

DFRR



Ecotourism Manual on standards, quality control & compensation

Operation procedures for the public and private sector on how to administer and run businesses in Botswana Forest Reserves

Ecotourism Manual for Forest Reserves



FIRST EDITION V 1.0 2010
Department of Forestry and Range Resources

Ecotourism Manual for Forest Reserves in Botswana

Published by the Department of Forestry and Range Resources (DFRR)

Officers in charge:

J. F. Ramontsho (Chief Forester; jramontsho@gov.bw)

Dr. R. K. Zimmermann (Senior Conservation Ecologist; zimmermann@gov.bw)

Version 1.0

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Reference:

DFRR (2011) Ecotourism Manual for Forest Reserves. Standards, Quality Control and Compensation. Version 1.0; Gaborone, Botswana

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Abbreviations

BBDSAP	Botswana Biodiversity Strategy and Action Plan
BD	Biodiversity
BTB	Botswana Tourism Board
CBNRM	Community-Based Natural Resource Management
CBO	Community-Based Organization
DDP	District Development Plan
CECT	Chobe Enclave Conservation Trust
DFRR	Department of Forest and Range Resources
DWNP	Department of Wildlife and National Parks
FR	Forest Reserve
IUCN	International Union for the Conservation of Nature
LAC	Limits of Acceptable Change
NDP	National Development Plan
NGO	Non-Government Agency
PA	Protected Area
SMMSE	Small, Micro and Medium Sized Enterprise
VDC	Village Development Committee
FRMP	Forest Reserve Management Plan
ICP	Impact Compensation Plan
ETP	Ecotourism Plan
EIA	Environmental Impact Assessment

Definitions

Agritourism

It includes all 'rural enterprises which incorporate both a working farm environment and a commercial tourism component'. In other words, agritourism can take many forms, including farm stays, bed and breakfasts, pick-your-own produce, agricultural festivals, and farm tours for children, or hayrides.

Alternative Dispute Resolution (ADR)

The process of settling disputes between parties outside the government judicial processes and techniques, which are more costly and time consuming. Instead, arbitrators and mediators who are neutral are used. There are four categories of ADRs, namely negotiation, mediation (conciliation), collaborative law, and arbitration.

Animal

Includes any vertebrate or invertebrate animal species and the eggs and young thereof occurring within natural ecosystems and habitats.

Adaptive management

The process by which research and learning is continually incorporated in management planning and practice. Specifically, it is the integration of design, management and monitoring to test systematically assumptions in order to adapt and learn

Biodiversity

Also referred to as biological diversity, is the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species, between species and of ecosystems.

Commercial resource use

Use of natural resources for the purpose of selling, trading and/or profit making.

Community based natural resource management

A development approach that incorporates natural resources conservation. The resource management ultimate aim of which is to manage and protect the natural resource base by rural communities.

Community-based organization

With reference to resource management, a community-based organization is a representative, accountable and legal entity at the village level formed to manage community natural resource use rights.

Conservation

The protection, maintenance, rehabilitation, restoration and enhancement of wildlife and includes the management of the use of wildlife to ensure sustainable of such use.

Cultural tourism

Cultural aspects which are of interest to the visitor and can be marketed as such, including the customs and traditions of people, their heritage, history and way of life.

Ecosystem

A dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit.

Eco-tourism

Purposeful travel to natural areas to experience and understand the culture and natural history of the area taking care not to alter the integrity of the ecosystem, while producing economic opportunities that make the conservation of natural resources beneficial to local people.

Environment

Includes natural, urban, human living and cultural environments.

Emerging SMMEs

Small, micro and medium-sized enterprises owned and/or operated by local citizens as defined by the Ministry of Trade and Industry.

Limits of acceptable change (LAC)

Assesses the probable impact of an activity, decides in advance how much change will be tolerated, monitors what's happening systematically and regularly, and determines what actions are appropriate if agreed-upon quality standards are surpassed

Pro poor tourism

Pro-poor tourism means managing a tourism business so that it makes business sense for the operator and at the same time benefits the poor.

Responsible tourism

Is treating others the way they wish to be treated.

Sustainable development

Development that meets the needs of the current generation without jeopardizing the ability of future generations to meet their needs

Sustainable tourism

Tourism development, management and any other tourism development activities that optimize the economic and other societal benefits available without jeopardizing the potential for similar benefits in the future.

Stakeholders

Any individual or group directly or indirectly affected by, or interested in, a given resource or project.

Technical Advisory Committee (TAC)

Means a district advisory committee charged with the responsibility to oversee the implementation of CBNRM.

Threatened Species

Any species of fauna or flora which is considered critically endangered, endangered, or vulnerable, for which definitions are provided for by the Act in terms of CITES or IUCN, and for which criteria may be adopted and from time to time reviewed by the Conference of the Parties and the Minister, taking into consideration the work of competent persons in this field.

Tourism industry

All recipients of direct spend incurred by tourists. This includes pre-trip expenditure on travel and booking, travel and en-route expenditure, and all spending at the destination.

Tourist

A person who travels away from home, staying over for at least one night. A tourist can be a domestic, regional or overseas tourist. Tourists travel for different purposes including business, leisure, conferences and incentive.

Tourism

All travel for whatever purpose resulting in one or more nights being spent away from home.

Foreword

I am pleased to write this foreword for a manual we have all been waiting for. When government decided to open up Forest Reserves for the benefit of underprivileged sections of the population by enabling them to take part in the tourist industry, it was clear from the beginning that a way must be found to improve the status of the ecosystems as well. It was important for us to ensure a sustainable balance between livelihood and nature. Even though the former system of protected areas had weaknesses mainly related to management capacities, it was able to maintain the overall integrity of the forests. We were therefore challenged with the task to produce something better to improve on the previous management system of Forest Reserves.

Portrait of the director of DFRR

Currently many organizations try to capture their processes in a form that can be easily and consistently followed. To us, that was the way to set standards which exceed the earlier management performance of the forest administration with the purpose of avoiding harm to nature under the new utilization regime. This manual is explaining for the first time in detail what quality of work is expected from the forest management and what requirements have to be met by the investors. Above that, a monitoring process will be established to prove regularly if the concerned parties have adhered to the set standards.

This approach is a significant step forward for the Botswana forest administration and I would like to thank everybody who was involved in the conceptualization and production of this manual. I want to express my special thanks to Mr. J.F. Ramontsho who was mainly in charge with his Division of Conservation and Management to complete the project, while much appreciation ought to be accorded to Dr. Ralf Klaus Zimmermann without whose expertise the manual would not have been produced.

Yours sincerely

.....

Dr. Manthe-Tsuaneng

(Director of the Department of Forestry and Range Resources)

1. Introduction

Botswana is blessed with a scenic landscape that includes deserts, vast savannas, prominent wetlands, enormous salt pans and large dry forests. Together with the large diversity of fauna and the impressive abundance of flora species, this makes an awe-striking Africa experience for foreign and national guests. The tourism sector is therefore the second important industry for Botswana. It is providing employment for thousands of people and produces an annual accumulated turnover of several hundred million US\$. The tourism sector was the fastest growing segment of the Botswana GDP over the last decades and it is still growing at a remarkable rate. Especially the districts of Ngamiland and Chobe became the driving force of the Botswana tourism industry with their amount of available beds being 64 % above the average of all Botswana districts. This is particularly true for the much-targeted group of international leisure tourist who mainly prefer the high-end accommodation segment, which is very concentrated in these areas too.

In order to enjoy the wildlife of Botswana, tourists in Chobe district are currently dependent on the Chobe National Park. This led to very frequent visits by tour operators to selected spots of high interest in the park, which is not helpful with regard to minimizing animal disturbance and to creating a unique African bush experience for the tourists. Furthermore, many activities that may be of interest to tourists are legitimately not possible due to the "National Park" status.

However, the Chobe district contains six Forest Reserves namely Chobe, Sibuyu, Kasane ext., Maikaelelo, Kazuma and Kasane which represent vast natural areas that weren't open for tourist or resource use activities hitherto. Up to now, the Reserves are poorly managed and their potential is neglected. This produced extensive illegal activities like rangeland resource use, logging, poaching and livestock grazing just to name a few in the past.

The government of Botswana has therefore decided to improve the management of the Forest Reserves as a first step and make them available subject to strict conditions to a bigger public. The government primarily hopes to achieve three things from opening the Reserves, which are a reduction in illegal activities due to improved management and increased revenue, poverty reduction due to the exploitation of tourism and resource business opportunities by bordering rural communities and relieved pressure from the Chobe National Park. Furthermore, it is expected to substantially advance conservation of the ecosystems by monitoring ecological indicators and the resources itself in order to set sustainable removal rates and to allow only adapted businesses to the parks.

To reach these goals it was necessary to develop standards and monitoring procedures to be followed by reserve managers and entrepreneurs to facilitate an equally high level of state management quality and the enforcement of demanding requirements for the private sector.

The available document contains the requirements and the measurements to control them. It was developed through a consultant-led process that has involved all the relevant state and NGO stakeholders as well as the affected neighboring communities. DFRR has afterwards condensed and transformed the information into the present practicable standard operation procedure.

We, the signatories, and everybody who was involved in the making of this manual deeply wish this project to be successful for an ecologically exemplary and economically prosperous Botswana.

J.F. Ramontsho
(Chief Forester)

Dr. R. K. Zimmermann
(Senior Conservation Ecologist)

2. Spatial scope

This guideline is applicable in Botswana's six Forest Reserves (FR) in Chobe District ranging from a small FR of 16,800 ha (Kazuma FR) to almost ten times that (154500 ha Chobe FR). The size of each FR and their location are shown in Figures 1 and 2.

