give promise of continuity. But all are dependent on funding</p>	<p>1. Key to BioKavango’s legacy will be the degree to which it provides an effective exit strategy, to avoid loss of skills, networks and lessons learned. This process, and that of developing pilot projects to scale, has not yet commenced. It is now appropriate to initiate such strategies – a high priority for the PMU over the next six months, simultaneous to making necessary improvements to the pilot project weaknesses indicated above. This might increase the symptoms of ‘participation fatigue’ among stakeholders, requiring great care in the use of the volunteer network.</p> <p>2. At the mid-term the success in removing barriers in the three production sectors is difficult to assess. The pilot projects have only recently bedded down, and some are still far from meeting their targets. A few examples might be used to illustrate.</p>	<p>In summary, the likelihood of the project outcomes continuing after the completion of GEF funding is strong. This conclusion is based on the supportive enabling environment for biodiversity conservation in Botswana; the country’s record of good governance; the strength of the institutional host – HOORC, and the commitment of UB’s strategic plan to research and</p>

<p>– whether via BioKavango or from sectoral budgets. Staff development within the BioKavango team has been active, and the lessons and skills learned through the numerous training courses, guidelines, manuals and policy reviews undertaken through the project will have had important capacity building impacts. The quantification of impacts – beyond the numbers of participants in each course, number of reports completed, decisions taken and acted on in Board meetings, etc, does not easily translate into any meaningful measure of biodiversity benefits on the ground.</p> <p>The above challenges suggest that the pursuit of quantitative impact measures is pointless, but the evidence of qualitative measures, such as institutional strengthening and individual capacity building, information sharing, conflict reduction and network growth, are more relevant to assessments of biodiversity mainstreaming projects. In this respect, the systematic growth in Botswana of improved environmental management policies, instruments and strategies over the past decade, including those initiated by BioKavango, is part of a general momentum which is self-reinforcing through the synergies that they foster. BioKavango is but part of a bigger process of good governance in Botswana, and as such cannot be assessed in isolation. It is dependent on the contributions of other agendas, as are they of BioKavango.</p>	<p>- The water quality monitoring project has run for a year, but an analysis of results is awaited. Similarly, the impact of the <i>Salvinia molesta</i> control project needs quantification beyond the record of how many tourist operators are supporting the project. Without a measure of added value brought by BioKavango measured in terms of hectares of <i>Salvinia</i> reduced by the pilot project, the results remain qualitative.</p> <p>- In the case of the fisheries monitoring project, the field sites visited had not yet commenced meaningful recording of daily catch. The records only presented a daily bulk catch, with two categories – Tiger fish and others. The desired breakdown into species and length and weight information had not been initiated. Training in fish identification is of little value if it is not applied to fish stock recording. The commercial operations are still rudimentary and cannot be considered to have provided any progress towards sustainable use or financial stability of the resource.</p> <p>- The short-comings of the sewage water polishing system have been noted above – the project is not yet functioning. Careful management of the Thuso demonstration site by the project manager, until the water polishing system is functioning continuously for several months without outside intervention, is needed to prove its efficacy.</p> <p>3. While these pilot projects are still in the early stages of their development, their scaling-up is premature. For this reason, it is too early to suggest that funding for the <i>Salvinia</i> project, viewed as a great success, should be re-allocated elsewhere. The project, as with all the pilot activities, need to run for their full term to test their robustness to changing conditions of staffing, flood regime, partnership commitment, etc.</p> <p>Despite the above problems in the pilot projects, the balance of the project offers good prospects for sustainability.</p>	<p>community development projects in the Delta; and to the firm foundation laid for partnerships by the BioKavango management team.</p> <p>The evaluation rating for project sustainability is ‘satisfactory’.</p>
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## **8. RECOMMENDATIONS**

### ***8.1 Log-frame review***

The Logical Framework defines the project objective, outcomes and programme of work. It is the project's key guiding document and point of reference for evaluation and monitoring. As such it needs regular review and improvement, both as a management tool and as a vehicle for communication with project stakeholders.

Unfortunately, log-frame documents are very user-unfriendly, indeed intimidating to their use. For this reason, they need to be unpacked into 'bite-sized' pieces before use in stakeholder workshops. There also needs to be a shared point of entry for participants. Thus using the log-frame as a basis for discussion in developing an exit strategy might be a useful approach. However, the term 'exit' might appear too immediate to the stakeholders – such as the OFA – who hope that the project will be an ongoing source of financial and institutional support. Hence it might be better to speak of a 'BioKavango sustainability strategy' or of a 'scaling-up and replication strategy'.

In any review, the livelihoods component of the project needs higher emphasis in the log-frame, rather than species diversity. The relevance to the target communities – whether fishers or lodge owners – is the sustainability of their livelihoods. The link to biodiversity conservation must be emphasized as a *sine quo non* – but the entry point is livelihoods.

### ***8.2 BioKavango Conceptual Model***

A synthesis of activities and outputs within an over-arching conceptual model of BioKavango should be developed, with special attention given to a stronger articulation of the hydrological dynamics/tourism economy/biodiversity resource/sustainable livelihoods nexus, as part of the model. The current work in the environmental flows project offers a strong springboard for this exercise. A convincing case needs to be made for biodiversity as a sustainable land use option in an expanding human population with rapidly rising consumer demands. The economic valuation of biodiversity goods and services of the Okavango undertaken as part of the ODMP preparation has been criticized as incomplete, and reference to the revised estimates – far higher than the ODMP figures – should be incorporated into the model.

### ***8.3 Capacity building***

The contribution that BioKavango has made to capacity building is substantial – from developing an understanding of strategic planning by rural pastoralists and fishers in Tubu, to appreciating invasive species population control and monitoring by safari lodge owners at Xakanaka, and much more. But capacity building is not a once-off event, it is a lengthy and time consuming process for all involved. The timeframes, budgets and human resources of many projects such as BioKavango result in capacity building being out-sourced to specialists who come, deliver, and depart. The result is very poor uptake of the material offered, usually in technical English, and usually in a hurry. This situation places a high responsibility on the PMU to regularly evaluate the impact of courses at the time of the course and several months later.

Training that is apparently absent from the capacity building programme is that of financial management for small enterprises. Visits to the commercial fishing pilot project indicated a need for elementary business development support to the individual fishing syndicates, community trusts, individual basket makers, etc, on individual and group financial and business management. Examples abound of where failing business projects can be turned around by basic business guidance sustained on a monthly or quarterly basis until project end. Perhaps business training not part of BioKavango's mandate, but there is little point in teaching traditional fishermen the latin names of fish species if they are unable to make a viable business out of their fishing activity.

### ***8.4 Communication***

The project has received wide visibility locally in Ngamiland, and is regarded as a 'flagship project' among its participants. But it has lacked a communications strategy – indeed, the consultancy for the development of a formal communications strategy was only advertised in late 2008, and due to the very highly priced quotes received, none was accepted.

The question is not so much whether BioKavango itself needs high visibility, but how to ensure that the partners are recognized for their contributions to the common vision. In developing successful collaborative, multi-institutional programmes, where co-financing is a key element, the trick is for the facilitating/coordinating unit to maintain a relatively low profile, while ensuring that partners get maximum exposure. So the Biokavango brand is important, but it is the 'halo effect' that must be emphasized. Whether this has been achieved in the project is not entirely clear – perhaps an opportunity lost simple because the PMU has been too occupied by the day-to-day operational needs. But through careful selection and promotion of the success stories – big and small – of partners and participants, the images of all can be enhanced in the remaining period available. For this, rather than a high cost/high energy communication campaign, a more modest approach using the available communication

mechanisms of partners, with some supplementation through selected targeting, is recommended.

Some thought should be given to achieving greater international recognition for the achievements of or lessons learned in the BioKavango mainstreaming process. The ongoing series of CBD hosted or affiliated meetings offer opportunities for 'marketing' the project, at no or very little cost. A power point presentation, for use by members of the PMU team and partners, should be prepared for continuous update and presentation at appropriate meetings around the world. The text of this, or excerpts, could be packaged for publication in relevant journals and magazines, both professional and popular. The house journals of the various lodge owners can also provide a good vehicle to communicate the concept and process of mainstreaming to an influential global audience.

The International Wetlands Conference hosted by BioKavango in 2008 was a highly successful project that has provided a firm and very helpful record of the development of the ODMP and other linked initiatives which led to BioKavango. It is important that cross linkages to the published proceedings be emphasized in future publications on the Okavango – for as a item of 'grey literature' the proceedings can easily be overlooked, and the important messages included in the various chapters lost to its potential readership.

Communication should reach and penetrate government policy makers. Thus a measure of advocacy needs to be built into the communications strategy. Here the strong partnership between BioKavango/University of Botswana/DEA and the UNDP Country Office can be used to reach high levels in government and achieve greater success in the incorporation of biodiversity management best practice across sectors.

### **8.5 Pilot projects**

Each of the pilot projects needs careful review in terms of their ability to achieve their objectives. The following are a few examples that can be improved. Comments on other pilot projects needing specific attention have been given above.

The *Salvinia* monitoring and control pilot project appears to be proceeding well, but needs more effective backstopping during the peak tourism season, where the guides trained to undertake the monitoring and weevil breeding get called away to attend to client needs. Filling this gap, both in the *Salvinia* project and in the water quality monitoring, might be difficult due to human resource constraints in the isolated and operationally expensive location of the lodges, but without systematic continuity, such monitoring becomes worthless.

A further component of the tourism sector needing attention is that of waste management. The Consultants' report is a detailed study of the topic, but it would appear that insufficient attention was given to the realism of its recommendations,



given the very difficult and challenging nature of the safari operations in the Delta. Furthermore, the demonstration project at the Thuso Rehabilitation Centre needs careful attention if it is to serve as a demonstration unit. Whether or not it was operational at some stage, the current situation demonstrates the danger of trying to implement what is a complex water polishing system in rural situations. Initially equipped with a diesel powered generator, the pump has apparently repeatedly failed, and as a result, the 'polished' sewage effluent has not been released, resulting in back flow and subsequent failure of the intended process. In addition, a solar powered unit for pumping the treated effluent into an orchard had had its photo-voltaic panels stolen or removed, and was thus also inoperable.

The construction of an artificial wetland has considerable material needs – in cement, gravel and reinforcing steel, all of which will need to be transported from Maun or beyond to the site, at considerable economic and environmental cost.

The Consultants' report considers the artificial wetland as the most favorable solution to sewage treatment at safari lodges in the Delta, but perhaps more conventional approaches need to be re-visited.

### ***8.6 Future directions***

The project has followed its initial work plan with few deviations. The only activity that has been consciously abandoned is that on monitoring riparian woodlands, where funding commitments from a partner could not be sustained, and where the time required to restart the project would have placed constraints on completion within the BioKavango timeframe.

Project implementation should follow the work plan, with increased attention to improvements at log-frame level, and at pilot project level, suggested in this report's recommendations. Corrective action should not require changed budget arrangements, and where increased investment to strengthen monitoring systems is needed, re-allocation from within the current under-spending should be adequate.

This positive outlook might change considerably if the expectations for NDP 10 funding are not realized. Some buffering is possible due to the current overlapping timeframes of BioKavango and NDP 10 expenditure, allowing time for reviewing the strategic and work plans. The momentum developed at the community level, with fishers, tour guides, tour operators and partners in the public sector should be sustained, even at the cost of reducing investment in activities such as those in knowledge sharing and data-basing, and implementing a reduced communication and marketing strategy. There appears to be an opportunity to reduce overheads on travel and on consultancies, workshops and training courses, should austerity measures be needed.

## 9. Lessons learned

BioKavango is at Mid-Term, and is a 'work in progress'. It is perhaps premature to speak of 'lessons learned' – when still in the learning process. But much has been experienced on the challenges to successful project implementation – both at the strategic and activity level. Some messages are of general utility, others more of local relevance. A selection follows.

1. Mainstreaming is difficult. The concept is novel, usually poorly articulated and communicated, and can be a barrier rather than a solution. But the concept is fundamental to achieving biodiversity conservation success beyond the boundaries of formal protected areas.
2. Mainstreaming takes time to implement, and needs the physical presence of its proponents in the field, training and mentoring the target stakeholders directly – not through one-off courses and user manuals. It is not a technology, it is a philosophy and a behavioural process.
3. Stakeholder expectations should not be too greatly exaggerated. The timeframe of interventions and outcomes are long – not activity bound, and may exceed the life of the project.
4. Mainstreaming is dependent for its success on the existence of prerequisites, stimuli and mechanisms. Botswana is fortunate to have socio-economic, governance and technical capacity environments conducive to successful mainstreaming – but the BioKavango model might not be easily replicated elsewhere in Africa.
5. Pilot projects are just that – they offer challenges that are avoided by standard 'business as usual' approaches. Some failures are to be expected – without challenges, there is no learning.
6. BioKavango has been fortunate in being able to 'slip-stream' on the success and outcomes of the ODMP and associated projects. It enjoys the halo effect of those projects, and must ensure that it offers existing and new partners a share of any credit it achieves.
7. The difficulties encountered in several activities in the pilot exercises should be remedied through persistent mentoring and adaptive management. They must be approached through the commitment to 'think big, start small'.

## **10. Annexes**

### **Annex 1. Terms of Reference - Mid-Term Evaluation**

#### Project: Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta

*Project Number: PIMS 2028, ATLAS 00050134*

#### ***A. Introduction***

##### **A.1 Project background**

The Okavango Delta, the largest Ramsar Site in the world, is a globally important wetland ecosystem situated in northern Botswana. While the ecological integrity of this wetland remains largely intact, there are signs it is being slowly eroded in the face of gradually rising anthropogenic pressures. There is an urgent need across Botswana's wetland environments to balance competing uses of water and other wetland resources by production sectors, while providing for biodiversity conservation objectives. This need has led the Government of Botswana to develop a National Wetlands Policy and Strategy (2001) which is now in the process of being revised, while at site level a Management Plan for the Okavango Delta (ODMP) has been developed and it is currently being implemented as a schema for sustainable development in the area. This Plan is the first of a series of Plans that will be written for wetlands.

The GEF-funded project "*Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta*" (hereinafter referred to as "BioKavango") has been designed to support the elaboration and implementation of the ODMP. In more detail, the project aims at lifting barriers to mainstreaming biodiversity conservation objectives into three production sectors: water, tourism and fisheries, all dependent on ecological services and goods provided by the Okavango River. These barriers include: a systemic and institutional capacity deficit for wetland management, conflicts over access to wetland resources between user groups, weak management of knowledge needed to guide decision making from the local user level to regulatory authorities, and absence of voluntary mechanisms and incentives, to cultivate private industry involvement in conservation. The Project will remove the barriers through a two-tiered set of interventions: i) that build capacity within the regulatory authorities and service providers to assimilate and emphasize biodiversity management objectives in decision making; and ii) that demonstrate how best to incorporate biodiversity management into day-to-day production practices through pilot projects. A strong emphasis is placed on participation and engagement between the various stakeholders, and building partnerships between government, private sector and rural communities. While focused on the Okavango, it is anticipated that the conservation methods that will be piloted have application in other wetlands within Botswana. To this end, the Project maintains a strong focus on replication.

##### **A.2 UNDP/GEF M&E requirements**

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives:

- i) to monitor and evaluate results and impacts;
- ii) to provide a basis for decision making on necessary amendments and improvements;
- iii) to promote accountability for resource use; and
- iv) to document, provide feedback on, and disseminate lessons learned.

A mix of tools is used to ensure effective project M&E. The BioKavango project uses a mix of tools including periodic monitoring of indicators as well as specific time-bound exercises such as mid-term and final evaluations and audit reports. In particular, the mid-term and final evaluations provide an independent in-depth review of implementation progress, this type of evaluation is also responsive to GEF Council decisions on transparency and better access of information during implementation.

Mid-term evaluations are intended to identify potential project design problems, assess progress towards the achievement of objectives, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP/GEF projects), and make recommendations regarding specific actions that might be taken to improve the project. It is expected to serve as a means of validating or filling the gaps in the initial assessment of relevance, effectiveness and efficiency obtained from monitoring. The mid-term evaluation provides the opportunity to assess early signs of project success or failure and prompt necessary adjustments.

### ***B. Objectives of the Evaluation***

The present Mid-term Evaluation has been commissioned by the UNDP in Botswana and will be conducted according to guidance, rules and procedures for such evaluations established by UNDP and the GEF. The evaluation team will work closely with all the project stakeholders, particularly the Henry Oppenheimer Okavango Research Centre (HOORC) of the University of Botswana (UB); the Department of Environmental Affairs (DEA) at the Ministry of Environment, Wildlife and Tourism (MEWT) and other relevant government agencies at both national and local level; the private sector and the communities involved in the pilot projects in selected sites.

The overall objective of this Mid-Term Review is to review progress towards the achievement of the project objectives and outputs, identify strengths and weaknesses in implementation, assess the likelihood of the programme achieving its objectives and delivering its intended outputs, within the current timeframe and, where relevant, provide recommendations on modifications to increase the likelihood of success.

This evaluation will provide a professional assessment of the project design, scope, status of implementation and capacity to achieve the set objectives. The evaluation will also collate and analyze lessons learned and best practices obtained during the period of implementation of the project that shall be taken into consideration during the remaining project implementation period and subsequently for the development and implementation of future environment programmes in Botswana.

The report of the Mid-Term Evaluation will be disseminated for review to the executing and implementing agencies, national stakeholders and other partners of the project. Upon finalization, it will be forwarded to UNDP/GEF Regional and Head Offices, as well as to the GEF Evaluation Office for purposes of capitalizing the gained experiences.