Forest Reserves are declared under the 1968 Forest Act. The President declares Forest Reserves and has the right to adjust the boundaries. Therefore, this standard is valid within the existing boundaries of the forest reserves at a particular period of time. FRs fall under the management jurisdiction of DFRR. No material may be used from the Forest Reserve (FR) without permission (and a license) from a Forest Officer (art 12- 15).

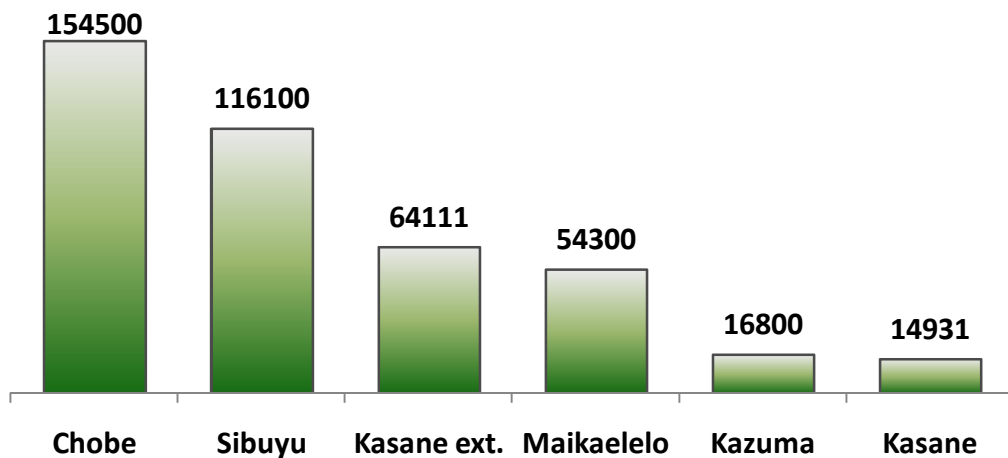


Figure 1: Size of the Forest Reserves in hectare.

3. Kind of businesses

Even though this guideline is meant to open up the Forest Reserves in order to allow more business activities within their boundaries the Forest Act [10th March, 1968] is still fully valid.

3.1. Prohibited activities

Within a Forest Reserve, it is not allowed to keep cattle, fell live trees, cutting live branches, collect dead wood, to hunt or fish and undertake any mining activities unless special authorization has been granted on condition that rehabilitation will follow. Citizens of adjoining villages are exempted at request (first come, first serve) from the dead wood collection ban on a quota basis.

3.2. Allowed activities

Within a Forest Reserve the following types of business and activities are allowed: Self-drive tourism, game drive operations, accommodation in tents and permanent structures, night drives, cultural activities, cultural villages, walking and horseback safaris, cultural and heritage tourism, agro-tourism, photographic safaris, bird watching and the use of natural resources as specified in the AGRICULTURAL RESOURCES CONSERVATION ACT (Cap 35:06) with the exception of deadwood collection and the FOREST ACT (Cap 38:03).

4. Role of institutions

The public sector is the custodian of the environment, provides and maintains public infrastructure, provides security and enforcement capability, allocates resources on State Land, provides information and education and resolves conflicts within the society at large. The private sector provides and markets goods and services for sale and profit. This includes accommodation, food, tourism products and personal services. Communities focus on meeting their basic needs and improving their livelihoods through the available options. These include traditional agriculture, gathering of veld products and community based rural development and natural resource management. Non Governmental Organizations (NGOs) are watchdogs for special interests and/or vulnerable groups and provide technical support to communities and government.

Participatory and decentralized Forest Reserve (FR) management implies the sharing of responsibilities among stakeholders and stronger local management. Government supports closer collaboration and networking between Government agencies, NGOs, Community Based Organizations (CBOs) and the private sector. It acknowledges that, without strong networks and an integration of strategic decision making and planning, management of forests for their range of benefits and values will be elusive. In accordance with the objective of integrated forest management, the institutional mandates are as summarized below. Long-term strong political commitment is required for sustainable forest ecotourism to be successful. All political leaders, including the Councillors, Members of Parliament, Cabinet Ministers and Party Activists, are required to be actively involved in all forest ecotourism programs

In general terms, the DFRR will retain a pivotal role in the management of the biodiversity of the FRs. However, other government departments, parastatals, communities and tour operators will take up new responsibilities. These will vary from FR to FR depending on the status of the FR (FR, and/or WMA, tourism concession etc.) and the allocation of tourism rights (to operators or communities). The institutional structure and responsibilities need to be specified in the FRMP of each FR. In addition, a FR Management Advisory Board will be established with representatives of the main stakeholders. These should include representatives from research and educational institutions (e.g. UB).

Role and Responsibilities of the public sector (government agencies) which is the central government, parastatals and local government includes to be the custodian and protector of people's rights, as well as their rights over natural resources, and as such it is responsible for the safety and security of the environment and the public. It will therefore continue to have the over-all control in the determination of acceptable uses and use levels. Currently, there are several Government institutions that deal with ecotourism issues, and therefore there is need for reorganization to avoid unnecessary competing interests, and also for devolution of powers to the districts and communities to promote participatory management. Some institutions are mentioned herein below together with their respective roles.

Department of Forest and Range Resources.

Statutory responsibility for FR management, implementation of the Forest Act and Policy. Support to communities under the CBNRM policy. Prevention and control of wild fires.

Department of Tourism

Implementation of tourism policy and strategies. Support to communities under the CBNRM policy. Issuing of tourist licenses.

Department of Wildlife and National Parks.

Statutory responsibility for management of National Parks and Game Reserves. Support for WMAs. Support for communities under the CBNRM policy (e.g. training of community wildlife guides). Control of hunting and problem (wild) animals.

Department of Environmental Affairs.

Competent authority for EIA implementation. Overall coordination of natural resource management.

Department of Lands.

Responsible for land use planning and administration, in part through Land Boards and DLUPUs at district level. Allocation of land rights and land management in State Land.

Department of Arts and Culture.

Responsible for the protection and development of national cultural and natural heritage sites.

Department of Museum and National Heritage.

Overseeing archaeological impact assessment process. Protection of national heritage.

Department of Waste Management and Sanitation.

Issuing of permits for waste storage and disposal. Issuing of permits for air pollution from incinerators.

Department of Water Affairs.

Allocation of water rights (ground and surface water) through the Water Apportionment Board

Parastatal enterprises

This sector consists of quasi-governmental organizations and government agencies, normally created through Acts of Parliament to provide goods and services that Central Government is not well placed to provide, but would be represented in the Boards. Several parastatal enterprises exist that would make Government's initiatives in Forest Reserves ecotourism a reality, and some are mentioned herein below.

Botswana Tourism Board.

Marketing the country as a preferred tourism destination including product development and packaging, promotions and distributions. Coordination of efforts and resources of public and private sector partners.

Local Enterprise Authority (LEA).

Development and support services to the local needs of SMMEs, including training, mentoring, business plan finalization, market access facilitation, and facilitation of technology adaptation and adoption. Support for tour operators and small businesses to assess opportunities to increase local supplies and benefits. Support emerging SMMEs that engage in or supply ecotourism companies.

Citizen Entrepreneurial Development Agency (CEDA).

Support for the development of small, medium and large-scale enterprises. Funding for capital expenditure, stock or working capital in new and existing business ventures. Training and mentoring for new and seasoned entrepreneurs. CEDA and LEA need to work closely together to ensure that support needs of small enterprises are met.

Air Botswana.

Provision of adequate and economic flights between Kasane and national and regional hubs.

Local government

Local government includes the district administration, the tribal administration (including the traditional leaders), the district and town councils (local authorities), and the land boards. The District Administration is responsible for the local implementation of central government projects and programmes, whilst District and town councils are responsible for social welfare and most of the local public infrastructure. Tribal administrations are generally responsible for the administration of issues concerning their respective tribal areas, including presiding over customary courts and consultative meetings designed to inform the development process, as well as to elect village development committees. As such, Traditional leaders are important as they can influence and mobilize communities in their areas of jurisdiction to participate in forest ecotourism management. Retrospectively, traditional leaders played an important role in traditional management initiatives that helped preserve our natural resources. Traditional leadership should be actively involved in forest ecotourism, in particular, in reviving and tapping on indigenous knowledge for natural resource management.

Chobe District Council (ChDC).

Local political body that provides development leadership at the district level. Issuing and enforcement of bye laws. Provision of waste disposal sites and waste collection systems in settlements. Issuing if trading and other permits. Responsible for the development and implementation of various District Plans (Land use Plan, District development Plan, District Settlement Plan, District Tourism Plan and District Waste Management Plan). Some plans are developed jointly with the Land Board. Collection of tourism concession royalties.

District Administration.

Responsible for social welfare and local implementation of central government projects and programs, including most of the local public infrastructure. Some Ministries and departments (e.g. DFRR, DWNP and MoAO) have their own district staff Traditional leadership. Head various tribes and customary courts. Assist in the identification and monitoring of subsistence uses in FRs. Stimulate the use of culture and traditional knowledge in ecotourism and the management of FRs. Contribute to conflict resolution, particularly within CBOs and between subsistence and commercial uses Land Boards. Allocation of land rights and land management in Tribal Land. Collection of tourism royalties (Tribal Land).

The private sector

The private sector should become the engine for future economic growth. The Government recognizes the private sector as a role player and partner in the utilization, conservation and sustainable management of forest resources. The private sector has the resources and skills to develop ecotourism and can act as mentors to ecotourism SMMEs. In order to contribute to

ecotourism and the development of communities and SMMEs, the private sector needs to operate in a secure policy environment with sufficiently long leases to warrant investment and sharing of skills.

Roles and responsibilities of the private sector includes the adherence to the code of conduct for tourist operators, private investment in ecotourism activities (either directly or through a joint venture agreements with communities), staff training and development, stimulate and assist emerging SMMEs to increase local supplies and other business opportunities (together with LEA and CEDA) and take the general responsibilities of a key partner in district development and ensure integration of the tourism sector in the society at large.

Communities and Community Based Organizations

Communities are the custodians of natural resources and have used the resources successfully. Ecotourism can benefit from indigenous knowledge systems to utilize the forest resources sustainably. Communities should be involved at all stages of project development from planning, selection of sights to be developed to marketing and monitoring of ecotourism and resource impacts. Community Based Organizations play an important and relevant role in the provision of social services at the local level and are not profit driven. The draft Forest Policy recognizes these roles and advocates for support to CBOs as it views them as important partners in community driven natural resources management initiatives. Roles and responsibilities of local communities are the utilization and conservation of resources in areas where communities have been granted resources rights. This involves rights and responsibilities! Communities are guided by the CBNRM policy, use of indigenous knowledge and cultural values to improve resource management and diversify tourism products, benefit from opportunities to supply ecotourism sector, supervise and monitor tour operators that have been granted sub-leases in community areas, making sure that the community benefits are fairly distributed, reduce poverty and improve livelihoods.

Non Governmental Organizations / Civil Society

The role of NGOs include assisting government in environmental management, promoting natural resources entitlements of communities, being the voice of the voiceless and weak and in fostering sustainable natural resource management. NGOs also compliment and synergize government efforts in natural resource management and may help arbitrate contested resource claims. Civil societies have played a major role in the development of CBNRM in Botswana. They have also being instrumental in conservation.

Role and responsibilities of NGOs include the provision of technical assistance particularly to communities, articulate and address social and environmental concerns such as biodiversity losses, poverty, gender issues and marginalization of the vulnerable population groups. When necessary, represent the interest of workers in the tourism sector, assist with representing the interests of ecotourism through HATAB, lobby on behalf of special interest groups, communities and/or vulnerable groups.

5. Principles

Botswana has adopted the International Ecotourism Society's definition of ecotourism, which says that:

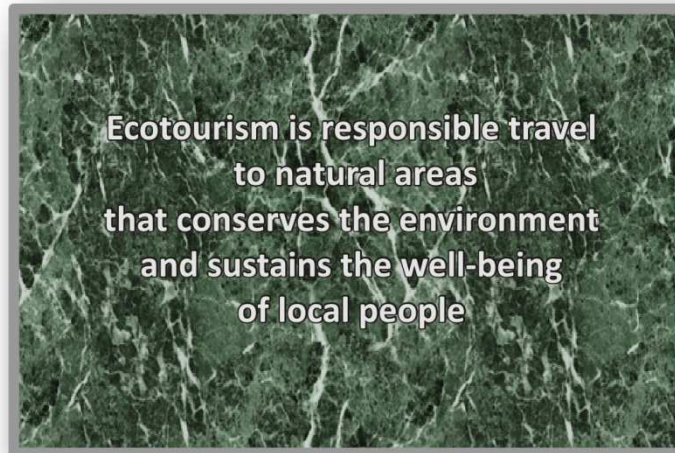


Figure 3: Definition of ecotourism by the International Ecotourism Society

In Botswana, ecotourism refers to the country's cultural as well as natural heritage, and great importance is placed on the active involvement (as opposed to mere consultation) of host communities and other Botswana in all aspects of the industry's management and development (responsible pro-poor tourism). The overall principle is therefore the benefiting of nature and local people from all kinds of ecotourism activities in a specific area. With other words: ecotourism projects to be approved must at least meet the basic requirements of having an approved environmental impact assessment and compensation plan in place and must be able to show a substantial integration of local people at all levels of the business in order to generate economic benefits.

The principles on which this manual is based on are as follows:

Development and Benefit Sharing Principles

Principle 1: Forest Reserves are valuable ecosystems that must contribute to the development of Chobe District and the country at large. Multiple uses of resources must therefore be promoted, and conflicts between different uses should be prevented and where they exist they should be minimized.

Principle 2: Local benefits from Forest Reserves, in particular ecotourism, must be tangible to the local population and should exceed the benefits from traditional agriculture and other rural livelihood sources in order to reduce encroachment into Forest Reserves.

Principle 3: Leakages of economic benefits from the Forest Reserves should be reduced to ensure more local benefits, by making better use and improvement of local supplies and services.

Resource Conservation and Management Principles

Principle 4: Forest Reserves must be managed to conserve and utilize their biodiversity, vegetation and fauna.

Principle 5: Consumptive use of natural resources, such as harvesting of veld products and timber, must be controlled and remain below the level of natural regeneration.

Principle 6: Forest Reserves must be managed within the broader context of land use planning in Chobe district and neighboring countries to recognize and protect their regional importance, in particular wildlife migration.

Principle 7: FR ecosystems must be managed within the limits of their functioning under long-term management objectives.

Participatory Principles

Principle 8: Resource management should be participatory between government, the private sector, and communities; multi-disciplinary; and decentralized to district government, local authorities, local communities, and Forest Reserves.

Principle 9: The objectives of management of land, water and living resources are a matter of societal priorities and choices, including affordability.



Principle 10: The ecosystem approach should consider all forms of relevant information, including scientific, indigenous and local knowledge, innovations and practices.

Figure 4: Forest Reserve scenery

6. Requirements

The following requirements are mandatory for opening up individual Forest Reserves for ecotourism activities in Botswana. The regulations are divided into those specific for the public sector (6.1) and those for the private sector (6.2). The former are prerequisites to the selection of ecotourism business activities and the latter are conditions to be met by the selected enterprise. Chapter 8 is providing a checklist for hard check, which summarizes all the requirements of this chapter.

6.1. Obligations of the Department of Forestry and Range Resources

6.1.1. Fundamentals

Forest Reserves management for ecotourism should be comprehensive and holistic based on the notions of the ecosystem approach and sustainable development. It should aim for multiple-use and conservation of biodiversity (BD) of the Forest Reserves. Their management should be a continuous process with at least the following features: Focus on biodiversity conservation and maintenance, in particular conservation of tree and plant species, wildlife migratory routes, water and soil resources; active participation of local stakeholders, that is communities, enterprises and NGOs; have constructive management plans and staff for each Forest Reserves in place; balance resource use and conservation; safeguarding of local benefits; application of adaptive management, with an emphasis on research and learning lessons from successes and failures.

Ecotourism activities must be fully integrated in the management of Forest Reserves, which means ecotourism is only possible with an approved Forest Reserve Management Plan (FRMP) and an approved Ecotourism Plan in place. The latter is only valid when it refers to the findings of the FRMP. Licensing authority is HQ of the Department of Forestry and Range Resources / Division of Conservation and Management / Section of Forestry and Range Management.

Entrance to FR is liable to costs. A different cost structure is to apply for individuals, operators, foreigners and citizens.

6.1.1.1 Forest Reserve Management Plan

For the ecotourism utilization of individual Forest Reserves a Management Plan (FRMP) for each FR must be in place (see the annex for the template outline). The FRMP has to provide comprehensive information about the area in question. This information must cover at least basic data about the climate, the geology, the topography and the soils of the landscape. Maps should be provided to illustrate the text at a scale not larger than 1:25000 for better understanding. Digitally modified topographic maps or aerial photographs are suitable.

Furthermore a detailed comprehensive description of the different habitats, their values and interrelations including forest types and flora and fauna must be given. An inventory must list all higher plant and animal species with their IUCN Red List status that occur in the FR area. Other Red List species with an at least endangered status have to be included too (insects, lichen etc.). A habitat map at a scale not larger 1: 25000 has to be provided to display the spatial distribution of species and the habitat zoning. The FRMP must differentiate between species that provide humans with Non-Timber products and those species that have no additional value other than their ecological value or timber production. The spatial occurrence of the species must be clearly discernible from supporting maps and from corresponding text.

The core chapter of the FRMP is about conservation. The main target is to describe the pathway of conserving the biological diversity of the area by maintaining integrity, function and diversity of living organisms and the complexes of which they are part. The chapter should explain in brief what problems with regard to ecosystem diversity (ED), species diversity (SD) and genetic diversity (GD) exist in the specific FR and should justify the chosen parameters to describe and monitor the situations. For each of the three topics (ED, SD, GD) a listing and description of values, targets and indicators (parameters) which are useful for maintaining and/or possibly enhancing the respective kind of diversity has to be attached. Whereas “values” stands for a certain element or feature of the landscape that has a broader significance for the ecosystem and “targets” defines the desired status of that value. The “indicators” are used to describe whether the targets are reached or not. The indicators need to be chosen such that they are meaningful with regard to the value (strongly correlated) and at the same time easy to measure. Furthermore are a sufficient number of indicators needed to precisely depict the situation of the landscape. Figure 5 shows an example of indicators for species diversity. The chosen indicators will be used for monitoring as described in chapter 7.1.5.