### ***C. Scope of the Evaluation***

The Evaluation will address the project's achievements according to the following Project Review criteria:

#### **a) Outcomes**

- Assess progress towards attaining the project's environmental objectives and outcomes and provide a rating of this using the 6 point UNDP/GEF rating scale<sup>1</sup>. This should include the extent to which the project is likely to contribute to the: (a) creation of an enabling environment strengthened at both systemic and institutional level; (b) integration of biodiversity management objective into the water sector; (c) direct contribution of the tourism sector to biodiversity conservation in the Delta; (d) introduction of biodiversity friendly management methods into fisheries production systems.
- 

#### **b) Implementation approach**

- Review the clarity of roles and responsibilities of the various individuals, agencies and institutions and the level of coordination between relevant players.
- Assess the level to which the Logical Framework Approach (LFA) and performance indicators were used as project management tools;
- Evaluate any partnership arrangements established for implementation of the project with relevant stakeholders involved in the countries/region;
- Describe and assess efforts of UNDP in support of the implementing agencies, regional and national institutions;
- Make recommendations as to how to improve project performance in terms of effectiveness and efficiency in achieving impact on institutional and capacity development and the targeted conservation concerns.
- Provide a rating of project implementation using the 6 point UNDP/GEF rating scale.
- In addition, the evaluation will provide a thorough analysis of the way pilot projects have been implemented and monitored under the framework of the BioKavango Project. In particular, the evaluation will assess issues related to:
  - Design, relevance and expected overall contribution of the pilot projects to the attainment of the BioKavango project goal and outcomes;
  - Implementation strategy (i.e. strategies and tools put in place to systematically identify and document lessons learnt from the pilot projects);

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<sup>1</sup> The ratings will be Highly Satisfactory, Satisfactory, Marginally Satisfactory, Marginally Unsatisfactory, Unsatisfactory and N/A as defined in the most updated "Guidelines for Implementing and Executing Agencies to Conduct Terminal Evaluations" of the GEF Evaluation Office (2007).

- Strategy and plans for scaling-up project interventions after conclusion of the pilot phase.

### **c) Country Ownership/drivenness**

- Assess the extent to which the representatives of the participating country (including governmental officials, civil society, etc.) are actively involved in project implementation.

### **d) Co-financing**

- Assess whether the government and other partners have maintained financial commitments to the project and **undertake a reconciliation of the co-financing pledged and realised.**

### **e) Stakeholder Participation and benefits accrued**

- Assess the level of public involvement in the project and comment as to whether the scope of public involvement has been appropriate given the broader goals and objectives of the project;
- Review and evaluate the extent to which project benefits have or will reach the intended beneficiaries.

### **f) Sustainability**

- Assess the likelihood of continuation of project outcomes/benefits after completion of GEF funding; and
- Describe the key factors that will require attention in order to improve prospects for sustainability of project outcomes. Factors of sustainability that should be considered include; institutional capacity (systems, structures, staff, expertise, etc.) social sustainability, policy and regulatory frameworks that further the project objectives, financial sustainability.

### **g) Replication Approach**

- Describe the main lessons that have emerged in terms of: strengthening country ownership/drivenness; strengthening stakeholder participation; institutional structure and capacity building; application of adaptive management strategies; efforts to secure sustainability; knowledge transfer; and the role of M&E in project implementation. In describing all lessons learned, an explicit distinction needs to be made between those lessons applicable only to this project, and lessons that may be of value more broadly.
- Make recommendations on how the lessons and experience can be incorporated into the design of similar initiatives in the future.

## **h) Financial Planning**

- Assess the financial control systems, including reporting and planning, that allowed the project management to make informed decisions regarding the budget;
- Assess the extent to which the flow of funds had been proper and timely both from UNDP and from the project management unit to the field;
- Evaluate the extent of due diligence in the management of funds and financial audits.

## **i) Cost effectiveness**

- Assess compliance with the incremental cost criteria (GEF funds used to finance a component of the project that would not take place without GEF funding and securing co-funding and associated funding); and
- Assess the extent to which the project has completed the planned activities and met or exceeded the expected outcomes according to schedule and as cost effectively as initially planned.

## **j) Monitoring and Evaluation**

- Review the project's reporting systems and their efficiency; and
- Review the implementation of the project's monitoring and evaluation plans including any adaptation to changing conditions (adaptive management) – and specifically, assess whether the lessons, insights and recommendations of the mid-term evaluation were applied successfully to re-direct the project.

### ***D. Products Expected from the Evaluation***

The evaluator will present a final report to UNDP employing the headings outlined in these TORs (Annex I). The Report will include an Executive Summary summarising the main findings, lessons and recommendations. The evaluation will include ratings on the following aspects (1) Sustainability, (2) Outcome/achievement of the objectives, (3) Implementation approach.

### ***E. Methodology or Evaluation Approach***

The evaluator will undertake a review of documentation, including the Project Document and technical reports.

The evaluator will liaise with all key stakeholders including Project Steering Committee members, Henry Oppenheimer Okavango Research Centre (HOORC) and University of Botswana (UB), Ministry of Environment, Wildlife and Tourism (MEWT) and other government ministries both at national and local level, relevant NGOs and CBOs, civil society representatives, the private sector and local communities. Structured and semi-structured interviews will be organised with key stakeholders to collect information. Structured feedback mechanisms such as a self-administered, electronic set of questions (survey) could also be designed and utilised. A detailed list of stakeholders will be included in the inception report of the consultancy.

Field visits to project sites will be undertaken to monitor the progress in implementing the pilot projects provided for in the project document. The evaluator will be expected to travel both to Maun and Gaborone in order to interview all key stakeholders.

#### ***F. Evaluation Team***

The evaluation will be performed by an independent, duly qualified and experienced professional conversant with the development context of Southern Africa. He/She will have a wide range of skills, including:

- Evaluation specialist with at least a Master's degree in Biodiversity Conservation, Natural Resources Management, Development Studies, Sustainable Development or other relevant field;
- A minimum of ten (10) years of relevant work experience in the field of biodiversity conservation and related activities, including environmental mainstreaming, community based natural resources management and private sector engagement;
- Relevant experience in Southern Africa will be added advantage;
- Proven expertise in evaluating multifaceted programmes/projects and results-oriented monitoring and evaluation;
- Previous experience in evaluating programmes/project for UNDP or other UN/multilateral agencies is essential; previous experience evaluating GEF projects will be a distinctive advantage;
- Excellent analytical and reporting skills and fluency in written and spoken English are essential;
- Demonstrated ability to assess complex situations in order to succinctly and clearly distil critical issues and draw forward looking conclusions.

**The evaluator should not have been associated with the design and implementation of the project.**

#### ***G. Implementation Arrangements***

The assignment should take approximately 20 working days and should start no later than 1<sup>st</sup> April 2009 with the final report presented to UNDP no later than 30<sup>th</sup> May 2009A draft indicative work programme is included in Annex II.

The UNDP Country Office in Botswana will assume responsibility for coordinating the programme of the evaluation team, including stakeholder meetings. The evaluation team will be briefed by the UNDP Country Office Environment Team, upon the commencement of the assignment. The evaluators will provide a terminal briefing at the end of the assignment. Other briefing sessions may be scheduled, if deemed necessary.

#### **Evaluation Report: Sample Outline**

##### **Executive summary**

- Brief description of project



- Context and purpose of the evaluation
- Main conclusions, recommendations and lessons learned

#### **Introduction**

- Purpose of the evaluation
- Key issues addressed
- Methodology of the evaluation
- Structure of the evaluation

#### **The project(s) and its development context**

- Project start and its duration
- Problems that the project seek to address
- Immediate and development objectives of the project
- Main stakeholders
- Results expected

#### **Findings and Conclusions**

- Project formulation
  - Implementation approach
  - Country ownership/Driveness
  - Stakeholder participation
  - Replication approach
  - Cost-effectiveness
  - UNDP comparative advantage
  - Linkages between project and other interventions within the sector
  - Indicators
  - Management arrangements
- Implementation
  - Financial Planning
  - Monitoring and evaluation
  - Execution and implementation modalities
  - Management by the UNDP country office
  - Coordination and operational issues
- Results
  - Attainment of objectives
  - Sustainability
  - Contribution to upgrading skills of the national staff

#### **Recommendations**

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives

#### **Lessons learned**

- Best and worst practices in addressing issues relating to relevance, performance and success

#### **Annexes**

- TOR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed

- Questionnaire used and summary of results
- Co-financing and Leveraged Resources

## **Annex 2. Documentation consulted**

Anon 2006. Minutes of a Kgotla meeting held at Samochima on November 9, 2006. Mimeograph, 7pp.

Bauer-Gottwein, P; de Groot, R and Finlayson, M 2007. International Peer Review of the Okavango Delta Management Plan. Mimeograph, 36 pp.

BioKavango 2008. Consultancy for the preparation of the Okavango Delta Aquaculture Guidelines. Final Project Report – Annex 2. Aquaculture Norms, Standards and Procedures. Mimeograph, Maun, 20 pp.

BioKavango 2008. Consultancy for the preparation of the Okavango Delta Aquaculture Guidelines. Final Report. Mimeograph. 48 pp.

BioKavango 2008. Consultancy for the assessment of liquid waste systems of tourism establishments in the Okavango Delta and the transportation, handling and storage of hazardous substances in the Okavango Delta. Final Report. Mimeograph, 57 pp.

BioKavango 2009. Consultancy to develop participatory adaptive management approaches for veldt products harvesting/utilization in the Tubu/Ng 25 Pilot site. Report on first workshop. Mimeograph, 35 pp.

Botswana Government 2008. Okavango Delta Management Plan. DEA; Gaborone, 191pp.

Botswana Government 2008. Fish Protection Regulations. Government Printer, Gaborone, 28 pp.

Botswana Guides Association 2009. Okavango Delta Trip Eco-tourism Interpretation Centre. Mimeograph, BOGA, Maun, 2 pp.

Botswana Tourism Board 2009. Botswana Ecotourism Certification System. Draft Standards System. Mimeograph. 92 pp.

Botswana Tourism Board 2009. Preliminary Eco-certification Grading Standards. Mimeograph, 15 pp.

Botswana Tourism Board 2009. Botswana Ecotourism Best Practices Manual. 14 pp.

Cassidy, L (ed) 2008. Sharing lessons and experiences for better implementation of wetlands management. Proceedings of the International Wetlands Conference held at Muan lodge, Maun, Botswana, 31<sup>st</sup> January to 1<sup>st</sup> February 2008. Department of Environmental Affairs, Maun. 152 pp.

HOORC 2008. Ngamiland : People and Environment and Human Footprint Mapping. Fact Sheet 6/2008.

HOORC 2009. Tourism Development in the Okavango Delta. Fact Sheet 8/2009.

Naidu Kurugundla, C. 2009. The involvement of tourist champions in monitoring and control of *Salvinia* – a progress report. Aquatic Vegetation Control Unit, Department of Water Affairs, Maun. Mimeograph. 9 pp.

Ngwenya, B N and Mosepele, K 2008. Socio-economic survey of subsistence fishing in the Okavango Delta, Botswana. Okavango Report Series 6; 50 pp.

Petersen, C and Huntley, B J. (eds) 2005. Mainstreaming Biodiversity in Production Landscapes. GEF Working Paper 20, Washington DC. 165 pp.

Tawana Land Board 2009. Mainstreaming Biodiversity into Land Board Operations. Trainers' Guide. TLB; Maun; 18 pp.

Tawana Land Board 2009. Consultancy for tourism related sites identification in the Okavango Delta Ramsar Site (ODRS). Final Report. Mimeograph, 108 pp.

UNDP 2006. UNDP Project Document – Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta. PIMS 2028. Mimeograph, 111 pp.

UNDP 2007. BioKavango – Project Implementation Review.

UNDP 2008. BioKavango – Annual Performance Report and Project Implementation Review.

UNDP 2008. BioKavango – Audit Report for the Year Ended 31 December 2007.

UNDP 2009. BioKavango – Annual Report 2008/ Quarterly Report Oct – Dec 2008.

University of Botswana 2008. Memorandum of Understanding between Department of Environmental Affairs of the Ministry of Environment, Wildlife and Tourism and the Harry Oppenheimer Okavango Research Centre of the University of Botswana.

University of Botswana 2008. A Strategy for Excellence. The University of Botswana Strategic Plan to 2016 and beyond. Mimeograph, Gaborone, 66 pp.

University of Botswana 2008. Annual Report 2007/8. Gaborone, 36 pp.

### Annex 3. Itinerary and meetings of the MTE

PROGRAMME FOR THE MID-TERM EXTERNAL REVIEW  
FOR THE BOKAVANGO PROJECT, HARRY OPPENHEIMER OKAVANGO RESEARCH CENTRE  
UNIVERSITY OF BOTSWANA  
26<sup>TH</sup> APRIL 2009 – 6<sup>TH</sup> MAY 2009

DATE	TIME	DURATION	ACTIVITY	RESPONSIBLE PERSONS	VENUE
Sunday 26.04.09		1hr	Arrival of Mid Term External Review Team Transportation to Maun Lodge / Rileys Hotel	Project team	Airport
Monday 27.04.09	0900-0930	30mins	Courtesy call / visit to the HOORC Directorate (Director & Deputy Director)	NPC	Director's Office
	0930-1030	1hr	Introductory meeting with BOKAVANGO Project Management Committee and Project Component Managers: Preliminary discussion on the review process Attending: Review Team <sup>2</sup> , BPMC and Component Managers	NPC / WCM	HOORC Seminar Room
	<b>1030-1045</b>	<b>15mins</b>	<b>Health Break</b>		<b>HOORC Seminar Room</b>
	1045-1245	2hrs	Meeting with Project Coordinator: Overview of project implementation processes & challenges Attending: Review Team & NPC	NPC	NPC's office
	<b>1245-1400</b>		<b>LUNCH</b>		
	1415-1500	45mins	Meeting with BPMC Chairperson: HOORC/UB role in implementation process Attending: Review Team, BPMC Chairperson	NPC	Deputy Director's office
	1500-1630	1.5hrs	Open; Review team to interact with NPC, Component Managers and UB staff involved in project implementation	WCM	BOKAVANG O offices
	<b>1700</b>		<b>END OF DAY 1</b>		
Tuesday	<b>0930-</b>	<b>30mins</b>	<b>Health Break</b>		

<sup>2</sup> Review Team consists of Reviewer (Prof Brian Huntley) , Eddy Russell and Leonard Dikobe

DATE	TIME	DURATION	ACTIVITY	RESPONSIBLE PERSONS	VENUE
28.04.09	<b>1000</b>				
	0945-1115	1.5hrs	Meeting with DEA District Coordinator (Mr S. Motsumi): BOKAVANGO Project contribution to implementation of ODMF Attending: Review Team, DEA District Coordinator, BDC & NPC	BDC/NPC	Tawana Land Board
	1130	1230	Courtesy visit to OKACOM Secretariat – Discussions about TDAs and E-flows Attending: Review Team, OKACOM Ex. Secretary & NPC	NPC	OKACOM Secretariat office
	<b>1230-1400</b>		<b>LUNCH</b>		
	1400-1530	1.5hrs	Visit to Thuso Rehabilitation Centre (TRC) – to view an operational constructed wetland polishing system Attending: Review Team, TS	TS	TRC
			<b>END OF DAY 2</b>		
Wednesday 29.04.09	0830-0930	1hr	Meeting with Tawana Land Board: Role of BOKAVANGO Project in BD mainstreaming within the TLB– Achievements and challenges Attending: Review Team, Board Chairman, Board Secretary, Lands Officer, BDC	BDC	
	0945-1045	1hr	TLB: Demonstrations on Identification of Tourism Related Sites (ITRS) by TLB Land Surveyor -Maps showing zones and tourism sites Attending: Review Team, Board Chairman, Board Secretary, Lands Officer, BDC	BDC	TLB Office
	<b>1045-1115</b>	<b>30mins</b>	<b>Health Break</b>		
	1130-1230	1hr	Meeting with Dr Naidu Kurugundla, Head of Aquatic Vegetation Control Unit, DWA:(Discussion about partnership with the project in <i>Salviniamolesta</i> control & monitoring, and capacity building for tour operators)	WCM	DWA Office

DATE	TIME	DURATION	ACTIVITY	RESPONSIBLE PERSONS	VENUE
			Attending: Review Team, Head of AVCU, WCM, NPC		
	<b>1230-1400</b>		<b>LUNCH</b>		
	1400-1530	1hr 30mins	Meeting with Messers T. Bokhutlo, Manyemane and O Setswalo: (Discussion on conflict resolution and Improved Fisheries Management System in the panhandle) Attending: Review Team, Messers Setswalo, Bokhutlo, Manyemane, FC	FC	DWNP Office
	1545-1700	1hr 15mins	Meeting with BOGA - Participation in project reference groups and interpretation centre	TS	BOGA Office
			<b>END OF DAY 3</b>		
Thursday 30.04.09	0800-0900		Meeting with Mr Derek Flatt: (Discussions on Co-financing, role played by private sector in the project and participation in project reference groups representing both private sector and HATAB) Attending: Review Team, Derek, BDC, TS	BDC/ TS	Derek's office
	0900-1000		Meeting with David Kays: View of the private sector about the Tubu/NG25 Joint Management System Attending: Review Team, David, TS	TS	David's office
	<b>1000-1030</b>		<b>Health Break</b>		
	1030-1130	1hr			
	1200-1300	1hr	Visit to Environmental Laboratory and Meeting with Prof Masamba: Explanation/Demonstration of Water Quality Monitoring Program Attending: Review Team, Prof	WCM	HOORC Environmental Laboratory

DATE	TIME	DURATION	ACTIVITY	RESPONSIBLE PERSONS	VENUE
			Masamba, WCM & NPC		
	<b>1300-1400</b>		<b>LUNCH</b>		
	1400-1500	1hr	Visit HOORC library and meeting with Ms M. Morrison – Demonstration of the Knowledge Management System Attending: Review Team, Ms Morrison, BDC & NPC	BDC	HOORC Library
	1500-1600	1hr	Open – Review team interacts with project team and confirmation of logistics for pilot sites visits	WCM	BIOKAVANG O Office
	<b>1600</b>		<b>END OF DAY 4</b>		
Friday 01.05.09 (Labour Day)	070-1600	9hrs	Visits to Pilot sites in Xakanaxa and Sandebi Demonstrations and Discussions of <i>Salvinia molesta</i> control and monitoring Attending: Review Team, WCM, BDC, TS, FC, NPC: At Xakanaxa – Bob & Flo, Baams, MC, Setch; At Sandebi – Bruce	WCM	Xakanaxa / Sandibe
Saturday 02.05.09	0630-1600	9hrs	Visits to Pilot sites in Shakawe and meet OFA, Boiteko, Teemachane syndicates and Drotskys/Xaro Lodge/Okavango Fishing Camp. Demonstrations (fish monitoring) and Discussions of IFMS and WQM Attending: Review Team, FC, NPC, TS, BDC, WCM, Fisheries Division and the different stakeholders in the 2 different meetings	FC	Shakawe
Sunday 03.05.09	0630-1600	9hrs	Visits to Pilot sites in Tubu and meeting with JMC and Tubu headman Attending: Review Team, TS, BDC, WCM, FC, JMC, Tubu headman)	TS	Tubu/Gumare
Monday 04.05.09	Morning (0900-1130)		Free time for Consultant		