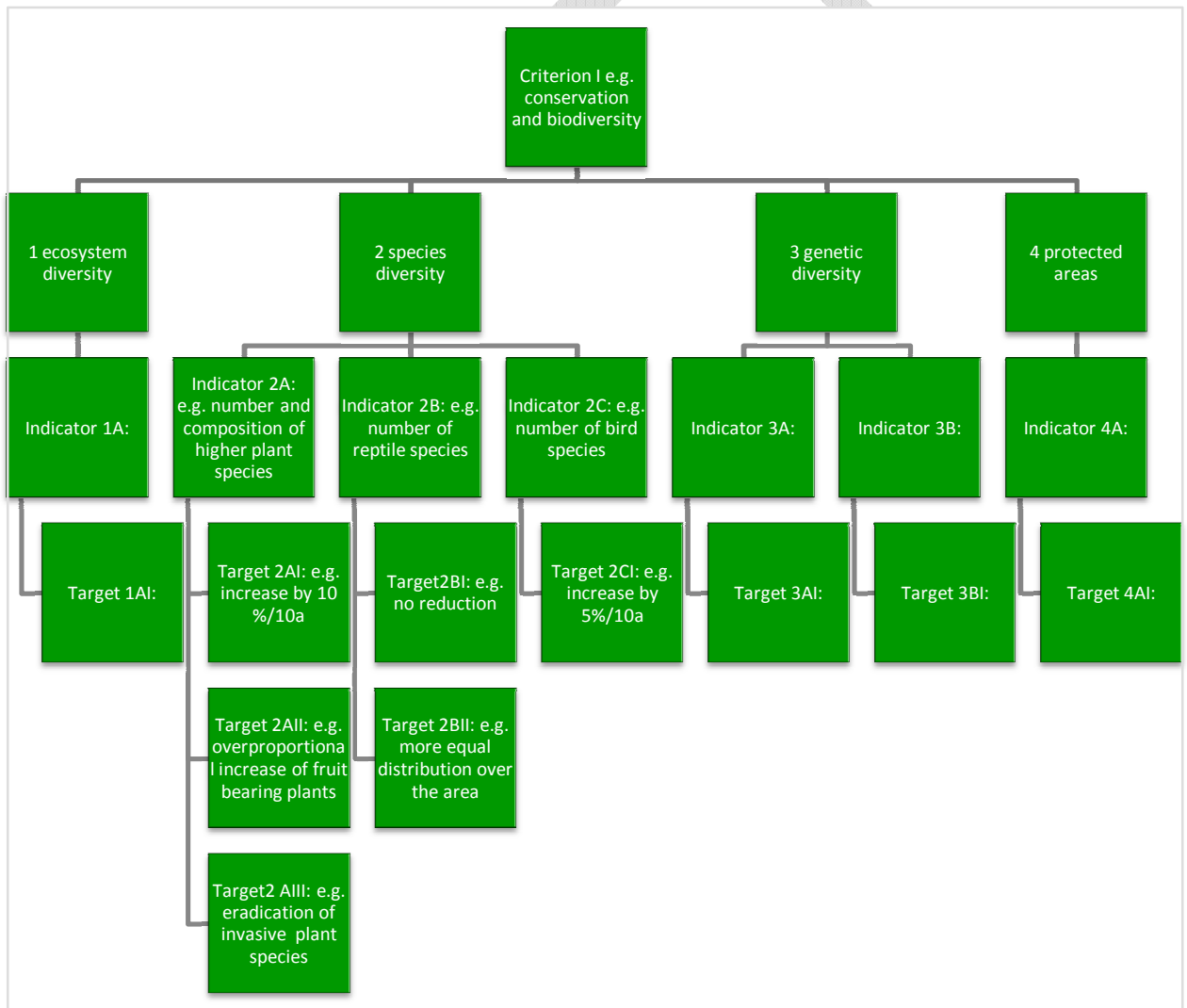


Figure 5: Example of targets and indicators

The chapter “management” expects detailed descriptions of the methodology and timeline how to maintain or achieve the set targets for the three areas ED, SD and GD. Furthermore, it has to be elaborated how the FR is managed in the broader context of adjacent areas (impacts and consequences of the surrounding land use and the connection/network of habitats) and against the background of national and international policies, regulations and treaties (Forest Act, Herbage Act, Agricultural Resources Conservation Act, CITES, CBD, DDP, BBDSAP, NDP etc.). Under “adaptive management” or with other words continual improvement of the management, a detailed description of the development process, based on an internal review process that is to be installed, has to be given and reflections of practical experiences are to be laid out. It is as well needed to explain how the capacity building / training of the people involved in conserving and managing the respective FR on all levels is organized to keep their skills and knowledge appropriate for their tasks.

Under the Non-Timber products chapter each product that occur in the region has to be described. Special emphasis should be put on the existing volume of each resource, the allowable mode of utilization and the allowable annual off-take that does not harm the species integrity in the area. Off-take targets have to be justified. If a certain resource should not be used in the specific FR due to a particular rationale, which has to be explained, the allowable annual off-take should be set to zero in order to make easy amendments in the future when situations have eventually changed.

Finally the zoning of the FR itself is required. During a stakeholder consultation process that is supported by the habitat results of the FRMP areas of different status of protection and therefore areas of different activities are determined. The method consists of a habitat ranking according to the ecological value or ecological susceptibility. Then the habitats will be clustered. Note: A high ecological value or fragility does not necessarily mean that this area has to be closed for activities. Sometimes, under chapter 7.1.1.2, only the correct activity have to be found for this area or measures (regulations) must be taken to avoid harm (see also chapter 7.2.2 impact compensation).

Nevertheless, keep in mind that not all areas of a FR should be opened up. Undisturbed areas are important for fauna and flora.

6.1.1.2 Impact-Compensation Examination

DFRR HQ is responsible for the examination of the conformity and sufficiency of the submitted Impact-Compensation Plans (ICP) for permanent or temporary modifications in the FR. DFRR will finally decide within three month after the reception of all necessary documents which includes all eventual additional demand on approval, rejection or rejection for amendments of the ICP. In general it is advantageous to base the ICP on a LAC (see annex) survey.

Please note that in the case of rivaling proposals or when the allowable amount of businesses is about to be reached the scientific superior ICP is the decisive factor.

Business plans that are aiming for to be in line with the Botswana Tourism Board (BTB) Ecotourism Highest Standard are advantageous (projected to get certified).

The parallel carrying out of measurements that require compensation and the compensation itself is admissible. The completion date or the completed introduction of compensations should not be later than one year after the completion of the compensation requiring activity. The department in charge has to make sure that the business operator has the necessary financial resources at disposal to complete both tasks. Abandoned or not completed projects have to be renaturalised / stripped down at the applicants own expenses.

6.1.1.3 Ecotourism Plan

The Ecotourism Plan (ETP) mainly serves to describe where, which, when and how often ecotourism activities in a specific FR are allowed. The plan is based on the ecological findings of the FRMP and is not valid without an approved FRMP. An expired FRMP automatically causes an invalid ETP. The ETP has to be approved by DFRR HQ.

The core of the ETP is a map of a scale not larger than 1:25000 that shows the respective reserve or more detailed parts of it. Furthermore are the entire infrastructure, the major landscape structures, the clustered habitats and all sites of potential tourist interest drawn on the map.

In a next step, potential tourist activities will be allocated to different areas and if necessary areas will be excluded from touristic utilization. Note: Special attention should be put on the total amount of activities allowed in a reserve. As a thumb rule, a few bigger operations are better than many small ones and temporal limits are better than all year access and concentration on some areas is better than scattered disturbance all over the reserve. However, each case is different and should be considered with great care/accuracy.

For each allowed activity a profile will be elaborated which specifies the operational conditions. For example, it will be defined when during the year or during a day a certain activity is allowed and how often respectively how many persons are allowed per unit time. These conditions vary much according to the kind of activity and the habitat in which they are taking place. The decisions have to be listed and justified in writing in an attached file.

The finished and approved plan is the basis to advertise for possible tourism operators. A general code of conduct (minimum requirements for cars and adapted behavior of people to enter the reserve) for individual tourist and ecotourism operators has to be developed and measures should be in place to enforce these rules.

6.1.1.4 Information center

Each Forest Reserve should have an Information center. The center is serving various purposes:

Providing general information about the FR and its flora and fauna by displaying maps and posters as well as exhibits etc.

Tourists can provide feedback on the FR and community owned tourism products.

Tourists can be gathered here and kept away from sensitive FR areas. The center can act as starting points for guided tours.

Local products and refreshments can be sold here in order to increase the revenue of the FR.

Educational programs for citizens can be carried out here (pupils, students etc.)

The individual realization is not regulated as long as natural, indigenous materials for the construction are used. All developments should not affect the aesthetic nature of the area and must be conform to the infrastructure standards of this manual or the ecotourism guidelines for certification developed by the Botswana Tourism Board respectively. It is advisable not to construct the information center close or at the gate of the reserve as the important tool of channeling tourists will be lost then. A better choice would be to use an attractive place some distance from the entrance as it is known that many visitors do not proceed further than that place.

6.1.2. User Rights

User rights for ecotourism businesses that do not require any permanent structure will be granted by DFRR. User rights that need permanent structures will be granted by the Department of Land Board. User rights for FRs or parts of FRs will primarily be given to Community Based Organisations (CBO's) that comply with the Botswana CBNRM Policy. When no CBO is interested individual Botswana citizens are eligible to user rights in FRs. Joint ventures with foreign or resident owned tourism companies are allowed when their share in the joint venture does not exceed 60% and not less than 80% of the workforce is recruited locally. There is a clear focus on SMMSE's. Exceptions for very small enterprises are possible on written request. Prerequisite for the allocation of user rights are compliance with the requirements of chapter 7.2 "Obligation of the private sector".

6.1.2.1 Resource Use

Citizens of Botswana have the right to utilize natural resources (commercial and private resource use) in FRs in accordance with the FOREST ACT, AGRICULTURAL RESOURCES CONSERVATION (UTILIZATION OF VELD PRODUCTS) REGULATION and the restrictions of chapter 4.1 "Prohibited Activities".

6.1.3. Local participation

DFRR has the obligation to involve relevant stakeholders with a strong emphasis on neighboring communities and scientific institutions in the following planning activities:

- Elaboration of a inventory of significant natural and cultural features in the FR
- Determination of clear objectives for the FR as a whole, for the ecotourism activities within the FR and for specific parts of the FR.

Furthermore, DFRR is obliged to create a Forest Reserve Advisory Board that comprises of renowned natural scientists, knowledgeable neighboring community members as well as BTB and DFRR members. The board meets once a year to receive and discuss reports from DFRR on conservation monitoring results and ongoing / planned projects in the FR.

In general, DFRR should encourage the participation of external researchers in their activities in the Reserves and support conservation research.

6.1.4. Interaction

DFRR must establish effective ways to avoid and mitigate land use conflicts in and around the FR's. It is advisable to link the FRMP with the local District Development and Land Use Plans that address subsistence and commercial land and resource needs, to ensure that:

- Human activities are promoted at the most suitable locations
- Incompatible land uses are separated through buffers
- Compatible land uses are permitted simultaneously; and
- Plans take into account seasonality of use and 'fall-back' functions of land areas during droughts and other extreme events.

A moderation system covering the neighboring communities should be in place in order to recognize problems early. This can be done by addressing kgotla meetings regularly. Moreover, these meetings should be used to actively involve local communities in the

management and protection of the natural resources in Forest Reserves in particular with regard to their local needs and priorities.

DFRR is encouraged to do public relation work to familiarize the public and all stakeholders with relevant Conventions, national legislation and policies, and local regulations as well as their respective roles as users of the forests. DFRR is taught to inform the public on ecological and economic advantages of ecotourism in FRs.

DFRR should enter into partnerships with other Government agencies, the local communities, the private sector, NGOs and other stakeholders, in monitoring compliance of governing rules and fighting illegal activities in Forest Reserves.

6.1.5. Monitoring

Monitoring is the core process in conservation in order to verify whether the conservation efforts have been effective and / or to have an early warning system in place that is indicating any wrong turn.

The basic principle of independent monitoring is to measure indicators that have been established well prior to the control activity to avoid bias. The indicators are taken from the FRMPlan. If properly done, the ecological indicators will come with a detailed protocol of how and how often to measure them (see chapter 7.1.1.1. "FRMP").

Further measurements of socio-economic parameters are needed too, even though at a much lower intensity. The socio-economic monitoring should be able to answer the questions about the impact on neighboring and involved communities (development status, conflicts and complains etc.) as well as the economic aspect (revenue, profit, success, etc.).

Monitoring results are primarily used to manage the conservation of the FR. In a broader sense, monitoring will cover the whole activity in a holistic manner (ecologic socio-economy). The outcomes will be fed into adaptive management processes. For example, if you see the numbers of a certain indicator species going down, good management practice expects the research for the cause and appropriate remedy.

As the FR's are open to specific resource use, there is a need to assess these resources accordingly to the process already in place for issuing permits.

It is advisable to involve certain stakeholders like the private sector (CBO's, tourist operators) in the monitoring and evaluation in order to create a sense of shared responsibility. Where required, there should be capacity building, since participatory monitoring often reduces enforcement problems.

6.2. Obligations of the Private Sector

6.2.1 Local benefit

Commercial activities that take place in a FR have to source their supply to the greatest extent possible locally. This refers to employment, goods (produce, products) and services / sub-contracting (cultural activities, maintenance, etc.). If a certain resource cannot be found locally, neighboring communities should be encouraged to engage in the provision. Skills transfer should be offered where possible.

Please note: ecotourism's main pillars are community involvement in all areas of the development of the ecotourism product. Local communities should therefore be advised on

the importance of appreciating and maintaining the authenticity of local natural and cultural heritage.

6.2.2 Impact compensation

When an application for a business in a FR involves modifications to the FR the applicant has to provide an impact-compensation plan. Modifications are permanent or temporary structures, clearings, road constructions, etc.. The plan must consist of a map (1:25000) and a text part explaining in details how to compensate for the impact. The compensation must be related to the magnitude of the impact (EIA's are advantageous for a first assessment but not sufficient; the use of the method presented under Annex 1.2 is stipulated) and are normally natural improvement activities at another or the same place in the FR. Compensations can be plant enrichments, landscape structuring (borehole, invasive plants removal and permanent structure removal, etc.), species introduction etc.. However, compensations can also be financed research programs or awareness respectively educational programs. DFRR will check either if the kind of business complies with the objectives of the FRMP and, if so, if the compensations is sufficient and scientifically sound (see chapter 7.1.1.1).

6.2.2.1. Methodology

The core of the method is to balance impact with compensation. To do so it is necessary to assess the natural features those are damaged by human-caused activities. This can be done best by using a points system comparable to a monetary system that describes the value of a object and the costs to restore it. At the end both values should match respectively, it is advisable to have a buffer, which means the latter value (compensation) should be slightly higher than the former value (impact).


Natural features are normally assessed according to three basic themes that are biotic and abiotic factors (components) and the landscape (scenery) as a whole. Each of this themes is subdivided by elements that describe it further (e.g. abiotic components = air, water, soil; biotic components = fauna and flora). The quality of a habitat or landscape feature is measured against the abundance of potential species it can accommodate (rain forest>permanent wetlands> temporary wetlands>dense woodlands> and so on) and its subjective uniqueness. In a first step everything that will be affected by the ecotourism project has to be listed (see annex). The magnitude of the impact has to be determined for each "item" (e.g. sqm of sealed soil, number and size of removed trees) and this will be multiplied by the ecological value (the assessment) of the item. Finally, all subtotals will be added up to the sum that is the impact value. In the next step, the projected compensation measurements will be listed accordingly and assessed accordingly. This list is adjusted until the total ideally exceeds the impact value slightly.

The assessment of the ecological value is the difficult part. Some rankings are quite clear e.g. is sealed ground (lodge foundation, parking lot tar etc.) ecologically much worse than gravel or lawn but others are more complicated. It is therefore important and devisable to make as much use of the habitat assessments in the FRMP and gather some recognized expertise for the decisions.

6.2.3 Infrastructure

The infrastructure must at least comply with the Botswana Ecotourism Best Practice Manual, which specifies the following in requirements in terms of the physical infrastructure development:

- Ecotourism facilities physical design and operation should wholly be based on sustainability principles and in-depth understanding of the potential environmental impacts.
- Compulsory undertaking of EIA and development of environmental management plan (reduce waste generation, waste separation and recycling and re-use, maximize efficiency of energy and use of solar power through design and appliances, maximize water use efficiency through water demand management, waste management & green practices, reduce noise pollution in design e.g. generator, reduce the carbon footprint of tourism services, compliance with waste management regulations, use of environmentally friendly products and technologies e.g. biodegradable products).
- The architectural design should include the basic requirements of an efficient, comfortable and attractive accommodation but also reflect vernacular and traditional architecture of the region, including shape, color and materials.
- The design and material selection should recognize the environmental impacts of the entire lifecycle of all architectural resources from extraction, manufacturing, procurement and eventually return to nature.
- Consideration should be given to the appropriate scale of the development including mass, proportion, layout and composition (size and height of buildings should fit/vanish into landscape).
- The sourcing of materials should be based on sustainability and appropriateness (preferred use of indigenous low maintenance material, use of material produced through sustainable production methods, low impact technologies).

A certification, or the projected certification, of the tourism infrastructure according to the **Botswana Tourism Board Ecotourism Certification** is favorable. A passed assessment for the at least  level will replace the assessment of chapter 8.4.2.2.3 Infrastructure.

7. Quality Assurance

7.2. Introduction

Quality assurance (QA) is a wider concept that covers all policies and systematic activities implemented within a quality system. QA consists of different components like among others determination of adequate technical requirements, audit of the process quality, evaluation of the process to establish required corrective response and audit of the final output for conformance to prior set standards .

This means, translated for the control of the opening of FR's that primarily a standard is needed against that the control or more positively said the quality assurance can take place. This is the chapter 7 of this manual. Within the chapter 7 several processes can be identified like e.g. "stakeholder participation" or "FMRP development" or "adaptive management" etc.. These processes involve several steps though towards the process target. However, these process steps have certain qualitative distinctness, which can be controlled. Furthermore, there is an end product which is in this case the management of the specific FR. It is therefore appropriate to divide the quality assurance in two parts - development of the opening and managing the opening – as the first part is temporary and can only be checked once, but is the indispensable prerequisite

for adequate licensing, whereas the second part is continuous. A modular construction in general has the advantage that sections can be left out or put together again differently.

Note: quality assurance is a “living thing”. It always has to evolve to adapt to changing environments / conditions in order to be successful (useful).

7.3. How to conduct control

In order to obtain the approval for opening up a FR the process has to be successfully audited. Audits will be carried out by trained staff of DFRR HQ. As mentioned before there will be a audit covering the basics. When this audit has been passed, a successor audit has to take place each 2 + years until the FRMP has expired after 12 years. The FRMP has then to be renewed and updated according to processes explained in this manual. After this a basic audit is needed again and so forth (see table 1).