DATE	TIME	DURATION	ACTIVITY	RESPONSIBLE PERSONS	VENUE
	1200 - 1300	1hr	Visit GIS lab and meeting with Prof Vander Post/Mr Dhliwayo - Explanation of ODIS and how it works Attending: Review Team, Prof Vanderpost, Mr Dhliwayo, BDC & NPC	BDC	HOORC GIS Lab
	Afternoon		Review Team flies to Gaborone		
Tuesday 05.05.09	0830-1030	2hrs	Meeting with UNDP Resident Representative, Leonard and Luca in Gaborone	Leonard/Luca	UNDP
	1100-1300		Meeting with DEA Director, Deputy Director, and Head of EIA & Audit Division (David Aniku): BOKAVANGO and the ODMP	NPC/BDC	DEA
	1530-1630	1hr	Meeting with DWA Head of Water Quality & Conservation, and PSC member Ms Serumola or Ms Tumisang Moatlhodi	WCM	DWA
	<b>1630</b>		<b>END OF DAY 9</b>		
Wednesday 06.05.09	0830-0930	1hr	Meeting with Botswana Tourism Board(S. Ramalepa):An overview of eco-certification)	NPC/ TS	UB
	1200-1300	1hr	Meeting with UB Deputy Vice Chancellor Academic Affairs (DVCAA)	NPC/WCM	BTB
	<b>1600</b>		<b>END OF DAY 10</b>		
			Review Team travel to RSA		

## **Abbreviations**

AVCU – Aquatic Vegetation Control Unit

BTB- Botswana Tourism Board

Development Programme

RSA- Republic of South Africa

DWNP- Department of Wildlife and National Park

Environmental Affairs

NPC- National Project Coordinator

FC- Fisheries Coordinator

WCM- Water Component Manager

Management Plan

HOORC- Harry Oppenheimer Okavango Research Centre

IFMS- Improved Fisheries Management System

Program

HATAB- Hotel and Tourism Association of Botswana

Association

ODIS- Okavango Delta Information System

OKACOM- Permanent Okavango River Commission

OWMC- Okavango Wetland Management Committee

Analysis

BD- Biodiversity

Management Committee

DoT – Department of Tourism

BOGA – Botswana Guides Association

DVCAA- Deputy Vice Chancellor Academic Affairs

Committee

UNDP- United Nations

DWA- Department of Water Affairs

DEA- Department of

BDC- Biodiversity Coordinator

TS- Tourism Specialist

ODMP- Okavango Delta

JMC- Joint Management Committee

WQM- Water Quality Monitoring

OFA- Okavango Fishers

TLB- Tswana Land Board

DC- District Commissioner

TDA- Transboundary Diagnostic

BPMC- BIODIVERSITY Project

CEO- Chief Executive Officer

KCS- Kalahari Conservation Society

PSC- Project Steering

**Annex 4. LIST OF STAKEHOLDERS CONSULTED DURING THE MID-TERM EVALUATION**

**26<sup>TH</sup> APRIL 2009 – 6<sup>TH</sup> MAY 2009**

<b>Name of</b>	<b>Institution</b>	<b>Position</b>
Dr Nkobi Moleele	BIOKAVANGO Project	National Project Coordinator
Prof Sue Ringrose	Harry Oppenheimer Okavango Research Centre	Director
Prof. Moses Chimbari	Harry Oppenheimer Okavango Research Centre	Deputy Director and Chair for BPMC
Mr Innocent Magole	BIOKAVANGO Project	Tourism Specialist
Mr Geoffrey Khwarae	BIOKAVANGO Project	Water Component Manager
Mr Sibangane Mosojane	BIOKAVANGO Project Tawana Lanad Board	Biodiversity Coordinator
Mrs Belda Mosepele	BIOKAVANGO Project	Fisheries Coordinator
Ms Bernadette Malala	District Administration	District Commissioner
Mr S. Motsumi	Department of Environmental Affairs	District Coordinator
Dr Ebenizario M. W. Chonguica	Permanent Okavango River Commission (OKACOM)	Executive Secretary
Mrs Lesedi Karanja	Department of Tourism	Regional Tourism Officer
Mr Dlodlo	Tawana Land Board	Board Chairman
Mr Nixon Mogapi	Tawana Land Board	Board Secretary
Mr Victor Basupi	Tawana Land Board	Lands Officer
Dr Naidu Kurugundla	Department of Water Affairs	Head of Aquatic Vegetation Control Unit
Mr Kgaga Kgaga	Botswana Guides Association	Chairperson
Mr Derek Flatt	Hotel and Tourism Association of Botswana	Private Sector Representative
Mr David Kays	Ngamiland Adventure Safaris – Private Sector	Managing Direct
Prof Wellington Masamba	Harry Oppenheimer Okavango Research Centre	Head of Environmental Laboratory
Ms M. Morrison	Harry Oppenheimer Okavango Research Centre	Librarian
Prof Cornelis Vanderpost	Harry Oppenheimer Okavango Research Centre	Head of GIS
Mr Dhliwayo	Harry Oppenheimer Okavango Research Centre	GIS Technician
Mr M. C. Odumetse	Desert & Delta Safaris	Camp Manager

<b>Name of</b>	<b>Institution</b>	<b>Position</b>
Mr Saoshiko Njwaki	Okavango Fishers Association	Chairperson
Mr and Mrs Drotskys	Drotskys Cabins	Tour operators (stakeholders in the fisheries component)
Mr Motshidiemang	Tribal Administration	Headman of Tubu village
Mr Steve Monna	Department of Environmental Affairs	Director
Mrs Portia Segomelo	Department of Environmental Affairs	Deputy Director
Mr David Aniku	Department of Environmental Affairs	Head of EIA and Audit Division
Ms O. Serumola / Tumisang Moatlhodi	Department of Water Affairs	Head of Water Quality & Conservation
Mr Steve Ramalepa	Botswana Tourism Board	Head of Environment and Quality Assurance
Prof Frank Youngman	University of Botswana	Deputy Vice Chancellor - Academic Affairs
Members of the Okavango Fishers Association		
Members of the Boiteko and Teemachane syndicates		
Members of Tubu Joint Management Committee		

## ANNEX 5 Revised Log-frame – April 2009 – as submitted by the PMU

### Progress towards achieving project objectives

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
Objective: Biodiversity management objectives are mainstreamed into the main production sectors of the Okavango Delta	Total production landscape under improved conservation management	Nil (Total target area of wetland: 18,210 sq kms)	60% of Project Area	Project interventions within the water, fisheries and tourism components of the Project are ongoing over an estimated area of 18-25% of the target area of 18,210 km <sup>2</sup> . A proper assessment of the area coverage of these initiatives, including replication, will be carried out towards the mid-term of project implementation. Production landscapes covered by the project initiatives include Wildlife Management Areas (WMAs), Protected Area (PA) and other communal land that is dominated by a mixture of activities including fishing, mixed farming and others. Details related to these areas are provided below, under each outcome.
	Populations of wetland indicator species sustained  Wattled Crane Slaty Egret Red Lechwe Sitatunga	  1, 400* <sup>5</sup> 4, 000* <sup>6</sup> 34, 949* <sup>7</sup> 249* <sup>8</sup>	  No more than 20% drop in numbers	The Birdlife Botswana recognizes the Okavango Delta as an Important Bird Area (IBA) in the world, and the Wattled Crane, an indicator species, is protected through the Wildlife Conservation and National Parks Act of 1992. The population of the Wattled Crane over the years was dwindling. However, information from sightings done by both Birdlife Botswana and volunteer bird watchers indicates constant stable wattled crane's population (1400) across the Okavango Delta, since 2005 (Birdlife Botswana Surveys, 2005) The Slaty Egret population has also been stable since 2005 at 4000 in the Delta.  Some partner institutions (e.g. tour operator companies) have established systems to monitor the impacts of tourism on biodiversity within their concessions. The focus is on indicator species-For instance the Ngamiland Adventure Safaris

<sup>3</sup> This should describe the quantitative indicator

<sup>4</sup> This should be a quantitative numerical value

<sup>5</sup> Data from Birdlife Botswana surveys done over a period of three years 2001, 2002 and 2003

<sup>6</sup> Data from Birdlife Botswana Aerial Survey from the ODMP study carried in 2005

<sup>7</sup> Data from DWNP Annual Aerial Surveys carried out in 2006

<sup>8</sup> Data from DWNP Annual Population Census carried out in 2005

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				<p>operating in concession NG 25 recorded 28 Sitatunga (<i>Tragelaphus spekii</i> ; listed as a globally threatened species) in 1999 and about 56 in 2008. Ngamiland Adventure Safaris also supports Birdlife Botswana in the monitoring of key bird species (e.g. Slaty Egret and Wattled Crane). Other partner companies including Okavango Wilderness Safaris (OWS) are also monitoring key biodiversity in the Delta. The BOKAVANGO Project is working towards standardizing the different monitoring systems through the proposed review of Wildlife Management Areas (WMA) regulations and Lease Agreements, as to ensure that concessionaire operating in the Delta will be obliged to monitor impacts of their activities on biodiversity.</p> <p>The Department of Wildlife and National Parks within the Ministry of Environment, Wildlife and Tourism (MEWT) carry out wildlife aerial census surveys over the Okavango Delta. These Surveys are supposed to be carried out on an annual basis to monitor changes in key wildlife species. However due to lack of funds, the Department is sometimes unable to carry out the surveys; For instance the last survey was done in 2006. This is a gap which could easily be filled up, if all tour operators in the Delta were empowered to do ground monitoring in their concessions. If acceptable ground monitoring protocols could be developed for concessionaires, they would greatly complement government efforts. The ongoing study by the BOKAVANGO project on the Wildlife Management Areas Regulations and lease agreement, once completed would require concessionaires to actively monitor their impact on biodiversity within their concessions. Therefore, regulatory institutions will be required to formulate and institute acceptable monitoring methodologies by the resource users.</p> <p>However, species such as the Red Lechwe and the Sitatunga which are indicator species in the Okavango Delta, have had</p>

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				<p>their populations drastically reduced over the past few decades.. These species are now showing signs of recovery due to conservation efforts put in place by various players. The DWNP Census of 2006 and 2005 revealed 36, 983 and 160 estimated populations for Red Lechwe and Sitatunga respectively, over the Delta. These numbers could also be reflecting increased flows in the Okavango Delta as the populations can be directly linked to habitat availability, which is a function of flooding patterns.</p>
<p>Outcome 1: Enabling environment strengthened at both systemic and institutional levels</p>	<p>Wetland conservation plans and actions are integrated into production sector strategies in the rolling Botswana National Development Plans.</p>	<p>NDP9</p>	<p>NDP10/DDP7</p>	<p>The district has concluded a management plan for the Okavango Delta (ODMP). The ODMP identifies strategic interventions that the district intends to implement to ensure the conservation and sustainable utilization of the wetland resources of the Okavango Delta. The preparation of the plan was concluded during District Development Plan 6 (DDP6) and one of the strategies for its implementation is to mainstream it into the district and national planning processes. The ODMP has therefore been used as the basis for the preparation of environmental aspects of District Development Plan 7 (DDP7). As regards to the National Development Plans, the environment related projects that are conceived at national level will be influenced by the ODMP process. The specific sector action plans identified as priorities under the ODMP have been captured in detail in the component specific strategies and contributions to DDP7 and NDP10. However some of the specific projects proposed as cross-cutting themes for improved environmental management during NDP 10 under the ODMP include:Due to the world economic meltdown, the implementation of the NDP10/DDP7 have been delayed pending revisions (cuts) of the development budget by 7% and recurrent budgets by 5%, by different Government insititutions</p> <p><b>1. Mainstreaming environmental economics concept into development planning process.</b> During the NDP 9 and DDP 6, the</p>

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				<p>Department of Environmental Affairs (DEA) started a programme that aims at infusing environmental economics and natural resources accounting concepts as a tool that could improve development planning processes. This programme will form the basis for implementation for DDP 7 and NDP 10. The aim is to train planners at both district and national levels on environmental economics and natural resources accounting concepts.</p> <p>2. <b>Undertake environmental Audit/Strategic Environmental assessments of all sector plans.</b> The EIA Act of 2005 requires DEA to perform regular environmental audits of projects, plans, programmes and policies. To establish the extent to which these policies, sectors plans and programmes are taking into account environmental considerations, DEA and Sector institutions propose to perform environmental audits for plans and programmes during DDP 7/NDP 10</p> <p>3. <b>Implementation of the Multi-lateral Environment Implementation Strategy (MEA).</b> DEA has prepared the above strategy which gives details as to how implementation of the MEAs such as the Convention on Biological Diversity (CBD), Ramsar Convention will be implemented. Since the Okavango Delta is a major storehouse of biodiversity, the implementation of the strategy will be benchmarked within the Okavango wetland system. It is the intentions of DEA that implementing partners such as Department of Forestry and Range Resources (DFRR), Ministry of Agriculture (MoA), and Department of Wildlife and National Parks (DWNP) incorporate the principles of the Strategy</p>
	ODMP approved as the over-arching District		ODMP passed in 2007 (mid-term target)	The ODMP was approved at district level through appropriate structures, including the North West District Council-Full Council, Tawana Land Board and District



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	<p>planning tool by the district authorities in Ngamiland (TLB, NWDC, DA &amp;TA) and the Ministry of environment, wildlife &amp; tourism</p>			<p>Development Committee and the District Planning Management Committee. At national level the plan has been endorsed by the Ministry of Environment, Wildlife and Tourism (MEWT), and the process is underway to take the ODMP to Cabinet for endorsement. MEWT in January/February 2008 engaged the district through a number of activities to mark the completion of the planning phase and official commencement of the ODMP implementation. Some of the activities were the Dialogue (Whose Delta is it?) and the world wetland celebrations (including an international symposium on sharing of lessons on wetland management). This process was facilitated by the Okavango Wetland Management Committee (OWMC), put in place to guide the ODMP formulation and now guiding the implementation of the ODMP. The OWMC was formulated under the auspices of the National Wetlands Policy and Strategy (NWPS) which is still in draft form</p> <p>The OWMC meets on a quarterly basis, and it has now set up a sub-committee (task force) to work closely with GEF/OKACOM EPSMO project and the BOKAVANGO Project, in the implementation of the Transboundary Diagnostic Assessment and the Environmental Flows Assessment for the Okavango River Basin. At the Delta level, the BOKAVANGO Project uses the same forum (through the Biodiversity Coordinator at the Tawana Land Board) to push for integration of wetland conservation plans and actions into the district and national development plans, thus ensuring that wetland conservation plans, land use plans and actions are slotted into District Development Plan 7 (DDP 7) and National Development Plan 10 (NDP10).</p> <p>The Okavango Delta Management Plan (ODMP) after its completion, late in 2006, advocated for action plans to be developed and assigned to specific sector departments for implementation. The sector departments have ensured that these</p>

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				action plans are planned for within the boundaries of the District and National Development Plans and have been proposed budgets in DDP 7 and NDP 10, which are scheduled to be implemented starting in April 2009 for a period of five years.
	EoP Budget allocation made for implementation of ODMP	Nil	Yes (mid-term target)	<p>Substantial resources will be made available during NDP 10 and DDP 7 which are still being developed. The actual resources allocated to the implementation of the ODMP will only be clear once DDP7 and NDP10 planning process is concluded. However a number of actions outlined under the ODMP are already being implemented and these include:</p> <ol style="list-style-type: none"> <li><b>1. Setting-up of the coordination office for ODMP implementation</b> Department of Environmental Affairs (DEA) which is the coordination institution for the implementation of ODMP has established an office within the Okavango Delta Ramsar Site. The office was officially established in November 2006 and its operational budget is provided on an annual basis (P800,000), which is a direct contribution to the implementation of the ODMP.</li> <li><b>2. Hosting of the International Wetlands Conference</b> Department of Environmental Affairs in collaboration with BLOKVANGO project and other ODMP partner institutions organized and hosted an international conference on wetlands management (Sharing Lessons on wetland management) in January/February 2008. The conference was held at a cost of more than P300, 000.</li> <li><b>3. Environment and Development Dialogue</b> An environment and Development dialogue which is a panel discussion on pertinent environmental issues was held on 31<sup>st</sup> January 2008 to debate on environmental management of the Okavango delta system. The initiative</li> </ol>

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				<p>was a collaborative effort between the Ministry of Environment, Wildlife and Tourism and BOKAVANGO project. The objective of the dialogue was to instill a sense of collective ownership which encompasses the rights and responsibilities to manage and sustainably utilize the resources of the Okavango Delta by all stakeholders (from local, regional to international level). The dialogue cost was about P100, 000</p> <p><b>4. Improved hydrological, water quality and sediment transport monitoring</b> Department of Water Affairs (DWA) is already implementing some of the water resources management action plans recommended through the ODMP process. These include the establishment of water quality and sediment transport monitoring stations in the Delta.</p> <p><b>5. Collaboration with UB in the implementation of the ODMP</b> Department of Environmental Affairs is responsible for coordinating the implementation of the Okavango Delta Management Plan (ODMP). However the DEA has not enough capacity to perform all these mandates at district level. The presence of HOORC and the expertise at the centre necessitated for the Ministry of Environment, Wildlife and Tourism (MEWT) to initiate a process to collaborate with HOORC to provide technical assistance to DEA and sector institutions responsible for ODMP implementation. This assistance is expected to be formalized through a Memorandum of Understanding (MoU). The provisions of the MoU would require funding through District Development Plan 7 or National Development Plan 10. (see attached MoU)</p>
	% of BD management actions recommended	0%	50%	The BOKAVANGO Project instituted a committee that was fading at the completion of the ODMP. The Committee resuscitated the OVMC to guide the