Table 1: Audit schedule

Audit number	Kind of audit	Year of conducting
B1	Basic requirements	0 (when FRMP is ready)
S1	Management requirements	2 years after the basic audit has been passed
S2	Management requirements	4
S3	Management requirements	7
S4	Management requirements	10
B2	Basic requirements	12 (when FRMP is renewed and updated)
S5	Management requirements	2 years after the second basic audit has been passed
S6	Management requirements	5
S7	Management requirements	8
B3	Basic requirements	12 (when FRMP is renewed and updated)
S8	Management requirements	2 years after the third basic audit has been passed
S9

Each audit has to be awarded with a certificate that gives the audit number, kind of audit, the FR audited, the audit date and the period of validity until the next audit is due. The certificate will be issued when all the crucial points and 50 % of the non-crucial points are met. The successor audit will include the management of the FR and the active ecotourism businesses. A list of defects will be handed over to those who do not pass at the first place in order to remedy those defects in a given period of time. After two unsuccessful attempts to obtain the certificate the certificate is to be refused. A management requirement certificate can be split into a certificate for the management of the FR itself and for each of the active ecotourism business in order to give different marks. Unsatisfactory marked businesses are excluded from the FR until they remedy their defects. A repeated application for examination is only possible after 2 years from the date of the second insufficient audit. Unsatisfactory management by DFRR at the initial audit B1 leads to the replacement of senior staff (transfer) and a delay in opening the reserve by 2 years. Failure to pass later B audits lead to a closure of the FR for the public until this audit is passed (sufficient

the Reserves. In preparing for an audit, one should select the relevant lists for the specific audit. Within a topic or list one needs to identify first whether the questions are valid for this given situation by checking the validity box in column 5. If the point is passed or not is to be marked by ticking the check box in column 7 (checking means OK). Comments can be put down in column 6 (justifications, clarifications, restrictions, etc.). To analyze the results the number of valid points of each color per table will be counted and put down in the foot of each table. Accordingly the number of passed points per color will be counted and filled in. After that, the percentage of passed points out of valid points will be calculated.

100 % of the critical 'Red Points' (dark filled) must be passed and 55 % of the non-critical 'Yellow Points' (light filled) have to be achieved to be successful. Each list stands alone and has to be passed. It is not possible to carryover red or yellow points to another list. 'Green Points' (dark with a white dot) are additional or voluntary points that can be amassed over lists to substitute missing 'Yellow Points'. The ratio is 3 : 1 (3 passed 'Green Points' can substitute 1 'Yellow Point'). See chapter 7.6 Reporting sheet.

DRAFT

7.5.1. Scope: Basic requirements

7.5.1.1 Stakeholder participation

Table 2: Check list for stakeholder participation (basic level)

DATE and AUDIT CODE		d d m m y y y y							
FOREST RESERVE									
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)									
NAME of ASSESSOR									
#7511.	Audit issue	Proof	Ranking	Validity	Comments	Check			
1	Were all relevant stakeholders involved in the zoning of the reserve?	minutes of meetings, correspondence, workshops etc	●	□		□			
2	Have relevant stakeholders including neighboring communities being substantially involved in the elaboration of an inventory of significant natural and cultural features in the FR?	minutes of meetings, correspondence, workshops etc	●	□		□			
3	Have relevant stakeholders including neighboring communities being substantially involved in the determination of clear objectives for the FR as a whole?	minutes of meetings, correspondence, workshops etc	●	□		□			
4	Have relevant stakeholders including neighboring communities being substantially involved in setting up the Ecotourism plan?	minutes of meetings, correspondence, workshops etc	●	□		□			

SUB-TOTAL	Sum of valid points	●		●	c	●	
	Sum of achieved points	●		●	d	●	e
	Percentage	a		b			

a, b, c, d, e to be carried over

7.5.1.2 Forest Reserve Management Plan

Table 3: Checklist for a Forest Reserve Management Plan (basic level)

DATE and AUDIT CODE		d d m m y y y y					
FOREST RESERVE							
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)							
NAME of ASSESSOR							
#7512.	Audit issue	Proof	Ranking	Validity	Comments	Check	
1	Is there an approved Forest Management Plan in place?	FRMP	●	□		□	
2	Are there 1:25000 maps in place that show the reserve, its habitats and the spatial distribution of important indicator species (fauna and flora)?	Respective maps	●	□		□	
3	Are there 1:50000 maps in place that illustrate some or all of the information about the reserve on climate, geology, topography and soil?	Respective maps	●	□		□	
4	Is there a 1:25000 non-timber-product map attached to the FRMP showing the spatial distribution?	Respective map	●	□		□	
5	Does the text of the FRMP sufficiently describe the landscape and is the connection of text and maps always clear?	FRMP	●	□		□	
6	Are the chosen ecological indicators in the FRMP comprehensibly justified?	FRMP indicators	●	□		□	
7	Are the chosen ecological targets in the FRMP comprehensibly justified?	FRMP targets	●	□		□	
8	Are the management measurements to reach the targets of the FRMP are explained in detail?	Respective mmgt process(es) (SOP)	●	□		□	
9	Are the management measurements to reach the targets of the FRMP sound and target-aimed?	Respective mmgt process(es) (SOP)	●	□		□	
10	Is each of the 3 ecological topics (ecosystem diversity,	FRMP	●	□		□	

	species diversity and genetic diversity) sufficiently addressed in the FRMP? With other words, are there enough ecological indicators to monitor effectively the real situation of fauna and flora in the reserve? → at least 3 indicators per topic and 2 targets per indicator	indicators			
11	Is the establishment of protected areas or the considered renunciation of protected areas within the FR well justified in the FRMP?	FRMP protected areas	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Does the FRMP explain how the areas adjacent to the reserve affect its management?	FRMP transborder mmgt.	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Is the FRMP in line with national regulations?	Legal crosscheck	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Is the FRMP in line with international treaties to which Botswana is signatory?	Legal crosscheck	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Does the FRMP explain the process of "adaptive management" in the reserve?	SOP "adaptive mmgt"	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Is the expiration date of the FRMP not older than six month?	FRMP	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Are all non-timber products of the area described?	FRMP, local population	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Are annual allowable off-take rates set for each product?	FRMP NTP off take	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Is the establishment of zones of different protection intensities justified thoroughly?	FRMP	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Is the zoning of the reserve based on the habitat descriptions of the FRMP? → with other words: was the ecological survey (inventory) of the FR completed before the zoning and were the results been presented at the stakeholder meetings?	Minutes of the zoning workshop/meeting	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Is the FRMP aligned with the existing various land use plans in the region?	Minutes of the repective workshops/	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

		meetings			
22	Does the FRMP follow for the most part the provided template outline?	FRMP	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Does the FRMP describe in detail how each of the set indicators has to be monitored? → in detail includes: method of measurement including units, interval, equipment, reporting method	FRMP	<input checked="" type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUB-TOTAL	Sum of valid points	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	Sum of achieved points		<input checked="" type="radio"/>		<input checked="" type="radio"/>
	Percentage	a	b	c	d
					e

a, b, c, d, e to be carried over

7.5.1.3 Ecotourism Plan

Table 4: Checklist for a Ecotourism Plan (basic level)

DATE and AUDIT CODE						d	d	m	m	y	y	y	y
FOREST RESERVE													
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)													
NAME of ASSESSOR													
#7513.	Audit issue	Proof	Ranking	Validity	Comments	Check							
1	Is there an approved Ecotourism Plan in place?	ECP	●	□		□							
2	Does the text of the ETP sufficiently describe the allowable businesses (what, where, how) and is the connection of text and maps always clear?	ETP	●	□		□							
3	Is the Ecotourism Plan valid?	Approval date and valid FRMP	●	□		□							
4	Does the ETP contain the demanded map of 1:25000?	Map	●	□		□							
5	Does the text part of the ET-plan sufficiently and comprehensibly explain why particular kinds of businesses are allowed in the reserve?	ETP	●	□		□							
6	Does the text part of the ET-plan sufficiently and comprehensibly explain why a particular amount of businesses is allowed in the reserve?	ETP	●	□		□							

SUBTOTAL	Sum of valid points	●	_____	●	c	_____	●	_____
	Sum of achieved points			●	d		●	e
	Percentage	a		b				

a, b, c, d, e to be carried over

7.5.2 Scope: Management requirements

7.5.2.1 Management of the Forest Reserve

7.5.2.1.1 Essentials (Office management)

Table 5: Checklist for Office Management (management level)

DATE and AUDIT CODE									
		d	d	m	m	y	y	y	y
FOREST RESERVE									
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)									
NAME of ASSESSOR									
#75211.	Audit issue	Proof	Ranking	Validity	Comments	Check			
1	Does the management of the FR have an effective file system in place that enables them to produce the demanded documents immediately?	Visual check		<input type="checkbox"/>		<input type="checkbox"/>			
2	Are the used documents marked as approved?	Documents		<input type="checkbox"/>		<input type="checkbox"/>			
3	Are the date and responsible person apparent from the presented documents?	Documents		<input type="checkbox"/>		<input type="checkbox"/>			
4	Are the documents subject to a revision process that ensures the sole use of the latest versions?	Process, documents, version list		<input type="checkbox"/>		<input type="checkbox"/>			