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	by OWMC implemented by District regulatory authorities			<p>implementation of the ODMP, with oversight role provided by the DEA. ToRs for the OWMC have been revised and endorsed by the Committee. A sub-committee of the OWMC was co-opted into the National Coordinating Unit responsible for guiding the GEF/OKACOM-EPSMO project on the transboundary diagnostic assessment (TDA) and environmental flow requirements studies for the Basin. This work will eventually feed into the Strategic Action Plan (SAP) for the Basin, which will form the basis for the Basin-Wide Management Plan. The Government of Botswana has endorsed the ODMP as the basis for the Botswana part of the TDA and SAP process. The national Action Plans which form part of the SAP will be largely derived from the ODMP. This process therefore provides another avenue to facilitate the implementation of the ODMP. The University of Botswana (through HOORC) is carrying out the Botswana TDA, and results will later be incorporated into the river basin SAP. Eight of the OWMC members have been elected into the National Coordinating Unit to oversee the carrying out of the Botswana TDA. The members will then inform others on issues of the River Basin at their scheduled meetings. A detailed analysis of records (minutes etc) will be carried towards the mid-term to determine the percentage of Biodiversity management actions recommended by the OWMC and its sub-committee (operating under the National Coordinating Unit for the Basin) implemented at District and Basin levels. Recently the OWMC recommended to the Tawana Land Board not to allocate agriculture fields on flood plains across the Okavango delta Ramsar site, so as to reduce human-wildlife conflicts associated with crop damage. The recommendation was adopted and is currently under implementation.</p>
	% of TLB lease agreements specifying BD management requirements.	0%	100%	The lease agreements were formulated under the auspices of section 24 of the Tribal Land Act of 1968. There are three types of lease agreements used by both the Land Boards and the Department of Lands

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				<p>to manage tourism operations and natural resources utilization within Wildlife Management Areas (WMA): Tourism Lease; Community Natural Resource Management Lease; and Wildlife Management Lease. These lease agreements were formulated without due considerations for biodiversity management within concessions. However, contemporary changes in land use, human population increase, reduction in natural resource base and the recognition of bio-diversity needs, make the lease agreements outmoded. There is lack (in the Lease Agreements) of clarity on rights over resources by lessees and local communities. The lease system gives local communities the right to access and harvest veldt products within concessions for subsistence purposes. This is so despite the fact that there are no acceptable and clear cut-lines drawn between subsistence and commercial harvesting,</p> <p>In view of the above, the Tawana Land Board (TLB) in collaboration with the project and sector departments is commissioning a study to review the lease agreements. The reviewed leases will incorporate provision for integrated licensing inspection within the lease agreements. An Integrated Inspection Checklist will be produced and used for the scheduled inspections of the Delta concessions and lodges in September 2008. The new system of inspections will incorporate biodiversity considerations and will also be integrated into the tender assessment and lease renewal processes of the TLB.</p> <p>The review of the Leases is also focusing on providing clear definition of terms used in the agreements (e.g. traditional rights, etc), through participatory approaches to eliminate ambiguity over resource rights. Incentives will be built into the whole process such that concessionaires will be encouraged to monitor use impacts on biodiversity. Due to contemporary legislations the lease agreements will also be aligned with current biodiversity conservation legislation (e.g. EIA Act, Waste Management Act, etc), and aligned</p>

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				<p>with the Integrated District Land Use Plans.</p> <p>The Biodiversity Coordinator at the Tawana Land Board is currently implementing some of the outcomes of the Integrated Land Use Plan (ILUP) which was prepared during the planning phase of the ODMP. Ongoing work include management of the impact of tourism on the wetland resources of the Okavango Delta: The Integrated Land Use Plan (ILUP) recommended a systematic management and reduction of the tourism footprint in the Okavango Delta ecosystem through identification of tourism sites related to Limits of Acceptable Change (LAC) categories and impact of tourism operations on the environment; the recognition of the 200 meter buffer proposed by the ILUP along the Okavango panhandle for any proposed project and the enforcement of the EIA into all project within the ODRS; and the TLB now takes into consideration threatened and endangered species as they allocate land for homestead and agricultural activities.</p>
	<p>% of CHA joint management committee decisions implemented on resource use (as a proportion of all joint management committee decisions made)</p>	<p>0%</p>	<p>80%</p>	<p>Initiatives involving the setting up of a joint management system for veldt products and tourism are advanced at the Tubu/NG 25 pilot site. The Joint Management Committee (JMC) has been formed to facilitate the whole process, and has taken several decisions that are geared towards attaining an adaptive management approach for veldt products use in the area. Of all the Committee decisions made specifically for the Tubu/NG 25 pilot site, 60% of them were implemented. These decisions can be summarized as:</p> <ol style="list-style-type: none"> <li>1. co-option of members from existing community development committees and representation from the private sector</li> <li>2. ToRs of the JMC deliberated and agreed upon, with the main focus being to develop a framework to address natural resources conflicts and development of institutional mechanisms to resolve resource use conflicts</li> <li>3. Launch of the JMC by the District Commissioner in the presence of</li> </ol>

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				<p>Government Heads of Departments, to emphasize its importance in conflict resolution in issues related to tourism and natural resources</p> <ol style="list-style-type: none"> <li>4. Training/capacity building workshop for the JMC on leadership skills, conducting of meetings, conflict resolution, decision making processes, records keeping, and consultation processes,</li> <li>5. JMC addressed kgotla meetings on issues related to veldt products and tourism conflicts resolutions in the area.</li> <li>6. JMC co opted some relevant government departments to be members of the JMC</li> <li>7. JMC visitation to NG 8 and 25 for boundaries familiarization, with the view to understanding the extent of the conflict in relation to cattle movements between NG 8 and NG 25.</li> </ol> <p>Other key decisions taken by the JMC and still being implemented include the following:</p> <ol style="list-style-type: none"> <li>1. Formation of Tubu Community Trust; the trust will be a focal point in trying to come up with alternative livelihood strategies more especially tourism related or oriented activities that are intended to support the community and ultimately reduce dependency or veldt products reliance or consumption.</li> <li>2. Formation of tourism cultural village. The committee came to a realization that the concept of a tourism cultural village can bring the two conflicting parties (Tubu community and NG 25 Concessionaire) together and at the same time can be used a medium to discuss issues of concern by the two parties. The NG 25 Concessionaire is supportive of the concept and has already committed resources to make sure the concept get started.</li> <li>3. Engagement of a consultant to develop participatory adaptive management approaches for veldt products harvesting/utilization in the</li> </ol>

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				<p>Tubu/Ng 25 pilot site is just about to be commissioned. The focus of the consultancy will be on institutional development and capacity building for the newly-formed Joint Management Committee (JMC) and to develop management plans through participatory approaches for implementation by the JMC, in the area.</p> <p>4. JMC conduction of kgotla meetings in peripheral settlements to Tubu (Xomoxau, Ntsaa and Ngotcho) to raise awareness to farmers on veldt products usage and dangers of letting their livestock to cross over to WMAs.</p> <p>5. Engaging the PSC and the office of the Deputy Minister of Agriculture in the discussion and resolution of fencing the NG8/NG25 boundary</p> <p>Undertaking a familiarization tour by 10 community members from Tubu to Seronga to learn from community trusts operations there.</p> <p>The Shorobe/Ditshiping/Sankuyo JMC held innaugral meeting in December 2008. The JMC agreed to initial focus on assisting the Shorobe community as it had a newly formed Trust.</p> <p>The JMC agreed to assist the Shorobe Basketry centre with renovations so that it could be re-opened for business</p>
Outcome 2: Biodiversity management objectives integrated into the water sector	% of development proposals assessed using Hydro-ecological scenarios	0%	100%	<p>The Permanent Okavango River Basin Water Commission (OKACOM) which was formed by the three riparian countries, namely Angola, Botswana and Namibia, has one of its major objectives as being to, “Prepare criteria for conservation, equitable allocation and sustainable utilisation of water” (<a href="http://www.okacom.org">http://www.okacom.org</a>) within the Okavango River Basin. The environment or aquatic and riparian ecosystems are increasingly recognized as legitimate water users that have to be considered in any water allocation system. These water uses should be considered first before other water uses when allocating water. OKACOM requires as part of the development of criteria for sustainable and equitable water allocation, information about the amount of water or</p>



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				<p>flow regime to be maintained for ensuring functioning of aquatic and riparian ecosystems along the Okavango River. An environmental flow assessment study is thus critical for OKACOM to establish flow characteristics which the various habitats within the basin/delta require for their functioning.</p> <p>A GEF-funded Environmental Protection and sustainable management of the Okavango River basin (GEF-EPSMO) with the objectives of overcoming barriers and constraints to joint management of the Okavango River Basin, carrying out a transboundary Diagnostic Analysis (TDA), and producing a Strategic Action Plan (SAP) is being implemented. Data for a basin wide Environmental Flows Assessment (EFA) study covering the three countries would be collected as part of the TDA.</p> <p>Botswana is implementing the ODMP and the Biokavango Project, with the goal of sustaining the natural integrity and ecological services of wetlands through mainstreaming biodiversity conservation in water management. As a result an EFA has been initiated to provide information necessary for biodiversity conservation within the Delta.</p> <p>The GEF-EPSMO and Biokavango projects have joined hands to carry out the EFA studies for the Okavango River Basin. The two have now agreed on an arrangement for co-funding the Environmental Flow Assessment study. A joint proposal for the EFA over the Basin has been endorsed by OKACOM. A detailed work plan for undertaking the Environmental Flow Assessment for the Okavango Basin was recently developed at a meeting convened by Biokavango and EPSMO. According to this plan, the basin wide environmental flow assessment study should be completed by July 2009.</p> <p>Complementary work to basin-wide EFA is ongoing at the University of Botswana (HOORC). The work focuses on the production of hydro-ecological models, which are also useful tools for assessment</p>

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				<p>of impacts for development proposals. The following publications are some of the outputs from the ongoing work at the University of Botswana (HOORC)</p> <ol style="list-style-type: none"> <li>1. GIS-based models: Modelling of the flooding in the Okavango Delta, Botswana, using a hybrid reservoir-GIS Model (2006), By Wolski P; Savenije H H G; Murray-Hudson M; Gumbrecht T, Journal of Hydrology 331: 58-72)</li> <li>2. Murray-Hudson M., Wolski P., and Ringrose S. (2006). Scenarios of the impact of local and upstream changes in climate and water use on hydro-ecology in the Okavango Delta, Botswana. Journal of Hydrology 331: 73-84.</li> <li>3. PhD proposal: Flood plain vegetation responses to flooding regime in the Okavango Delta (Murray-Hudson Mike, 2006)</li> </ol>
	<p>% Change in relative proportions (1:1.6) of permanent and seasonal flooded areas</p> <p>Flood level monitoring tool developed</p>	Within 20%		<p>The change in relative proportions of permanent and seasonal flooded areas in the Okavango Delta is predicted to be stable (i.e. within 20%) for the period 1989 to 2005. The acquisition of a time series of Landsat 5 and 7 imagery from the period of maximum flood extent (generally late August-early September) each year from 1989 to 2005 allowed the generation of flood history for individual pixels (ie, 30x30m<sup>2</sup> parcels of land) of the entire Delta. The interpretation routine and analysis are described in detail in Wolski and Murray-Hudson (2006), and the output frequency maps generated by this study represent a significant advance in the ability to characterise floodplains and flooding history in the seasonal part of the Delta. These data were used to define the strata used for selection of floodplain strata and sites for vegetation sampling based on pixel flood frequency distributions.</p> <p>Researchers at HOORC are currently involved in upgrading the work described above using data from the MODIS platform and ASTER imagery. This will enhance understanding of flooding dynamics of the Okavango Delta.</p>
	% Change in	Not >20%	Not >20%	Discussions with experts (vegetation

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	<p>crown cover of riverine woodlands responsible for regulation of ground water table (&lt;1% of total vegetation cover; actual figures to be determined in year 1 of project)</p> <p>Adaptive monitoring system (crown cover, density, species composition) developed for riparian woodlands</p>			<p>ecologists) at HOORC seem to indicate that (although there is no assessment on vegetation cover dynamics over the Delta) there is no extensive change of riverine vegetation cover. Work is ongoing to determine vegetation responses to different flooding regimes, elephant damage and anthropogenic activities. However, most of these works are snap shots over portions of the Delta, and therefore would provide limited knowledge. The University of Virginia (which is co-funding the Biokavango Project) is proposing to carry out an assessment entitled: Mapping the current condition and spatiotemporal response of riverine woodland under various flooding conditions in the Okavango – a change over time analysis, 1956 - 2007. The study will among others, provide a change over time series for riverine woodland over the past 50 years and determine processes that drive changes if any (e.g. flood distribution, fire, human activities, elephants etc)</p>
<p>Outcome 3: The tourism sector is directly contributing to biodiversity conservation objectives in the Okavango Delta</p>	<p>Increase in total investment by tour operators in wetland management.</p>	<p>US\$360,000.00 pa</p>	<p>30%</p>	<p>In 2008, increase in tourism investment by Tour Operators (Champions) in wetland management was US\$420,000, amounting to an increase by 17%. The assessment reflects that the increase in total investment by tour operators in wetland management is significantly progressing well and likely to exceed the set target.</p> <p>Five private tourism companies in the Delta (Okavango Wilderness Safaris, Kerr &amp; Downey, Orient Express, Desert &amp; Delta, and Conservation Corporation Africa) are providing significant project co-finance to the tune of USD 3.1m. This bears testament to their support for the mainstreaming of biodiversity conservation objectives into the tourism sector of the Delta. Partner tourism operators have started to enhance their environmental management systems: covering areas e.g. personnel specializing in environmental management; improved waste management systems; introduction of energy efficient systems; water conservation strategies; biodiversity monitoring systems (including monitoring</p>

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				<p>of globally threatened species). The private sector partners recently did an analysis of costs associated with investment in environmental management in their operations for the past two years; and indications are that about USD 1.7million has been invested. However, the project is still pursuing and refining a mechanism to report this effectively. A mechanism for quantifying support will also effectively influence behavior on a Delta-wide scale. The investment monitoring system for tourism operators is yet to be concluded, as it had to await the completion of the national eco-certification feasibility study by the Botswana Tourism Board (BTB). The study was completed in March 2008 and now forms a strong foundation for the development/initiation of the investment monitoring tool. The monitoring tool has to be closely harmonized with the eco-certification criteria for it to have meaning to the private sector. The development of the monitoring system will be done in conjunction with the development of the eco-tourism standards by the BTB.</p> <p>2. Ngamiland Adventure Safaris, a partner in the Tubu/NG 25 pilot site for management approaches to veldt products and tourism, just committed USD430, 000 to environmental management/natural resources monitoring in the Delta. The company is also providing some technical input to the development of the Tubu Tourism Cultural Village Concept in terms of planning, site/positioning, market potentials, destination evaluation, gap bridging between nature-based and culture based tourism (diffusionist/integration planning).</p> <p>In appreciation of the work spearheaded by the BOKAVANGO Project, two other private sector tour operators (Abercrombie &amp; Kent and Kwando Safaris) have just shown interest in co-financing the project. Discussions on how best they can participate in co financing are still ongoing. The companies have since developed cold feet on partnering with Biokavango probably due to the world financial meltdown</p>

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
				<p>The prognosis for this indicator is extremely positive. The project aims are well targeted towards the business objectives of the private sector, and this bodes well for future alignment of their operations towards biodiversity-friendly practices.</p>
	<p>Pilot sewage effluent polishing systems in place in tourism establishments</p>	<p>0</p>	<p>4</p>	<p>One and a half liquid waste polishing systems have been completed. An inventory of all liquid waste management/treatment systems and their effectiveness for the Okavango Delta tourism operations is being concluded. The outputs of the assessment will input into the development of a standard Liquid Waste Management Strategy to guide communities and tourism operations. The preliminary results indicate that the Delta hosts different systems that vary in terms of efficiency in treatment of wastewater of which some are not environmental friendly and can pose threat to the delta biodiversity and as well as human health. It is also evident from the assessment that site conditions are often the overriding factor in selecting an onsite wastewater management technology, and it appears that this has not been a major consideration in developing the existing wastewater management systems. In particular, the conventional septic tank, which is suitable for normal site conditions, may not be suitable for the Okavango Delta conditions that are considered difficult or adverse. Technological options for difficult sites (e.g. within the Okavango Delta) include a septic tank system coupled with a constructed wetland. The study concludes that such a system be developed (designed) and piloted in the Okavango Delta, and that its performance should be evaluated based on monitoring effluent quality and its ability to meet the limits set by BOBS 93: 2004, before it could be replicated.</p> <p>The Government of Botswana (through the ODMP) funded the refurbishment of the vegetation based liquid waste polishing system, hosted by Thuso Lutheran Rehabilitation Centre in Maun.</p>

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
				<p>The vegetation polishing system (wetland system) is now functional and has drawn attention from different government and public sectors to learn more about how the system works. The following are lessons learnt from the Thuso Rehabilitation Centre's wetland polishing system.</p> <ol style="list-style-type: none"> <li>1. Waste water can be reused for the benefit of the ecosystem. Thuso Lutheran Rehabilitation Centre has developed an orchard garden that uses the water from the pond after it has been naturally polished by reeds.</li> <li>2. The system showed that different types of reeds have different strengths in cleaning grey water, and it is very important that those who might want to use the same system know or have the information on the strengths of the vegetation to use for better efficient working system.</li> <li>3. There is need for the development of some guidelines on how to design/develop the system so that it becomes easy for those who are interested in adopting the system.</li> </ol> <p>Another assessment on the supply and generation of hazardous substances in the Delta is ongoing. The preliminary results show that most of the permanent establishments transport oil, diesel, and paraffin, paint and wood preservatives of varying quantities into the Okavango Delta area. The main modes of transporting these substances into the delta are road, air and boat. A large quantity of fuel (80%) is transported by road, with the probability of large land spillage in case of an accident. The Okavango Delta is an ecologically sensitive environment whose biodiversity could be compromised by the side effects of improper transportation, handling and storage of hazardous substances. Some of these substances contain high levels of heavy metals and dioxins that could alter the ecosystem.</p> <p>The outputs from the above assessment are contributing towards the development of Biodiversity Friendly Guidelines or Standards for the handling, transportation</p>