SUB-TOTAL	Sum of valid points				c		
	Sum of achieved points				d		e
	Percentage	a		b			

a, b, c, d, e to be carried over

7.5.2.1.2 Local benefit

Table 6: Checklist for Local Benefit (management level)

DATE and AUDIT CODE		d d m m y y y y					
FOREST RESERVE							
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)							
NAME of ASSESSOR							
#75212.	Audit issue	Proof	Ranking	Validity	Comments	Check	
1	Has the predetermined order of user rights allocation been observed by offering user rights first to local or neighboring communities (CBO's) and then to individual citizens or joint ventures? →Valid when user rights have been granted in the reserve.	Minutes or other suitable proof	●	□		□	
2	Have the restrictions for joint ventures in the reserve being kept? →Valid when foreign or resident owned companies are active in the reserve.	Profiles of active joint ventures	●	□		□	
3	Are there processes for socio-economic monitoring of the neighboring communities in place?	Process description and records	●	□		□	
4	Are local communities encouraged and supported to engage in the provision of goods or services that cannot be found locally? → support means: activities that range from information transfer to capacity building to microfinance systems.	Minutes of meetings, workshops, trainings etc.	●	□		□	

SUB-TOTAL	Sum of valid points	●	●	●
	Sum of achieved points		c d	e
	Percentage	a	b	




a, b, c, d, e to be carried over

7.5.2.1.3 Stakeholder participation

Table 7: Checklist for Stakeholder Participation (management level)

DATE and AUDIT CODE				d	d	m	m	y	y	y	y		
FOREST RESERVE													
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)													
NAME of ASSESSOR													
#75213.	Audit issue	Proof	Ranking	Validity	Comments							Check	
1				<input type="checkbox"/>								<input type="checkbox"/>	
				<input type="checkbox"/>								<input type="checkbox"/>	

[In progress]






SUB-TOTAL	Sum of valid points			
	Sum of achieved points			
	Percentage	a	b	e




a, b, c, d, e to be carried over

7.5.2.1.4 Management (Monitoring, Records, Adaptive management etc)

Table 8: Checklist for Management Issues (management level)

DATE and AUDIT CODE		d d m m y y y y					
FOREST RESERVE							
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)							
NAME of ASSESSOR							
#75214.	Audit issue	Proof	Ranking	Validity	Comments	Check	
1	Is there prove that the specific process(es) of adaptive management are continuously followed? Feedback recordings of team meetings, recorded measurements (amendments of management processes) due to monitoring results, etc)	Records, minutes, updated SOP's etc.	●	□		□	
2	Is there an approved annual staff-training plan in place?	Training plan	●	□		□	
3	Have the further training needs being identified and discussed at general staff meeting?	minutes	●	□		□	
4	Does a general code of conduct exist for the reserve?	Code of conduct	●	□		□	
5	Does the design of the center adapt to the surroundings? →valid if a center is present	Subjective assessment	●	□		□	
6	Is the center constructed of natural indigenous materials? →valid if a center is present	Material list and description	●	□		□	
7	Are resource users controlled on a regular basis?	Monitoring records	●	□		□	
8	Does the district office of DFRR has established a process to avoid and mitigate land use conflicts effectively (e.g. ADR)?	Process description	●	□		□	
9	Does the district office of DFRR take any measurements to fight illegal	Measurement description	●	□		□	

	activities in the FR?	and records			
10	Does the district office of DFRR enter into any partnerships with other departments or organizations in order to enhance law enforcement in the FR?	Cooperation agreements		<input type="checkbox"/>	<input type="checkbox"/>
11	Is the monitoring respectively its results linked to the adaptive management process?	Process description and proof of change		<input type="checkbox"/>	<input type="checkbox"/>
12	Is the monitoring of the regulated natural resources done in defined intervals?	Process description and records		<input type="checkbox"/>	<input type="checkbox"/>
13	Are other parties, like the private businesses that are active in the reserve or neighboring communities, integrated in some of the monitoring?	Joint records		<input type="checkbox"/>	<input type="checkbox"/>
14	Is the monitoring of the ecological indicators done in defined intervals?	Process description and records		<input type="checkbox"/>	<input type="checkbox"/>

SUB-TOTAL	Sum of valid points			
	Sum of achieved points		$\frac{c}{d}$	$\frac{e}{e}$
	Percentage	a	b	

a, b, c, d, e to be carried over

7.5.2.1.5 Public relation

Table 9: Checklist for Public Relation (management level)

DATE and AUDIT CODE		d d m m y y y y							
FOREST RESERVE									
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)									
NAME of ASSESSOR									
#75215.	Audit issue	Proof	Ranking	Validity	Comments	Check			
1	Does the reserve have an information center?	Center		<input type="checkbox"/>		<input type="checkbox"/>			
2	Does the information center display maps and information material and / or natural exhibits? →valid if a center is present	Maps or exhibits		<input type="checkbox"/>		<input type="checkbox"/>			
3	Does the center uses modern media for information? →valid if a center is present	Equipment		<input type="checkbox"/>		<input type="checkbox"/>			
4	Does the center conduct seminars on conservation topics? →valid if a center is present	Event list		<input type="checkbox"/>		<input type="checkbox"/>			
5	Did the district office of DFRR conduct educational campaigns or other activities that promote the acceptance of the reserve?	Campaign records		<input type="checkbox"/>		<input type="checkbox"/>			
6	Did the district office of DFRR conduct educational campaigns or other activities that informs the neighboring population about the regulations in the reserve?	Campaign records		<input type="checkbox"/>		<input type="checkbox"/>			

SUB-TOTAL	Sum of valid points			
	Sum of achieved points		c d	e
	Percentage	a	b	

a, b, c, d, e to be carried over

7.5.2.2 Private Sector

7.5.2.2.1 Management

Table 10: Checklist for Management Issues (private sector level)

DATE and AUDIT CODE										
		d	d	m	m	y	y	y	y	
FOREST RESERVE										
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)										
NAME of ASSESSOR										
#75221.	Audit issue	Proof	Ranking	Validity	Comments	Check				
1	Have the compensations been put into physical practice completely? → valid in case of tangible amendments to the reserve for compensation.	Completed compensation tasks for each impact	●	<input type="checkbox"/>		<input type="checkbox"/>				
2	Which prove is there that these practices have been incorporated into management procedures and have been constantly carried out? →valid in case of demanded implementations of non-tangible advanced management practices for compensation.	Process description and records	●	<input type="checkbox"/>		<input type="checkbox"/>				
3	Is the permanent structure certified according to one of the ecotourism standard of BTB?	Certificate	●	<input type="checkbox"/>		<input type="checkbox"/>				
4	Is the present business in the reserve concurring with the allowed ones in the ET-plan?	comparison	●	<input type="checkbox"/>		<input type="checkbox"/>				
5	Is the supply of the private operations obtained mainly locally? Including staff, sub-contracts (services), raw materials, durable goods, consumables and food.	Percentage of local supplies for each operation in the reserve	●	<input type="checkbox"/>		<input type="checkbox"/>				
6	Does the company offer an accepted and sound carbon emission offset possibility to all clients?	Scientific consistency of the program	●			<input type="checkbox"/>				

		and number of participants			
7	Is there an active “eco-group” that meets regularly to discuss and implement improvements?	Minutes of meetings, improvements			
8	Does the company provide educational material on conservation issues in the area and/or on other ecotourism activities in the area?	Information material			




SUB-TOTAL	Sum of valid points			
	Sum of achieved points	a	b	c
	Percentage	d	e	




a, b, c, d, e to be carried over

7.5.2.2 Impact Compensation Plan

Table 11: Checklist for an Impact Compensation Plan (private sector level)

DATE and AUDIT CODE		d d m m y y y y					
FOREST RESERVE							
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)							
NAME of ASSESSOR							
#75222.	Audit issue	Proof	Ranking	Validity	Comments	Check	
1	Is there an approved Impact Compensation Plan in place? →question is only valid when permanent structures (anything that is adding any kind of material to a landscape) or permanent amendments (e.g. gravel or sand roads, campsites, clearings, etc.) are planned in the FR	ICP	●	<input type="checkbox"/>		<input type="checkbox"/>	
2	Does the text of the ICP sufficiently describe and justifies the compensation measurements (what, where, how) and is the connection of text and maps always clear?	ICP	●	<input type="checkbox"/>		<input type="checkbox"/>	
3	Are the compensation measurements in a ratio to the impact? → the compensation should always be related to the damage that is e.g. a sealed area (tarred or concreted) demands more compensation than a cleared area for a campsite.	Impact and compensation lists	●	<input type="checkbox"/>		<input type="checkbox"/>	
4	Are the measures suitable to compensate for the damage and do they represent a sound ecological benefit to the area?	Knowledgeable decision	●	<input type="checkbox"/>		<input type="checkbox"/>	
5	Are the compensation measures describe properly including all inputs needed and a detailed period of completion?	Compensation description sheet	●	<input type="checkbox"/>		<input type="checkbox"/>	

6	Does the IC-plan contain a sufficiently detailed map to illustrate the compensations and their location in the FR or in the neighboring areas?	Map	 <input type="checkbox"/>		<input type="checkbox"/>
7	Does the ICP follow for the most part the provided template outline?	ICP	 <input type="checkbox"/>		<input type="checkbox"/>
8	Has an EIA been carried out to set up the ICP?	EIA	 <input type="checkbox"/>		<input type="checkbox"/>