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
				and storage of hazardous substances (specifically fuel and oil). Contingency plans are also being put in place (as informed by this assessment) to ensure that large scale spillages (of hazardous substances) are contained and areas affected treated accordingly.
	% of tourist establishments meet minimum BD friendly certification requirements	0%	50%	<p>Six camps in the Okavango Delta (constituting 10%) volunteered to participate in the eco-certification programme and were inspected. The project is collaborating with the Botswana Tourism Board to pursue minimum certification requirements for tourism operations in the Delta. The Botswana Ecotourism Best Practices Guidelines Manual was developed, and its purpose is to identify those ecotourism guidelines or criteria that would contribute to environmentally responsible tourism operations, attract environmentally responsible clients and assist in the protection of Botswana's precious resources for future generations. These guidelines can be applied to any tourism operation or service including hotels, lodges and resorts, tour operation, visitor attractions and transportation services. The manual also recognizes both the current trend towards more sustainable tourism operations as well as the Botswana government's interest in promoting and supporting tourism development that protects and conserves the environment; and it builds upon the Botswana National Ecotourism Strategy.</p> <p>The Ecotourism Certification Feasibility Analysis was conducted in collaboration with BTB. The purpose of this assignment was to determine the potential for success of implementing an Ecotourism Accreditation Program in Botswana and towards meeting the goal of the National Ecotourism Strategy to create an environment in which all elements of tourism development planning and management facilitate, promote and reward adherence to the key principles of ecotourism by all of those involved in the tourism industry.</p> <p>In view of the foregoing the BTB and the project have commissioned a consultancy</p>

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
				to develop minimum standards on ecotourism and the developed standards will be trialed/piloted in the Okavango Delta. The BTB is tasked with the implementation of the National Ecotourism Strategy of 2002. This strategy calls for the development of Ecotourism Standards and Certification. Results from the Ecotourism Certification Feasibility Analysis show that Botswana Ecotourism operators are ready for eco-certification scheme hence there is a need to develop ecotourism standards to operationalize Botswana eco-certification scheme envisaged in the feasibility study.
Outcome 4: Biodiversity friendly management methods are inducted into fisheries production systems	% Area of fish production wetland under improved fisheries management systems	0%	20%	<p>Initiatives geared towards the setting up of an improved joint management fisheries system are ongoing in the Upper Panhandle of the Okavango Delta, with the view to minimizing user conflicts surrounding the use of fish resources. These efforts are estimated to be covering an area equivalent to 5% of the project area (18,210km<sup>2</sup>). Ongoing work will lead to the development of management strategies at a local level that sustain fish numbers and diversity, without impediment from the currently prevailing system of open access to fisheries.</p> <p>The envisaged improved system has to define user rights, establish special set-asides (protected areas) for fish regeneration, zoning for different user groups, quota setting, and monitoring of biodiversity by user groups for input into decision making by managers. Ongoing initiatives are in collaboration with champions who include the Department of Wildlife and National Parks (Fisheries Division), Okavango Fishers Association (OFA), tour operators (lodges in the Upper Panhandle), community fish trusts and syndicates. Several baseline surveys have been commissioned to generate information to support the development of the improved fisheries joint management model, and these include the socio-economic profile of stakeholders in the Upper Panhandle, benefits distribution and sharing arrangements, fish biology and ecology; usufruct framework to define user rights, capacity needs assessments for support of the improved fisheries</p>



Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
				<p>management model.</p> <p>Capacity was built for Fisheries Division staff on aspects related to fisheries management. This short course was provided by HOORC, and will sustain the project's efforts to improve fisheries management at the pilot site.</p> <p>Champions have jointly formed the Okavango Fisheries Management Committee and it is composed of representatives of Government Departments (DWNP, DWA, TLB, DoT, DEA, NWDC-Env. Health), representatives of the different fisher groups (Tour operators, CBO's, syndicates). This committee is chaired by HOORC-UB and the Secretariat is Fisheries Division.</p> <p>The OFMC roles and responsibilities have been discussed, and this committee was viewed by all stakeholders at the pilot site as sign of unity and as a symbol of reduced conflicts amongst resource users.</p> <p>The Fisheries Division is putting in place an enabling environment to support the foregoing model. The Fish Protection Regulations were promulgated on the 23rd May 2008, and are enabled by the Fish Protection Act of 1975. The Fish Protection Act is a regulatory framework and permits the passing of regulations to deal with issues related to registration of fishing boats, issues of fishing licenses, closed fishing seasons for particular fish, fishing gear use, control of introduction of alien species into Botswana waters and control of the sale of fish.</p> <p>Although considered a critical milestone towards the resolution of conflicts surrounding the use of fish resources, the Fish Protection Regulations, do not address key issues related to biodiversity conservation. There is therefore still need for an improved fisheries joint management system where specific issues related to set-asides (protected fish regeneration areas), biodiversity monitoring, user rights and harmonized land-uses are adequately addressed.</p>
	% change in catch per unit	mean minimum	15%	Long-term data collection (by Fisheries Division in collaboration with HOORC)

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
	effort (CPUE)	catch rate of 3kg/set for all species on the Okavango Delta gill net fishery. Set = standardised fishing time of 12 hours		<p>on catch and effort from all gillnet fishermen in the Delta is ongoing since 1996. However, a recent analysis of the data showed that data collected between 1996 and 1997 had too many gaps and could therefore not be used in CPUE analysis. Moreover, CPUE expressed as kg/ set using fishermen data was also found to be impractical for several reasons; (a) some fishers estimate the weight of their catch, (b) some fishers record live weight of their catch (i.e. un-gutted fish), (c) some fishers record dressed weight of their catch. Subsequently, CPUE expressed as numbers of fish/ set (i.e. no/ set) can be used instead and is a more accurate index for observing trends in fish catch rates over time in the Delta.</p> <p>An assessment of the CPUE (using no. of fish caught per net/set: set = standardized fishing time of 12 hours) trends for the Tilapia fishery for the period 1998 to 2005, shows a mean CPUE of 7 fish/ set between 1998 and 2005 with a maximum of 14 fish/ set (in 1999) and minimum of 2 fish/ set (in 1998). Significant temporal variations of CPUE were observed where the flood regime was found to be the major factor regulating the observed trends/ variations. CPUE in the Delta has spatio-temporal variations and depends on the flooded area and the intensity of the flood regime of the previous flooding season.</p> <p>The biological and ecological work related to the fisheries in the Upper Panhandle is aimed at setting the baseline for monitoring different fish indices including C.P.U.E. A concept for the initiation of an integrated approach to monitor key fish species has just been designed and shared with the Fisheries Division of the Department of Wildlife and National Parks. The strategy will enable fishers to collect adequate data on biodiversity indices (species harvested by gill net, basket fishers, traditional hook and line and recreational fishers), mean length of species harvested by these stakeholders of key fish species before the mid-term</p>

Project Objective and Outcomes	Description of Indicator <sup>3</sup>	Baseline Level <sup>4</sup>	Target Level <sup>4</sup>	Level at April 2009
				<p>At mid term, 7% of this indicator was achieved due to the training courses provided to Fisheries Division on Fish Identification, and Fish Age determination using otoliths. Capacity was also built for some fishers to pilot the integrated approach to monitor key fish species. The Mohebo CBO (Tchuarua Syndicate) has been regularly implementing this approach and has submitted fish monitoring records since its inception in November 2008.</p> <p><u>Reference Work: Ntsima, N., 2008. Using time series data to assess the Tilapia fishery of the Okavango Delta, Botswana. HOORC, Maun.</u></p>
	Aquaculture BD guidelines and regulations produced		by 2007 (mid-term target)	<p>Aquaculture guidelines for the Okavango Delta have just been concluded. Work is ongoing to incorporate the guidelines into the national EIA regulations. This will ensure that regulatory instruments are put in place to guide aquaculture developments, e.g. fish species permitted for farming, aquatic plants, fish food and disease control measures. Under this output, the project will ensure that EIA requirements adequately cover aquaculture developments, and train fishery and environment staff in the assessment of aquaculture proposals to ensure that design and operation will not pose a risk to Delta ecosystems. Fisheries Division staff have been trained and training manuals are available. By mid term, this indicator has been achieved. At the DWNP level the aquaculture guidelines have been endorsed.</p> <p>The Project however is seeking to facilitate that the incorporated aquaculture guidelines into the National EIA requirements must articulate a special dispensation with specific requirements and specific reference for aquaculture in the Okavango Delta Ramsar Site.</p>

## Annex 6 GEF/UNDP Biodiversity Mainstreaming Tracking Tool

### I. Project General Information

1. Project Name: Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta (BIOKAVANGO Project)
2. Project ID (GEF): 2028
3. Project ID (IA): 00043119
4. Implementing Agency: UNDP
5. Country(ies): Botswana

#### Name of reviewers completing tracking tool and completion dates:

	Name	Title	Agency
<b>Work Program Inclusion</b>	<b>Dr N. M. Moleele</b>	<b>National Project Coordinator</b>	<b>BIOKAVANGO Project</b>
<b>Project Mid-term</b>	<b>Dr N. M. Moleele</b>	<b>National Project Coordinator</b>	<b>BIOKAVANGO Project</b>
<b>Final Evaluation/project completion</b>			

5. Project duration: *Planned*   5   years                      *Actual*        years

6. Lead Project Executing Agency (ies): Dept. of Environmental Affairs-Ministry of Environment, Wildlife and Tourism

#### 7. GEF Operational Program:

- drylands (OP 1)
- √ coastal, marine, freshwater (OP 2)
- forests (OP 3)
- mountains (OP 4)
- agro-biodiversity (OP 13)
- integrated ecosystem management (OP 12)
- sustainable land management (OP 15)

Other Operational Program not listed above: \_\_\_\_\_

8. Production sectors and/or ecosystem services directly targeted by project:

8. a. Please identify the main production sectors involved in the project. Please put “P” for sectors that are primarily and directly targeted by the project, and “S” for those that are secondary or incidentally affected by the project.

Agriculture\_\_S\_\_  
 Fisheries\_\_P\_\_  
 Forestry\_\_N/A\_\_  
 Tourism\_\_P\_\_  
 Mining\_\_N/A\_\_  
 Oil\_\_N/A\_\_  
 Transportation\_\_N/A\_\_  
 Other (please specify)\_WATER\_\_\_\_\_

8. b. For projects that are targeting the conservation or sustainable use of ecosystems goods and services, please specify the goods or services that are being targeted, for example, water, genetic resources, recreational, etc

1. Water
2. Fisheries
3. Veld products
4. Recreation

**II. Project Landscape/Seascape Coverage**

9. a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components? An example is provided in the table below.

Targets and Timeframe	Foreseen at project start	Achievement at Mid-term Evaluation of Project
Project Coverage		

<b>Landscape/seascape<sup>9</sup> area <u>directly</u><sup>10</sup> covered by the project (ha) (See Annex 1-attached)</b>	1,090,000	<p><b>It is estimated that the landscape area directly covered by the BOKAVANGO Project is 1,300,000ha. This area coverage is categorized as follows:</b></p> <p><b>1. The water component activities cover an area of 804,679 ha.</b> This area covers achievements in water quality monitoring (NG 28, NG 19, NG 20 and portions of NG 10 along the Panhandle), <i>Salvinia molesta</i> control and monitoring (NG19, NG31, NG 20, NG 28-Moremi Game Reserve); and macro-invertebrates monitoring. (NG 28).</p> <p>2. The tourism component is engaged on activities including the following: eco-certification standards (nationwide), liquid waste management systems (NG35, NG12, NG31.), joint management approaches for natural resources and tourism (NG 25, NG8, NG 32, NG 33, NG 34, NG 35) and monitoring of key biodiversity species (NG 25). These activities cover an area of about 1,000,000ha, comprised of areas within the core project area and without (e.g. NG 8 and NG 35)</p> <p>3. Improved fisheries management initiatives of the project are concentrated in the Upper Panhandle of the Delta, covering controlled hunting areas (CHAs) of NG 7, NG 10 and NG 11), Specific pilot sites include Mohembo, Ngarange, Shakawe and Samochima)</p>
<b>Landscape/seascape area <u>indirectly</u><sup>11</sup> covered by the project (ha)</b>		<b>1,500,000 ha</b>

**Explanation for indirect coverage numbers:**

**The conservation methods piloted under the project (fisheries, water and tourism sectors) are expected to have application throughout Botswana’s wetland environments, with a total area in excess 2,500,000 hectares.**

**The area indirectly covered by the water component of the project includes water quality monitoring activities at Lake Ngami, Toteng, Boro and Maun, which are not**

<sup>9</sup> For projects working in seascapes (large marine ecosystems, fisheries etc.) please provide coverage figures and include explanatory text as necessary if reporting in hectares is not applicable or feasible.

<sup>10</sup> Direct coverage refers to the area that is targeted by the project’s site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

<sup>11</sup> Using the example in footnote 5 above, the same project may, for example, “indirectly” cover or influence the remaining 9,000 hectares of the floodplain through promoting learning exchanges and training at the project site as part of an awareness raising and capacity building strategy for the rest of the floodplain. Please explain the basis for extrapolation of indirect coverage when completing this part of the table.

**necessarily part of the study area (as defined in the PRODOC). The water quality monitoring program for the Okavango Delta established by the Project (and HOORC) include strategic monitoring points in the foregoing areas, to give a more complete picture of the water quality dynamics in the Okavango Delta. For sustainability purposes, the water quality monitoring program is collaboratively implemented with HOORC**

Lessons learned from ongoing work in the tourism component of the project is quickly spreading to other parts of the Delta and beyond. This work includes adoption of environmentally friendly liquid waste polishing systems, adoption of safe transportation, handling and storage of hazardous substances, participation of tourism accommodation facilities in the eco-certification program. Partner institutions (e.g. tour operator companies) have established systems to monitor the impacts of tourism on biodiversity within their concessions. The focus is on indicator species – For instance the Ngamiland Adventure Safaris operating in concession NG 25 recorded 28 Sitatunga (*Tragelaphus spekii* ; listed as a globally threatened species) in 1999 and about 56 in 2008. Ngamiland Adventure Safaris also supports Birdlife Botswana in the monitoring of key bird species (e.g. Slaty Egret and Wattled Crane). Other partner companies including Okavango Wilderness Safaris (OWS) are also monitoring key biodiversity in the Delta. The BIODIVERSITY Project is working towards standardizing the different monitoring systems through the proposed review of Wildlife Management Areas (WMA) Regulations and Lease Agreements, as to ensure that concessionaires operating in the Delta will be obliged to monitor impacts of their activities on biodiversity.

The review of legal instruments (Tourism Lease Agreements, WMA Regulations) facilitated by the project, to cater for the incorporation of biodiversity conservation objectives into management practices, apply beyond the borders of the project study area. Aquaculture guidelines were developed and have been codified into EIA national regulations, thus covering a larger area than the defined project study area.

**9. b. Are there Protected Areas within the landscape/seascape covered by the project? If so, name these PAs, their IUCN or national PA category, and their extent in hectares.**

	<b>Name of Protected Areas</b>	<b>IUCN and/or national category of PA</b>	<b>Extent in hectares of PA</b>
1.	Moremi Game Reserve	Game Reserve	488,800ha
2.			
3.			
4...			

### **III. Management Practices Applied**

**10.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices? Note: this could range from farmers applying organic agricultural**

**practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisherfolk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.**



Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD	Okavango Delta Ramsar Site (55,000km <sup>2</sup> )	<p>The ODMP was developed and approved at district level through appropriate structures, including the North West District Council – Full Council, Tawana Land Board and District Development Committee and the District Planning Management Committee. At national level the plan has been endorsed by the Ministry of Environment, Wildlife and Tourism (MEWT), and the process is underway to take the ODMP to Cabinet for endorsement. The Ministry of Environment, Wildlife and Tourism (MEWT), in January/February 2008, engaged the district through a number of activities to mark the completion of the planning phase and official commencement of the ODMP implementation. Some of the activities were the Dialogue (entitled Whose Delta is it?) and the World Wetland Day celebrations (including AnInternational Symposium on Sharing Lessons on Wetland Management). This process was facilitated by the Okavango Wetland Management Committee (OWMC), put in place to guide the ODMP formulation and now guiding the implementation of the ODMP. The OWMC was formulated under the auspices of the National Wetlands Policy and Strategy (NWPS) which is still in draft form.</p> <p>The OWMC meets on a quarterly basis, and it has now set up a sub-committee (task force) to work closely with GEF/OKACOM EPSMO project and the BIODIVERSITY Project, in the implementation of the Trans-boundary Diagnostic Assessment and the Environmental Flows Assessment for the Okavango River Basin. At the Delta level, the BIODIVERSITY Project uses the same forum (through the Biodiversity Coordinator at the Tawana Land Board) to push for integration of wetland conservation plans and actions into the district and national development plans, thus ensuring that wetland conservation plans, land use plans and actions are slotted into District Development Plan 7 (DDP 7) and National Development Plan 10 (NDP10). .</p> <p>The Okavango Delta Management Plan (ODMP) after its completion, late in 2008, advocated for action plans to be developed and assigned to specific sector departments for implementation. The sector departments have ensured that these action plans are</p>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		planned for within the boundaries of the District and National Development Plans and have been integrated into proposed budgets for DDP 7 and NDP 10, which are scheduled to be implemented starting in April 2009 for a period of five years.
EoP Budget allocation made for implementation of ODMP	ODRS (55,000km <sup>2</sup> )	<p>Substantial resources have been proposed under NDP 10 and DDP 7. The actual resources allocated to the implementation of the ODMP will only be clear once DDP7 and NDP10 planning process is concluded. However a number of actions outlined under the ODMP are already being implemented and these include:</p> <p><b>6. Setting-up of the coordination office for ODMP implementation</b>  Department of Environmental Affairs (DEA) which is the coordination institution for the implementation of ODMP has established an office within the Okavango Delta Ramsar Site. The office was officially established in November 2006 and its operational budget is provided on an annual basis (over P1million), which is a direct contribution to the implementation of the ODMP. The office oversees the implementation of the ODMP, and this also ensures that there is an environmental coordinating agency in the Okavango.</p> <p><b>7. Hosting of the International Wetlands Conference</b>  Department of Environmental Affairs in collaboration with BIODIVERSITY Project and other ODMP partner institutions organized and hosted an international conference on wetlands management (Sharing Lessons on Wetland Management) in January/February 2008. The conference was held at a cost of more than P300, 000.</p> <p><b>8. Environment and Development Dialogue</b>  An Environment and Development dialogue which is a panel discussion on pertinent environmental issues was held on 31<sup>st</sup> January 2008 to debate on environmental management of the Okavango delta system. The initiative was a collaborative effort between the Ministry of Environment, Wildlife and Tourism and BIODIVERSITY Project. The objective of the dialogue was to instill a sense of collective</p>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		<p>ownership which encompasses the rights and responsibilities to manage and sustainably utilize the resources of the Okavango Delta by all stakeholders (from local, regional to international level). The dialogue cost was about P100, 000. A Journal article entitled "The Okavango; Whose Delta is it? By Magole &amp; Magole has been accepted for publication in the Physics and Chemistry of the Earth Journal</p> <p><b>9. Improved hydrological, water quality and sediment transplant monitoring</b> Department of Water Affairs (DWA) is already implementing some of the water resources management action plans recommended through the ODMP process. These include the establishment of water quality and sediment transport monitoring stations in the Delta.</p> <p><b>10. Collaboration with UB in the implementation of the ODMP</b> Department of Environmental Affairs is responsible for coordinating the implementation of the Okavango Delta Management Plan (ODMP). However the DEA has not enough capacity to perform all these mandates at district level. The presence of HOORC and the expertise at the centre necessitated for the Ministry of Environment, Wildlife and Tourism (MEWT) to initiate a process to collaborate with HOORC to provide technical assistance to DEA and sector institutions responsible for ODMP implementation. This assistance has been formalized through a Memorandum of Understanding (MoU). The provisions of the MoU would require funding through District Development Plan 7 or National Development Plan 10.</p> <p><b>11. Harmonization of the Tourism Development Plan and the Integrated Land Use Plan</b> The Integrated Land use Plan (ILUP) and the Tourism Development Plan (TDP) were drawn during the preparation of the Okavango Delta Management Plan. The ILUP was under the auspices of Tawana Land Board with the primary goal of developing an integrated Land Use and Land Management plan for the Okavango Delta Ramsar Site (ODRS), which would ultimately form an</p>

<b>Targets and Timeframe</b>  Specific management practices that integrate BD	<b>Area of coverage foreseen at start of project</b>	<b>Achievement at Mid-term Evaluation of Project</b>
		<p>integral component of the ODMP. The plan guides land management and divides the Okavango Delta Ramsar Site into distinct land use zones. The plan is supported by a comprehensive database management system which in combination with other elements of the plan will ensure the long-term conservation of the Delta and the sustainable use of the land and biodiversity of the ODRS.</p> <p>The TDP on the other hand was planned to conserve the tourism and also to ensure the effective planning and regulation of tourism in the Okavango Delta. It is upon this reasoning that the Okavango Delta was proclaimed a RAMSAR site because of its high biodiversity value, whilst also having capacity to provide reasonable levels of natural resources to its local inhabitants, and provide significant socio-economic benefits to the nation as a whole through tourism.</p> <p>The harmonization of the TDP and the ILUP was concluded in early 2008 to ensure that minimal land use conflicts and maintenance of good practice on biodiversity conservation within the ODRS are achieved.</p> <p><b>12. Extension of the Integrated Land Use Plan Beyond the ODRS</b></p> <p>During the preparation process of the Okavango Delta Management Plan, an Integrated Land Use Plan (ILUP) for the Okavango Delta Ramsar Site (ODRS) was developed. However, the ODRS is just a portion of the Ngamiland District, whose core is the Okavango Delta. The Department of Lands has commissioned a consultancy to develop and extend the Integrated Land Use Plan to those portions of the Ngamiland District that were then left out. Upon its completion, this effort will ensure that the entire Ngamiland District would have been mapped, producing a district-wide land use plan. Upcoming economic activities in the District with potential to alter the current land use patterns include a proposed copper mine in the Hyena Veldt farms, which will change use from farming to mining. However the lifespan of the proposed mine is estimated as 20 years, of which the land use will possibly revert to farming after rehabilitation.</p>

<b>Targets and Timeframe</b>  Specific management practices that integrate BD	<b>Area of coverage foreseen at start of project</b>	<b>Achievement at Mid-term Evaluation of Project</b>
Wetland conservation plans and actions integrated into production sector strategies	ODRS (55,000km <sup>2</sup> )	<p>The District has concluded a management plan for the Okavango Delta (ODMP). The ODMP identifies strategic interventions that the district intends to implement to ensure the conservation and sustainable utilization of the wetland resources of the Okavango Delta. The preparation of the plan was concluded during District Development Plan 6 (DDP6) and one of the strategies for its implementation is to mainstream it into the district and national planning processes. The ODMP has therefore been used as the basis for the preparation of environmental aspects of District Development Plan 7 (DDP7). As regards to the National Development Plans, the environment related projects that are conceived at national level will be influenced by the ODMP process. The specific sector action plans identified as priorities under the ODMP have been captured in detail in the component specific strategies and contributions to DDP7 and NDP10. However, some of the specific projects proposed as cross-cutting themes for improved environmental management during NDP 10 under the ODMP include:</p> <p>4. <b>Mainstreaming environmental economics concept into development planning process.</b> During the NDP 9 and DDP 6, the Department of Environmental Affairs (DEA) started a programme that aims at infusing environmental economics and natural resources accounting concepts as a tool that could improve development planning processes. This programme will form the basis for implementation for DDP 7 and NDP 10. The aim is to train planners at both district and national levels on environmental economics and natural resources accounting concepts.</p> <p>5. <b>Undertake environmental Audit/Strategic Environmental assessments of all sector plans.</b> The EIA Act of 2005 requires DEA to perform regular environmental audits of projects, plans, programmes and policies. To establish the extent to which these policies, sectors plans and programmes are taking into account environmental considerations, DEA and Sector institutions propose to perform environmental audits for plans and</p>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		<p>programmes during DDP 7/NDP 10.</p> <p>6. <b>Implementation of the Multi-lateral Environment Implementation Strategy (MEA).</b> DEA has prepared the above strategy which gives details as to how implementation of the MEAs such as the Convention on Biological Diversity (CBD), Ramsar Convention will be implemented. Since the Okavango Delta is a major storehouse of biodiversity, the implementation of the strategy will be benchmarked within the Okavango wetland system. It is the intentions of DEA that implementing partners such as Department of Forestry and Range Resources (DFRR), Ministry of Agriculture (MoA), and Department of Wildlife and National Parks (DWNP) incorporate the principles of the Strategy</p>
Number of tourism establishments involved in water quality monitoring	10 (these are mainly camps located on the edges of the river channels and doing their tourism business within defined concessions) 200,000 ha	<p>The project has facilitated the establishment of a water quality monitoring programme across the Okavango Delta. Champions include tour operators and non-operators. 8 tourism establishments are actively involved in water quality monitoring: .Drotsky's Cabins, Nguma Island Lodge, Camp Moremi, Xakanaka Camp, Khwai River Lodge, Sandebi Camp, Splash Camp, and Eagle Island Lodge, The total concession areas covered by these tourism camps amounts to <b>640,313 ha</b>.</p> <ul style="list-style-type: none"> <li>• <b>The project has built and continues to build the capacity of tour operators in the monitoring of water quality in the Okavango Delta.</b> Water quantity and quality are the key drivers of ecological processes that sustain biodiversity of international significance within the Okavango Delta. Several factors necessitate the need for a water quality monitoring programme for the Delta, and these factors include the following: possible development activities in Angola; agricultural and other activities in Namibia, settlements/camps/lodges/fishing/houseboats activities in Botswana. Therefore the principal reason for the water quality monitoring programme is to establish the current water quality of the Okavango Delta and future water quality trends, based on spatial and temporal factors. At mid-term the water quality monitoring programme is comprised of 16 monitoring sites, with a total of 8</li> </ul>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		<p>tour operator champions, Parameters under monitoring currently cover the following: pH, electrical conductivity, dissolved oxygen, temperature, turbidity, Na, K, Ca, Mg, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, SO<sub>4</sub>, PO<sub>4</sub>, Pb, Cd, Zn, Cu, Cr, Fe, Mn, Silica, Aluminium, BOD, Total phosphorus, Total nitrogen, Nitrate, Ammonium, Suspended and Dissolved solids.</p> <ul style="list-style-type: none"> <li>• Preliminary data analysis of the sampling sites has shown the following, some of which need follow up <ul style="list-style-type: none"> <li>○ Potential problems around Shakawe regarding faecal e-coli</li> <li>○ Dissolved oxygen decreases from Mohembo to Guma</li> <li>○ Turbidity is lowest at Sepopa</li> <li>○ During the period under study, Guma lagoon (monitored by Nguma Island Lodge) has the highest water temperature</li> <li>○ Except for Shakawe, chloride, sulphate and nitrate decrease from Mohembo to Guma Lagoon. There is need therefore to investigate the reason why Shakawe has a higher level of anions</li> <li>○ There is no major change in the pH, electrical conductivity and concentration of sodium and potassium over the four sites</li> </ul> </li> </ul> <p>This information is used jointly with other BIODAVANGO Project initiatives to recommend best practices in waste disposal and management, as waste disposal in the river channel or the delta deteriorates the quality of the water and poses as health hazard to the people using the water. This information is also very important to explain fish kills that occur at Guma Lagoon at the onset of floods and help or assist Fisheries Unit of DWNP to explain fisheries data.</p> <p>Through its policy and development advise structure (Project Steering Committee or PSC), the BIODAVANGO Project has engaged the Department of Water Affairs (DWA) about the results of the water quality monitoring, especially in the relatively populated Shakawe area and in Mohembo at the Ferry-crossing area. The DWA undertook their own independent analysis upon which their results were in agreement with those of the project. Based on the BIODAVANGO Project recommendations the DWA has made a decision to erect toilets and garbage collection containers at the Ferry-crossing area</p>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		to reduce the amount of human waste and other waste that get dumped directly into the river system. The project still pursues proper channels to recommend environmental friendly sewage and waste disposal system in Shakawe to avoid direct disposal and excretion into the river. Implementation of these recommendations will not only reduce degradation of water quality, but also promote a healthy people in a healthy ecosystem
Number of tourism establishments involved in the monitoring and management of alien aquatic invasive species	10 (same camps as above) 200,000 ha	<p>5 tourism establishments actively involved in the monitoring and management of alien aquatic invasive weed <i>Salvinia molesta</i>: These are Camp Moremi, Xakanaka Camp, Khwai River Lodge, Sandebi Camp, Splash Camp, The area covered is <b>686,259 ha</b></p> <p><i>Salvinia molesta</i> weed is an alien invasive species, and poses threat to the Okavango Delta's biodiversity. Extensive weed spread could be detrimental to the ecological, hydrological and biochemical processes of the wetland system, the same processes that are key fabric livelihoods of rural communities and operations of private entrepreneurs. The <b>Department of Water Affairs (DWA)</b> has been managing the weed by physical and bio-control programs in the Delta for more than 25 years. Despite the foregoing, the DWA's has continued to experience constraints in implementing the program, hence the need to build the capacity of tourism operators in the Delta to take part in the biological control and monitoring of the <i>Salvinia molesta</i> programme.</p> <p>The roll-out of the control and monitoring program to tourism operators was initiated in 2007. Achievements made by mid-term include the following.</p> <ul style="list-style-type: none"> <li>• Inception workshop on the proposed intervention on the control of <i>Salvinia molesta</i> was held with stakeholders on early 2007</li> <li>• Champion camps in the Delta: Camp Moremi; Xakanaka Camp; Splash Camp; Sandebi Camp; and Khwai River Lodge</li> <li>• Training workshop held on October 14<sup>th</sup> to 18<sup>th</sup> 2007 for tour operators, guides, managers and government departments (e.g Water Affairs and the</li> </ul>



Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		<p>Department of Wildlife and National Parks). Training was both theoretical and practical with hands on activities.</p> <ul style="list-style-type: none"> <li>• 10 guides/managers from the 5 champion tour camps selected and trained, The training also included government partners and CBOs</li> <li>• Most of the camps committed to control and monitor <i>Salvinia molesta</i>.</li> <li>• One on one in-house follow-up training of champions conducted in all 5 camps involved in the monitoring programme.</li> <li>• Equipment (porta pools for breeding weevils, funnels, weevils collection cups) purchased by the project, installed in all 5 camps, and demonstration of use by experts conducted.</li> <li>• Data capture sheets produced for recording of information on distribution trends, densities of weed and weevils introduced and other necessary parameters.</li> <li>• Champions trained in data capturing and recording in the data sheets</li> <li>• A private sector partner, CCA Africa (through its Sandebi Camp) has established an “adopt a weevil” campaign through which their clients (tourists) can sponsor the company’s ongoing <i>Salvinia molesta</i> control programme in partnership with local communities. The Camp is also involved in bio-monitoring using macro invertebrates and water quality.</li> <li>• Training modules for champions developed on the biological control of <i>Salvinia molesta</i> and water quality monitoring</li> <li>• A simplified poster on <i>Salvinia molesta</i> control and monitoring developed for wider dissemination of the intervention</li> <li>• Assessment of champion’s participation in the programme undertaken. Champions indicate a strengthened commitment and commit to allowing more of their tour guides to be trained in the <i>Salvinia molesta</i> programme</li> <li>• Assessment of the areas in which champions administer the programme indicated successful implementation by the project champions</li> <li>• Successful exhibition of the implementation of the <i>Salvinia molesta</i> control programme at the 2009</li> </ul>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		World Wetlands Day Commemoration
Number of Joint Resource Management Systems for resolving natural resources management conflicts	2 JMCs (1M hectares (Ng25, ¼ of Ng8, Ng32, Ng33, Ng34, ¼ of Ng35)	<p>A joint management system for natural resources management and tourism has been established at the Tubu/NG 25 and Shorobe pilot sites. For the Tubu/NG25 pilot site, the JMC has facilitated the development of a JMS (using participatory adaptive management approaches) for natural resources conflicts and tourism. The JMC is functional and well recognized by stakeholders, more especially the Tubu community and NG 25 private entrepreneur. The JMC comprises seventeen members drawn from various community and government agencies as well as the concessionaire, each member with an important stake in the biodiversity/natural resources of the Tubu/NG25 area. The committee is however too big, and it will be necessary to devise a smaller, more flexible operational wing that handles the day-to-day management activities and reporting periodically to the JMC itself. The nature and membership of this wing will be critical to the success of the JMS</p> <p>The committee recently co-opted a representative from the Department of Veterinary Services after the realization that there were technical (Foot &amp; Mouth) disease-related issues emanating from the interaction of cattle from Tubu and wildlife, especially buffaloes, in NG 25. The JMC has initiated the formation of Tubu Community Trust; an interim board of trustees was elected at a kgotla set up. The JMC came up with a tourism related concept to form a tourism cultural village. A place to host the concept was also identified. The cultural village will provide a hub through which the Tubu community would participate in, and benefit from tourism.</p> <p>The private operator (NG 25 Concessionaire) has committed to provide clients from his concessionaire to the cultural village. This will reduce pressure on biodiversity in the concession. The formation of Tubu Community Trust is seen as a vehicle to facilitate partnership between Ngamiland Adventure Safari (operating NG 25 Concession area) and the community. The Ngamiland Adventure Safaris has already</p>

Targets and Timeframe	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
Specific management practices that integrate BD		<p>committed resources to the development of the Tubu tourism cultural village and this initiative has provided a platform for the two parties who used to fail to resolve their veldt products and related conflicts to amicably discuss their concerns and problems, and finally reach a consensus that will ultimately reduce pressure exerted on natural resources in NG 25.</p> <p>The consultancy to develop participatory adaptive management approaches for veldt products harvesting/utilization in the Tubu/NG 25 pilot site has been commissioned. The focus of the assignment is on the institutional development and capacity building for the JMC through the development of management plans and adaptive management approaches for implementation by the JMC in the pilot sites.</p>
Number of tourism establishments involved in the monitoring and management of tourism impacts	70	<p>The Birdlife Botswana recognizes the Okavango Delta as an Important Bird Area (IBA) in the world, and the Wattled Crane, an indicator species, is protected through the Wildlife Conservation and National Parks Act of 1992. The population of the Wattled Crane over the years was dwindling. However, information from sightings done by both Birdlife Botswana, Tour operators and volunteer bird watchers indicates constant stable Wattled crane's population (1400) across the Okavango Delta, since 2005 (Birdlife Botswana Surveys, 2005). The Slaty Egret population has also been stable since 2005 at 4000 in the Delta.</p> <p>Some partner institutions (e.g. tour operator companies) have established systems to monitor the impacts of tourism on biodiversity within their concessions. The focus is on indicator species – For instance the Ngamiland Adventure Safaris operating in Concession NG 25 recorded 28 Sitatunga (<i>Tragelaphus spekii</i> ; listed as a globally threatened species) in 1999 and about 56 in 2008. Ngamiland Adventure Safaris also supports Birdlife Botswana in the monitoring of key bird species (e.g. Slaty Egret and Wattled Crane). Other partner companies including Okavango Wilderness Safaris (OWS) are also monitoring key biodiversity in the Delta. The BIODIVERSITY Project is working towards standardizing the different monitoring systems through the proposed review of Wildlife Management Areas (WMA) Regulations and Lease Agreements, as to ensure that concessionaires operating in the Delta will be</p>

Targets and Timeframe  Specific management practices that integrate BD	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
		<p>obliged to monitor impacts of their activities on biodiversity.</p> <p>The Department of Wildlife and National Parks within the Ministry of Environment, Wildlife and Tourism (MEWT) carry out wildlife aerial census surveys over the Okavango Delta, These Surveys are supposed to be carried out on an annual basis to monitor changes in key wildlife species. However due to lack of funds, the Department is sometimes unable to carry out the surveys; For instance the last survey was done in 2006. This is a gap which could easily be filled up, if all tour operators in the Delta were empowered to do ground monitoring in their concessions. If acceptable ground monitoring protocols could be developed for concessionaires, they would greatly complement government efforts.</p> <p><b>However, species such as the Red Lechwe and the Sitatunga which are indicator species in the Okavango Delta, have had their populations drastically reduced over the past few decades.. These species are now showing signs of recovery due to conservation efforts put in place by various players. The DWNP Census of 2006 and 2005 revealed 36, 983 and 160 estimated populations for Red Lechwe and Sitatunga respectively, over the Delta. These numbers could also be reflecting increased flows in the Okavango Delta as the populations can be directly linked to habitat availability, which is a function of flooding patterns.</b></p>
Number of tourism operations certified	70	<p>Six camps in the Okavango Delta (constituting 10%) volunteered to participate in the eco-certification programme and were inspected. 10 operators: The Botswana Tourism Board (BTB) has recently completed a study, funded by the Commonwealth Secretariat, to produce a best practice manual and feasibility analysis for a national Ecotourism Certification Scheme. As this study has a significant effect on the direction of BIOKAVANGO Project's eco-certification activities, the project has been playing an active role in its development. The feasibility analysis has suggested a clear place for such a scheme in Botswana, a conclusion strongly endorsed by the national steering committee. As such, BTB are receptive towards the project playing a key role in piloting parts of this study at a Delta scale, as a first step to move the scheme forward at a national</p>

Targets and Timeframe  Specific management practices that integrate BD	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
		<p>level. The Certification Feasibility Analysis study also concluded that Botswana Ecotourism operators are ready for eco-certification scheme hence there is a need to develop ecotourism standards to operationalize Botswana eco-certification scheme envisaged in the feasibility study. The Botswana Ecotourism Best Practices Guidelines Manual was developed collaboratively with the BTB. The purpose of the manual is to identify those ecotourism guidelines or criteria that would contribute to environmentally responsible tourism.</p> <p>Following recommendations from the above study, the BTB and the project jointly commissioned a consultancy on the development of the ecotourism standards in Botswana and specifically for the Delta.. The Standards have been developed, and are being piloted on selected tourism establishments in the Delta and beyond..</p>
<p>2. Joint Fisheries Resources Monitoring and Management/% Area of fish production wetland under improved fisheries management systems</p>	<p>26,500 ha</p>	<p><b>NG 11 – Fisheries Pilot Site (Mohembo, Ngarange, Shakawe and Samochima)</b></p> <p>Initiatives geared towards the setting up of an improved joint management fisheries system are ongoing in the Upper Panhandle of the Okavango Delta, with the view to minimizing user conflicts surrounding the use of fish resources. These efforts are estimated to be covering an area equivalent to more than 25,000ha. Ongoing work will lead to the development of management strategies at a local level that sustain fish numbers and diversity, without impediment from the currently prevailing system of open access to fisheries.</p> <p>The envisaged improved system has to define user rights, establish special set-asides (protected areas) for fish regeneration, zoning for different user groups, quota setting, and monitoring of biodiversity by user groups for input into decision making by managers. Ongoing initiatives are in collaboration with champions who include the Department of Wildlife and National Parks (Fisheries Division), Okavango Fishers Association (OFA), tour operators (lodges in the Upper Panhandle), community fishing trusts and syndicates. Several baseline surveys have generated information to support the development of the improved fisheries joint management model, and these include the socio-economic profile of stakeholders in the Upper</p>

Targets and Timeframe  Specific management practices that integrate BD	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
		<p>Panhandle, benefits distribution and sharing arrangements, fish biology and ecology; usufruct framework to define user rights, and, capacity needs assessments for support of the improved fisheries management model.</p> <p>The Fisheries Division is putting in place an enabling environment to support the foregoing model. The Fish Protection Regulations were promulgated on 23rd May 2008, and are enabled by the Fish Protection Act of 1975. The Fish Protection Act is a regulatory framework and permits the passing of regulations to deal with issues related to registration of fishing boats, issues of fishing licenses, closed fishing seasons for particular fish, fishing gear use, control of introduction of alien species into Botswana waters and control of the sale of fish.</p> <p><b>Although considered as having the potential to reduce conflicts surrounding the use of fish resources, the Fish Protection Regulations, do not address key issues related to biodiversity conservation. They (Regulations) remain part and parcel of the “command and control” approach to fisheries resources management, which if implemented, as is, will maintain the ensuing conflicts and fall short in addressing biodiversity issues. There is therefore still need for an improved fisheries joint management system where specific issues related to set-asides (protected fish regeneration areas), biodiversity monitoring, user rights and harmonized land-uses are adequately addressed. Hence the project is working with all concerned stakeholders to incorporate the regulations within the improved fisheries management systems.</b></p>
Pilot sewage effluent polishing systems in place in tourism establishments	4	<p>One and a half liquid waste polishing systems have been completed. An inventory of all liquid waste management/treatment systems and their effectiveness for the Okavango Delta tourism operations has been concluded. The outputs of the assessment will input into the development of a standard Liquid Waste Management Strategy to guide communities and tourism operations. The preliminary results indicate that the Delta hosts different systems that vary in terms of efficiency in treatment of wastewater of which some are not environmental friendly and pose threat to the delta biodiversity, as well as human health. The assessment further recommended that site conditions should be the overriding factor in selecting on-site wastewater</p>

<b>Targets and Timeframe</b>  Specific management practices that integrate BD	<b>Area of coverage foreseen at start of project</b>	<b>Achievement at Mid-term Evaluation of Project</b>
		<p>management technology. It appears that this has not been a major consideration in developing the existing wastewater management systems. In particular, the conventional septic tank, which is suitable for normal site conditions, may not be suitable for the Okavango Delta conditions that are considered difficult or adverse. Technological options for difficult sites (e.g. within the Okavango Delta) include a septic tank system coupled with a constructed wetland. The study therefore recommended the septic tank system coupled with a constructed wetland as the most suitable for the Okavango Delta. However, its performance should be evaluated based on monitoring effluent quality and its ability to meet the limits set by BOBS 93: 2004. Based on the results of the assessment the project has developed architectural diagrams of the polishing system, and in collaboration with champions 1 such system is being piloted in Maun (at Thuso Rehabilitation Centre), while another one is being put up at Mbioroba Lodge.</p> <p>The Government of Botswana (through the ODMP) funded the refurbishment of the vegetation based liquid waste polishing system, hosted by Thuso Lutheran Rehabilitation Centre in Maun. The vegetation polishing system (wetland system) is now functional and has drawn attention from different government and public sectors to learn more about how the system works. The following are lessons learnt from the Thuso Rehabilitation Centre's wetland polishing system.</p> <ol style="list-style-type: none"> <li>4. Waste water can be reused for the benefit of the ecosystem. Thuso Lutheran Rehabilitation Centre has developed an orchard garden that uses the water from the pond after it has been naturally polished by reeds.</li> <li>5. The system showed that different types of reeds have different strengths in cleaning grey water, and it is very important that those who might want to use the same system know or have the information on the strengths of the vegetation to use for better efficient working system.</li> <li>6. There is need for the development of some guidelines on how to design/develop the system so that it becomes easy for those who are interested in</li> </ol>

Targets and Timeframe  Specific management practices that integrate BD	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project
		<p>adopting the system.</p> <p>Another assessment on the supply and generation of hazardous substances in the Delta is ongoing. The preliminary results show that most of the permanent establishments transport oil, diesel, and paraffin, paint and wood preservatives of varying quantities into the Okavango Delta area. The main modes of transporting these substances into the delta are road, air and boat. A large quantity of fuel (80%) is transported by road, with the probability of large land spillage in case of an accident. The Okavango Delta is an ecologically sensitive environment whose biodiversity could be compromised by the side effects of improper transportation, handling and storage of hazardous substances. Some of these substances contain high levels of heavy metals and dioxins that could alter the ecosystem.</p> <p><b>The outputs from the above assessment are contributing towards the development of Biodiversity Friendly Guidelines or Standards for the handling, transportation and storage of hazardous substances (specifically fuel and oil). Contingency plans are also being put in place (as informed by this assessment) to ensure that large scale spillages (of hazardous substances) are contained and areas affected treated accordingly.</b></p>
Total increase in investment by tour operators in wetland management.	US\$360,000.00 pa	<p>In 2008, increase in tourism investment by Tour Operators (Champions) in wetland management was US\$420,000, amounting to an increase by 17%. The assessment reflects that the increase in total investment by tour operators in wetland management is significantly progressing well and likely to exceed the set target.</p> <p>1. Five private tourism companies in the Delta (Okavango Wilderness Safaris, Kerr &amp; Downey, Orient Express, Desert &amp; Delta, and Conservation Corporation Africa (now called '<i>And Beyond</i>')) are providing significant project co-finance to the tune of USD 3.1m. This bears testament to their support for the mainstreaming of biodiversity conservation objectives into the tourism sector of the Delta. Partner tourism operators have started to enhance their environmental management systems: covering areas such personnel specializing in environmental management; improved waste management systems; introduction of energy</p>



<b>Targets and Timeframe</b>  Specific management practices that integrate BD	<b>Area of coverage foreseen at start of project</b>	<b>Achievement at Mid-term Evaluation of Project</b>
		<p>efficient systems; water conservation strategies; biodiversity monitoring systems (including monitoring of globally threatened species). The private sector partners recently did an analysis of costs associated with investment in environmental management in their operations for the past two years; and indications are that about USD 1.7million has been invested. However, the project is still pursuing and refining a mechanism to report this effectively. A mechanism for quantifying support will also effectively influence behavior on a Delta-wide scale. The investment monitoring system for tourism operators is yet to be concluded, as it had to await the completion of the national eco-certification feasibility study by the Botswana Tourism Board (BTB). The study was completed in March 2008 and now forms a strong foundation for the development/initiation of the investment monitoring tool. The monitoring tool has to be closely harmonized with the eco-certification criteria for it to have meaning to the private sector. The development of the monitoring system is being done in conjunction with the development of the eco-tourism standards by the BTB and the project.</p> <p>2. Ngamiland Adventure Safaris, a partner in the Tubu/NG 25 pilot site for management approaches to veldt products and tourism, committed USD430, 000 to environmental management/natural resources monitoring in the Delta. The company also provides some technical input to the development of the Tubu Tourism Cultural Village Concept in terms of planning, site/positioning, market potentials, destination evaluation, gap bridging between nature-based and culture based tourism (diffusionist/integration planning).</p> <p>In appreciation of the work spearheaded by the BIODIVERSITY Project, two other private sector tour operators (Abercrombie &amp; Kent and Kwando Safaris) have just shown interest in co-financing the project. Discussions on how best they can participate in co financing are still ongoing. However, these companies have since developed cold feet on partnering with Biodiversity probably due to the world financial meltdown</p> <p>The prognosis for this indicator is extremely positive.</p>

<b>Targets and Timeframe</b>  Specific management practices that integrate BD	<b>Area of coverage foreseen at start of project</b>	<b>Achievement at Mid-term Evaluation of Project</b>
		The project aims are well targeted towards the business objectives of the private sector, and this bodes well for future alignment of their operations towards biodiversity-friendly practices.
% BD management actions recommended by OWMC implemented by District regulatory authorities	50%	The BIODIVERSITY Project resuscitated the Okavango Wetland Management Committee (OWMC), a committee that faded with the completion of the ODMP. The role of the Committee is to guide the implementation of the ODMP, with oversight role provided by the DEA. ToRs for the OWMC have been revised and endorsed by the Committee. A sub-committee of the OWMC was co-opted into the National Coordinating Unit responsible for guiding the GEF/OKACOM-EPSMO project on the transboundary diagnostic assessment (TDA) and environmental flow requirements studies for the Basin. The incorporation of the environmental flows into the TDA culminates into a Strategic Action Plan (SAP) for the Basin, forming the basis for the Basin-Wide Management Plan. The Government of Botswana has endorsed the ODMP as the basis for the Botswana part of the TDA and SAP process. The national Action Plans which form part of the SAP are largely derived from the ODMP. This process therefore provides an avenue to facilitate the implementation of the ODMP. The University of Botswana (through HOORC) is carrying out the Botswana TDA on behalf of the National Coordinating Unit. Eight of the OWMC members have been elected into the National Coordinating Unit to oversee the carrying out of the Botswana TDA. The members provide feedback to the larger OWMC membership on issues of the River Basin through their scheduled meetings. A detailed analysis of records (minutes etc) determines the percentage of Biodiversity management actions recommended by the OWMC and its sub-committee (operating under the National Coordinating Unit for the Basin) and implemented at District and Basin levels.

10. b. Is the project promoting the conservation and sustainable use of wild species or landraces?

Yes, the project promotes conservation and sustainable use of fish and plant species in the Okavango Delta.

If yes, please list the wild species (WS) or landraces (L):. There are about 24 such known fish species in the Okavango Delta that is exploited by the Commercial, recreational and basket fisher's (see table below)

Species ( <i>Genus sp.</i> , and common name)	Wild Species (please check if this is a wild species)	Landrace (please check if this is a landrace)
1. <i>Tilapia rendalii</i> (Red breast tilapia)	Wild Species	
2. <i>Hydrocynus vittatus</i> – (Tigerfish)	Wild Species	
3. <i>Petrocephalus catostoma</i> – (Northern Churchill)	Wild Species	
4. <i>Oreochromis andersonii</i> (Threespot Tilapia)	Wild Species	
5. <i>Oreochromis macrochir</i> (Greenhead tilapia)	Wild Species	
6. <i>Serranochromis altus</i> (Thin-face humpback)	Wild Species	
7. <i>Serranochromis robustus</i> (Nembwe)	Wild Species	
8. <i>Clarias gariepinus</i> (Sharptooth catfish)	Wild Species	
9. <i>Clarias ngamensis</i> (Blunttooth catfish)	Wild Species	
10. <i>pseudocranilabrous philander</i> (Southern mouthbrooder)	Wild Species	
11. <i>Aplocheilichthys johnstoni</i> (Johnston's topminnow)	Wild Species	
12. <i>Barbus multilineatus</i> (Copperstripe barb)	Wild Species	
13. <i>Serranochromis macrocephalus</i> (Purple-face largemouth)	Wild Species	
14. <i>Serranochromis angusticeps</i> (Thin-face largemouth)	Wild Species	
15. <i>Tilapia sparrmanii</i> (Banded tilapia)	Wild Species	
16. <i>Pharyngochromis acuticeps</i> (Zambezi river bream)	Wild Species	
17. <i>Cyphomyrus discorhynchus</i> (Zambezi	Wild Species	

river bream)		
18. <i>Hippopotamyrus ansorgii</i> (Slender stone-basher)	Wild Species	
19. <i>Barbus haasianus</i> (Sickle-fin barb)	Wild Species	
20. <i>Barbus radiatus</i> (Beira barb)	Wild Species	
21. <i>Barbus barnardi</i> (Blackback barb)	Wild Species	
22. <i>Micralestes acutidens</i> (Silver robber)	Wild Species	
23. <i>Rhabdalestes maunensis</i> (Slender robber)	Wild Species	
24. <i>Aplocheilichthys katangae</i> (Striped topminnow)	Wild Species	
<i>Hyphaene petersiana</i>	Wild Species	
<i>Phoenix reclinata</i>	Wild Species	
<i>Ficus sycamorus</i>	Wild Species	
Thatching Grass ( <i>Cymbopogon</i> spp)	Wild Species	
<i>Phragmites communis</i>	Wild Species	

10. c. For the species identified above, ***or other target species of the project not included in the list above (E.g., domesticated species)***, please list the species, check the boxes as appropriate regarding the application of a certification system, and identify the certification system being used in the project, if any. An example is provided in the table below.


#### **IV. Market Transformation and Mainstreaming Biodiversity**

11. a. For those projects that have identified market transformation as a project objective, please describe the project's ability to integrate biodiversity considerations into the mainstream economy by measuring the market changes to which the project contributed. The sectors and subsectors and measures of impact in the table below **are illustrative examples, only**. Please complete per the objectives and specifics of the project.

<b>Name of the market that the project seeks to affect (sector and sub-sector)</b>	<b>Unit of measure of market impact</b>	<b>Market condition at the start of the project</b>	<b>Market condition at midterm evaluation of project</b>	<b>Market condition at final evaluation of the project</b>
E.g.,	E.g., US\$ of sales of			

Sustainable agriculture (Fruit production: apples)	certified apple products / yr			
E.g., Sustainable forestry (timber processing)	E.g., cubic meters of sustainably produced wood processed per year			
E.g., Tourism (eco-tourism)	E.g., US\$ of revenues from eco-tourism / yr; number of tourists/year; number of eco-tourism companies			

11. b. Please also note which (if any) market changes were directly caused by the project.

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N/A

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## **V. Improved Livelihoods**

**12. For those projects that have identified improving the livelihoods of a beneficiary population based on sustainable use /harvesting as a project objective, please list the targets identified in the logframe and record progress at the mid-term and final evaluation. An example is provided in the table below**

<b>Improved Livelihood Measure</b>	<b>Number of targeted beneficiaries (if known)</b>	<b>Please identify local or indigenous communities project is working with</b>	<b>Improvement Foreseen at project start</b>	<b>Achievement at Mid-term Evaluation of Project</b>	<b>Achievement at Final Evaluation of Project</b>
1. E.g., Increased incomes	100	<b>Tarahumar a Indians</b>	10 % increase over baseline	5 % increase for all 100 beneficiaries	5 % increase for all 100 beneficiaries

2.					
3...					

**VI. Project Replication Strategy**

13. a . Does the project specify budget, activities, and outputs for implementing the replication strategy? **Yes**

13. b. Is the replication strategy promoting incentive measures & instruments (e.g. trust funds, payments for environmental services, certification) within and beyond project boundaries?

**Yes**

If yes, please list the incentive measures or instruments being promoted:

- i) Green certification system for ecotourism operation which enhances international marketing and as a criterion for lease application and renewal.**
- ii) Norms and standards for EIAs in ecologically sensitive areas  
Linked to leases agreements; customising EIA regulations for Okavango Delta**
- iii) Also linked to the Green certification is the development and promotion of a biological sewage polishing system in the Delta**

13. c. For all projects, please complete box below.

<b>Replication Quantification Measure (Examples: hectares of certified products, number of resource users participating in payment for environmental services programs, businesses established, etc.)</b>	<b>Replication Target Foreseen at project start</b>	<b>Achievement at Mid-term Evaluation of Project</b>	<b>Achievement at Final Evaluation of Project</b>

<p>The Okavango Delta Management Plan will provide the framework for land use planning in the Okavango Delta. Safe minimum standards for developments will be established, accommodating biodiversity conservation objectives. These standards will be informed through the baseline assessments conducted through the Project.</p>	<p>Standards developed for the Okavango Delta</p>	<ul style="list-style-type: none"> <li>• Baseline studies have been undertaken for the development of standards such as the Tourism sites identification, Training manual for Tawana Land Board</li> <li>• The preparation of the Makgadikgadi Wetland Management Plan has just been commissioned by the Ministry of Environment, Wildlife and Tourism (MEWT). Guidance materials being tested by the Project in the Okavango Delta will ensure that good conservation practices are codified in Makgadikgadi Wetland Management Plan (e.g. eco-tourism standards, reviewed lease agreements etc).</li> </ul>	
<p>Certification system for good tourism practice instituted in conjunction with the Botswana Tourism Board and HATAB</p>	<p>National coverage</p>	<ul style="list-style-type: none"> <li>• Eco-certification standards developed and piloted in 19 tourism establishments</li> </ul>	
<p>Study tours:- The representatives of local government and traditional authorities will benefit from village to village exchange visits.</p>	<p>One annual exchange visit</p>	<ul style="list-style-type: none"> <li>• Two exchange visits undertaken over two years</li> </ul>	
<p>The capacity of the Okavango Fishers Association to coordinate information exchange between members will be enhanced (i.e. through radio and informal channels)</p>	<p>Okavango Delta</p>	<ul style="list-style-type: none"> <li>• Capacity improved, OFA has office, holds regular quarterly meetings, new executive committee, revised constitution</li> </ul>	

<p>Biodiversity management objectives integrated into the water sector</p>	<p>Okavango Delta</p>	<ul style="list-style-type: none"> <li>• The Project marks one of the first attempts in the Southern Africa region to mainstream biodiversity management objectives into the water sector. This has been achieved for the Delta and the Basin through the development of environmental flow requirements (in collaboration with EPSMO). The response curves that were created have been inputted in the custom built Decision Support System (DSS) which can be queried about the predicted change in all indicators for any scenario of interest. The DSS is set up to query any number of additional scenarios as the countries/OKACOM wish. The Response Curves represent the combined best understanding of how the Okavango River Basin ecosystem and its users function.</li> <li>• Information on environmental flows requirements within the context of IWRM were shared with ministers at the Bangkok Conference held in May 2009</li> </ul>	
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<p>The capacity of fisheries extension services to work collaboratively with fishing communities to design and monitor set asides is enhanced.</p>	<p>Okavango Delta</p>	<ul style="list-style-type: none"> <li>• Stakeholders within the fisheries pilot sites and beyond have jointly formed the Okavango Fisheries Management Committee (OFMC) and it is composed of representatives of Government Departments (DWNP, DWA, TLB, DoT, DEA, NWDC-Env. Health), representatives of the different fisher groups (Tour operators, CBO's, syndicates). The OFMC roles and responsibilities have been discussed, and this committee is viewed by all stakeholders in the pilot site as sign of unity and as a symbol of reduced conflicts amongst resource users.</li> <li>• The Fisheries Division is putting in place an enabling environment to support the foregoing model. The Fish Protection Regulations were promulgated on the 23rd May 2008, and are enabled by the Fish Protection Act of 1975. The Fish Protection Act is a regulatory framework and permits the passing of regulations to deal with issues related to registration of fishing boats, issues of fishing licenses, closed fishing seasons for particular fish, fishing gear use, control of introduction of alien species into Botswana waters and control of the sale of fish.</li> <li>• Special fish set-asides (protected areas) for fish regeneration have been agreed and mapped by all stakeholders in the project pilot sites.</li> </ul>	
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## **VII. Enabling Environment**

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions: 14a, 14b, 14c.

**An example for a project that focused on the agriculture sector is provided in 14 a, b, and c.**

14. a. Please complete this table at **work program inclusion for each sector** that is a primary or a secondary focus of the project.  
Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Fisheries	Water	Tourism
<b>Statement: Please answer YES or NO for each sector that is a focus of the project.</b>			
Biodiversity considerations are mentioned in sector policy	No	No	No <sup>12</sup>
Biodiversity considerations are mentioned in sector policy through specific legislation	No	Yes <sup>13</sup>	No
Regulations are in place to implement the legislation	No	Yes	No
The regulations are under implementation	No	Yes	No
The implementation of regulations is enforced	No	Yes <sup>14</sup>	No
Enforcement of regulations is monitored	No	No	No

14. b . Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project.

Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Fisheries	Water	Tourism
<b>Statement: Please answer YES or NO for each sector that is a focus of the project.</b>			

<sup>12</sup> The Tourism policy includes considerations for environmental impacts of tourism but biodiversity is not specifically mentioned

<sup>13</sup> There is **NO** mention of BD consideration in the National Water Master Plans. However aquatic alien invasive species are covered specifically in the Aquatic Weeds (control) Act.

<sup>14</sup> The system for implementation and the coordination between institutions is weak

Biodiversity considerations are mentioned in sector policy	NO	NO	NO <sup>15</sup>
Biodiversity considerations are mentioned in sector policy through specific legislation	No	YES <sup>16</sup>	NO
Regulations are in place to implement the legislation	YES <sup>17</sup>	YES	NO
The regulations are under implementation	YES	YES	NO
The implementation of regulations is enforced	YES <sup>18</sup>	YESs <sup>19</sup>	NO
Enforcement of regulations is monitored	YES <sup>20</sup>	NO	NO

14. c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project.

Please answer YES or NO to each statement under the sectors that are a focus of the project.

<b>Sector</b>	<b>Agriculture</b>	<b>Fisheries</b>	<b>Forestry</b>	<b>Tourism</b>	<b>Other (please specify)</b>	<b>Other (please specify)</b>
<b>Statement: Please answer YES or NO for each sector that is a focus of the project.</b>						
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						

<sup>15</sup> The Tourism policy includes considerations for environmental impacts of tourism but biodiversity is not specifically mentioned

<sup>16</sup> There is **NO** mention of BD consideration in the National Water Master Plans. However aquatic alien invasive species are covered specifically in the Aquatic Weeds (control) Act.

<sup>17</sup> Fisheries Control Regulations were promulgated in 2008, but have there are omissions regarding set asides (for fish regeneration) in open access systems. The regulations also fail to address issues of joint management structures as models to eliminate or control or manage conflicts within open access waters.

<sup>18</sup> Implementation has just been initiated, hence too early to judge

<sup>19</sup> The system for implementation and the coordination between institutions is weak

<sup>20</sup> Implementation has just been initiated, hence too early to judge

The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

**All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:**

14. d. Within the scope and objectives of the project, has the private sector undertaken **voluntary** measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.

- The BOKAVANGO Project has facilitated the incorporation of biodiversity objectives in the tourism sector by the tourism operators. As an appreciation of the need to integrate biodiversity considerations, the champions (tour operators) use their resources to undertake monitoring of the water quality, control and monitoring of the alien invasive *Salvinia molesta* weed, and the monitoring of water quality using macro-invertebrates, in the Okavango Delta. Eight of the tourism establishments follow established protocols to undertake water quality monitoring programme every two weeks, by taking some field measurements (Ph, turbidity, dissolved oxygen and electrical conductivity) and collecting water samples for further laboratory analysis at HOORC (Na, K, Ca, Mg, HCO<sub>3</sub>, CO<sub>3</sub>, Cl, SO<sub>4</sub>, PO<sub>4</sub>, Pb, Cd, Zn, Cu, Cr, Fe, Mn, Silica, Aluminium, BOD, Total phosphorus, Total nitrogen, Nitrate, Ammonium, Suspended and Dissolved solids)

The same tourism operators, while undertaking their daily activities (game drives and boat cruises for tourists) monitor and control *salvinia molesta* alien species. When they identify an infested area they undertake an intensive assessment to see if there are weevils (*Cyrtobagous salviniae*) controlling the weed. In cases where there are no weevils the tour guides will take the weevils from the breeding pools in the camps and release them in the infested areas as a bio-control measure.

One of the tour operators (CC Africa, through its Sandebi Camp) has expanded its collaboration with the project to establish an “adopt a weevil” campaign through which their clients (tourists) can sponsor the company’s *Salvinia molesta* control programme in partnership with the local communities.

All the companies that are champions (tourism operators) in the implementation of the BOKAVANGO Project have employed Environmental Officers/Managers (or are in the process of hiring) to ensure that the businesses operate in an environmentally friendly manner, and in a manner that does not jeopardize conservation of biodiversity. The companies have also developed environmental management programmes that include surveys on annual censuses of wild animals within their concessions, inventory of plant species and monitoring. These environmental management programmes have gone a long way to incorporate the water quality monitoring and *salvinia molesta* bio-control initiatives within the schedules of the tour guides.

Under the Fisheries component of the project, the private sector (mainly lodge owners- tour operators) have actively joined other stakeholders at the pilot site and are members of the Okavango Fisheries Management Committee. This is a joint management committee (JMC) that has voluntarily advocated for the delineation of no-fishing areas for fish biodiversity monitoring and management. This committee is also actively involved in self policing of the newly introduced fish regulations to facilitate fisheries management in the pilot site. Some of

the key stakeholders in this committee (i.e. recreational and commercial fishers) are also voluntarily involved in fish data collection.

In the tourism component of the project, a private tour operator in NG25 concessionaire has volunteered his knowledge and resources towards reducing the conflicts in an effort to incorporate biodiversity considerations in his business. The Ngamiland Adventure Safari operator has committed to provide clients from his concession area to the proposed Tubu cultural village. This will reduce pressure on biodiversity in the concession. The formation of Tubu Community Trust is seen as a vehicle to facilitate partnership between Ngamiland Adventure Safari (operating NG 25 Concession area) and the community. The Ngamiland Adventure Safaris has already committed resources to the development of the Tubu tourism cultural village and this initiative has provided a platform for the two parties who used to fail to resolve their veldt products and related conflicts to amicably discuss their concerns and problems, and finally reach a consensus that will ultimately reduce pressure exerted on natural resources in NG 25.

**VIII. Mainstreaming biodiversity into the GEF Implementing Agencies’ Programs**

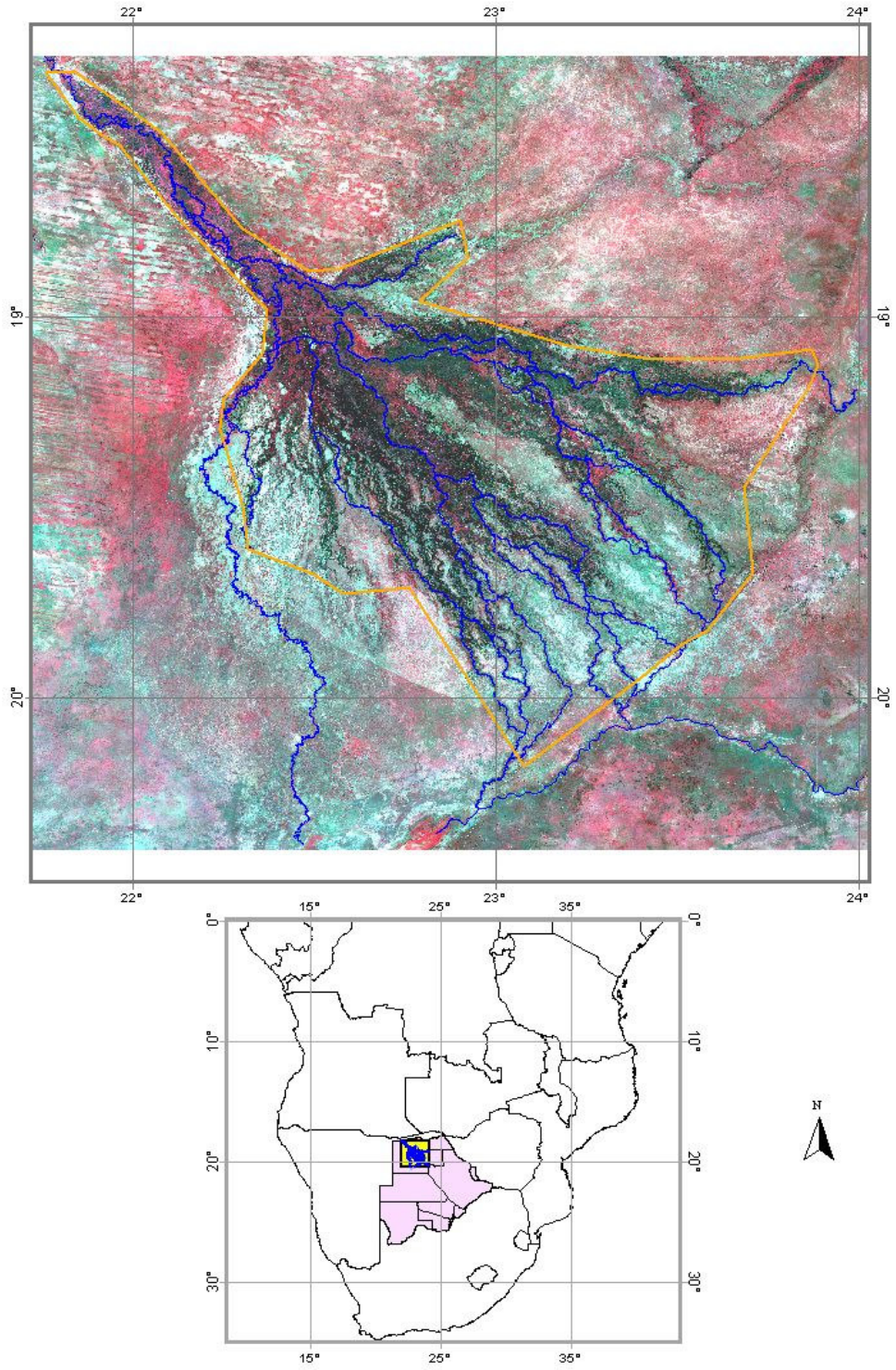
15. At each time juncture of the project (work program inclusion, mid-term evaluation, and final evaluation), please check the box that depicts the status of mainstreaming biodiversity through the implementation of this project with on-going GEF Implementing Agencies’ development assistance, sector, lending, or other technical assistance programs.

<b>Time Frame</b>	<b>Work Program Inclusion</b>	<b>Mid-Term Evaluation</b>	<b>Final Evaluation</b>
<b>Status of Mainstreaming</b>			
The project is not linked to IA development assistance, sector, lending programs, or other technical assistance programs.			
The project is indirectly linked to IAs development assistance, sector, lending programs or other technical assistance programs.			
The project has direct links to IAs development assistance, sector, lending programs or other technical assistance programs.			
The project is demonstrating strong and sustained complementarity with on-going planned programs.			

**IX. Other Impacts**

16. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above. ALSO REFER TO LOGFRAME UPDATE

Annex 1: Figure Showing the Biokavango Project Study Area







## Annex 10.8 Acronyms used

AAS	Atomic Absorption Spectrophotometer
AIDS	Acquired Immune Deficiency Syndrome
AVCU	Aquatic Vegetation Control Unit
BD	Biodiversity
BDC	Biodiversity Coordinator
BIOKAVANGO	Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta
BPMC	BioKavango Project Management Committee
BTB	Botswana Tourism Board
<b>BWP</b>	<b>Botswana Pula</b>
CC	Carrying Capacity
CBOs	Community Based Organisation
CBNRM	Community Based Natural Resources Management
CCA	Conservation Corporation Africa
CCO	Community Conservation Officer
CO	Country Office
DC	District Commissioner
DCA	Department of Civil Aviation
DEA	Department of Environmental Affairs
DDC	District Development Committee
DDP 7	District Development Plan No 7
DoT	Department of Tourism
DWA	Department of Water Affairs
DWNP	Department of Wildlife and National Parks
EE	Environmental Education
EHD	Environmental Health Department
EIA	Environmental Impact Assessment
EMU	Environmental Monitoring Unit
EPSMO	Environmental Protection and Sustainable Management for the Okavango
ERP	Every River Has its People
FC	Fisheries Coordinator
GEF	Global Environment Facility
GoB	Government of Botswana
HATAB	Hotel and Tourism Association of Botswana
HIV	Human Immune Virus
HOORC	Harry Oppenheimer Okavango Research Centre
ILUP	Integrated Land Use Plan
IT	Information Technology
IUCN	World Conservation Union
JAKOTSHA	JAO IKOGA ETSHA 1-13 Community Trust
JMC	Joint Management Committee
JMS	Joint Management System
KCS	Kalahari Conservation Society
LAC	Limits of Acceptable Change
LEA	Local Enterprise Authority
MEWT	Ministry of Environment, Wildlife and Tourism
MSP	Managing Successful Programmes
NDP 10	National Development Plan No 10
NGO	Non Governmental Organisation
NCU	National Coordinating Unit
NEF	National Environmental Fund
NPC	National Project Coordinator
NWDC	North West District Council
NWMP	National Water Master Plan

NWPS	National Wetland Policy and Strategy
OBSC	Okavango Basin Steering Committee
OCPT	Okavango Community Polers Trust
ODIS	Okavango Delta Information System
ODMP	Okavango Delta Management Plan
ODRS	Okavango Delta Ramsor Site
OFA	Okavango Fishermen Association
OKACOM	Okavango River Basin Commission
OKMCT	Okavango Kopano Mokoro Community Trust
OWMC	Okavango Wetland Management Committee
PAFO	Project Administration and Finance Officer
PAT	Project Assistant-Technical
PDF	Project Development and Formulation
PMU	Project Management Unit
PRINCE 2	Project in a Controlled Environment 2
PRO DOC	Project Document (Detailed BIODIVERSITY project proposal)
PSC	Project Steering Committee
RG	Reference Group
RCU	Regional Coordinating Unit
TAG	Technical Advisory Group
TDA	Trans-boundary Diagnostic Analysis
TLB	Tawana Land Board
TLRC	Thuso Lutheran Rehabilitation Centre
ToRs	Terms of Reference
TS	Tourism Specialist
UB	University of Botswana
UNDP	United Nations Development Programme
UVa	University of Virginia
WMA	Wildlife Management Areas
WTP	Willingness To Pay