SUB TOTAL	Sum of valid points	 _____	 $\frac{c}{d}$	 _____
	Sum of achieved points			e
	Percentage	a	b	

a, b, c, d, e to be carried over

DRAFT

7.5.2.2.3 Infrastructure

Table 12: Checklist for Infrastructure (private sector level)

DATE and AUDIT CODE		d d m m y y y y							
FOREST RESERVE									
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)									
NAME of ASSESSOR									
#75223.	Audit issue	Proof	Ranking	Validity	Comments	Check			
1	Is the tourism facility satisfyingly integrated into the surroundings? →valid for all kinds of structures except roads. A clear relationship to the local environment must be visible	On site check	●	□		<input type="checkbox"/>			
2	Is the vast share of the construction materials from natural indigenous sources? →not valid with very basic facilities like small campsites without ablution blocks etc.	List of construction material and its origin	●						
3	Does design and architecture reflect Botswana culture? →not valid with very basic facilities like small campsites without ablution blocks etc.	On site check	●						
4	Is there documentary evidence that the architects/designers had extensive experience in sustainable facility design? →not valid with very basic facilities like small campsites without ablution blocks etc.	Job track record	●						
5	Are at least 60% of the power requirements generated by sources other than fuel or BPC grid? →only valid if power is provided.	Readings and records of alternative power meter against fuel consumption or BPC invoices	●						

6	Is all the hot tap water heated by solar geysers? →only valid if hot water is provided.	Installation check	●		
7	Are all light bulbs of the energy saving type (led, fluorescent lamp, etc) →only valid if light is provided.	Spot check	●		
8	Does the facility have a rain collection and storage system of an adequate size? The capacity must be sufficient for the size of the facility. →only valid if the facility can make use of non fresh water for toilets, gardening, watering etc.	On site check	●		
9	Does the facility treat and recycle 100% of its grey water? →only valid if the facility is providing significant amounts of fresh or rainwater through fixed installations.	Treatment installation	●		
10	Is all the biodegradable waste from the facility composted?	Compost	●		
11	Is all the recyclable waste that is not biodegradable brought back into the production cycle (paper, glass, hard plastic, metals, cooking and motor oil etc)?	Waste sorting place, storage space, receipts.	●		
12	Is there a proactive waste reduction process in place?	Process description, waste volume recordings	●		
13	Are all raw materials and supplies as environmentally friendly as possible?	Product descriptions	●		
14	Are all raw materials and supplies that are potential hazards to the environment stored in a secure way? Accidental contact of harmful substances with the environment must be avoided by appropriate	On site check	●		

	storage design. →only valid if supply is stored and not immediately consumed.			
15	Are more than 2/3 of the used fuel, electricity or gas driven engines/equipment among the most energy efficient of its class (generators, heater, cooler, cars, boats etc.)? →only valid if any energy driven equipment is used.	List of all engines, machines used with energy consumption particulars.	●	

SUB-TOTAL	Sum of valid points	●	●	●
	Sum of achieved points	a	b	e
	Percentage			

a, b, c, d, e to be carried over

7.6 Reporting sheet

DATE and AUDIT CODE				d	d	m	m	y	y	y	y		
FOREST RESERVE													
NAME and POSITION of DFRR FR-REPRESENTATIVE (Assessment counterpart)													
NAME of ASSESSOR													
List Number	Percentage of passed valid red points	Percentage of passed valid yellow points	Number of valid yellow points	Number of achieved yellow points	Number of missing yellow points to pass	Number of passed green points	Number of green points for substitution	Passed? [requirement: a = 100% b = ≥ 55%]					
	a	b	c	d		e	[round it]	YES	No				
1						: 3=							
2						: 3=							
3						: 3=							
4						: 3=							
5						: 3=							
6						: 3=							
7						: 3=							
8						: 3=							
9						: 3=							
10						: 3=							
11						: 3=							
12						: 3=							
13						: 3=							
14						: 3=							
15						: 3=							
SUM =							SUM =						
Are there enough green points to compensate for missing yellow points?													
Audit passed?													
List of agreed corrective measurements until the next audit [use back of the sheet or additional sheet if space is not													
1					5								
2					6								
3					7								
4					8								
Date and Signature (representative of assessed DFRR administration)						Date and Signature (person in charge of the assessment)							

1. Annex

1.1. FRMP outline

2. Basic land details

2.1. Ownership, user rights

2.2. Land description

[Comprehensive description of the topography, geology, soils and climate of the landscape]

2.3. Forest description

[Comprehensive description of the different habitats their values and interlinks including forest type and flora and fauna. The history of the forest is given as well.]

2.4. Maps

[Maps that show the boundaries, the relevant habitats and natural structures and the forest types will be included (3 maps of 1:25000 scale). Digitally modified topographic maps or aerial photographs are suitable.]

3. Forest inventory

3.1. All tree species by stem numbers and diameter

[The results of a regular forest inventory based on an adequate sampling size in addition to the present inventory.]

3.2. Spatial distribution of species and age classes

[The results of a regular forest inventory based on an adequate sampling size in addition to the present inventory.]

3.3. Reliable estimation of tree regeneration

[Description of the natural propagation methods of the present tree and edible fruit bearing shrub species. Appraisal of the rejuvenation rate of each present tree species at the particular conditions]

4. Non-timber inventory

4.1. Description of all potential non-timber products

[Listing of all raw materials that can be utilized in anyway by humans including, if applicable, their processing methods and market potential]

4.2. Volume of non-timber products

[Reliable survey based estimates of the present resource volumes of the major NTP's]

4.3. Spatial distribution of non-timber products

[Description of the distribution and mapping of the major NTP's in the area]

4.4. Possible annual off-take by product

[Projection of the possible spatiotemporal major NTP's utilization rates by species]

5. Conservation goals

5.1. Community participatory process

[Representation of the participatory process of finding multilateral agreed, scientifically and practically sound conservation values, targets and indicators]

5.1.1. Conservation values and indicators

5.1.1.1. Conservation of Biological Diversity

[Description of the pathway of conserving the biological diversity of the area by maintaining integrity, function, and diversity of living organisms and the complexes of which they are part.]

5.1.1.1.1. Ecosystem Diversity

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators for maintaining and possibly enhancing the diversity of communities and ecosystems that naturally occur in Thotayamarula and its vicinity]

5.1.1.1.2. Species Diversity

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that ensure that habitats for the native species found in Thotayamarula and if necessary in the surrounding areas are maintained through time.]

5.1.1.1.3. Genetic Diversity

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that represent the conservation of genetic diversity by maintaining the variation of genes within species.]

5.1.1.1.4. Protected Areas (PA's) and Sites of Special Biological Significance

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). If applicable, lists and describes values, targets and indicators that are able to show the effort and success of long-term maintaining of identified areas of outstanding value within the Forest Reserve area.]

5.1.1.2. Maintenance and Enhancement of Forest Ecosystem Condition and Productivity

[Description of the process of conserving forest ecosystem condition and productivity by maintaining the health, vitality, and rates of biological production.]

5.1.1.2.1. Forest Ecosystem Resilience

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that represent the conservation of ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.]

5.1.1.2.2. Forest Ecosystem Productivity

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that represent the conservation of forest ecosystem productivity and productive capacity by maintaining ecosystem conditions, which are capable of supporting naturally occurring species.]

5.1.1.3. Specific Forest Reserve Ecosystem Contributions to Global Ecological Cycles

[Description of the process of maintaining forest conditions that contribute to the health of global ecological cycles and the enlargement of forest areas.]

5.1.1.3.1. Carbon Sequestration

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that represent the maintenance processes which take carbon from the atmosphere and store it in forest ecosystems.]

5.1.1.3.2. Forest Land Conversion

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that represent the efforts of protection of forestlands from deforestation or conversion to non-forests.]

5.1.1.4. Multiple Benefits to Neighboring Communities

[Description of the process to sustain flows of forest benefits for current and future generations by providing multiple goods and services.]

5.1.1.4.1. Non-Timber Benefits

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that show the sustainable management of the forest in order to produce acceptable and feasible benefits from non-timber resources.]

5.1.1.4.2. Sustainable Development of Communities

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that show the sound use of revenues from NTP's with regard to a long term communal development]

5.1.1.4.3. Fair Distribution of Benefits

[Brief problem analysis and derivation of the relevance of the chosen parameter(s). Listing and description of values, targets and indicators that show a fair and proportional sharing of the benefits among neighboring villages]

6. Management

6.1. Conservation Measurements

[Detailed description of the methodology and timeline how to maintain or achieve the set targets from chapter 4 "conservation goals".]

6.1.1. Conserving Biological Diversity

6.1.2. Maintaining and Enhancing Forest Ecosystem Condition and Productivity

6.1.3. Specific Forest Reserve Ecosystem Contributions to Global Ecological Cycles

6.1.4. Multiple Benefits to Neighboring Communities

6.2. Relationship with the Surroundings

[Description of the ecosystem linkages with the surrounding landscape and explanation of the managing challenges/activities arising from them.]

6.3. Harvest

6.3.1. Non-timber Products: Technique, Amount, Scheme

[Description of the harvest methods including annual allowable amounts (carryover from chap. 3.4) and timeframes for all major NTP's]

6.3.1.1. Reduced Impact Harvesting

[Description of reduced impact harvesting ideas and adaptation to the situation of the Reserve.]

6.4. Monitoring

[Presentation of the methodology and scheme of monitoring based on the values, targets and indicators set from chap. 4.1.1. "conservation values and indicators".]

6.5. Adaptive management (Continual Improvement)

[Description of the continual improvement process based on an internal review process that is to be installed. Furthermore, the mechanisms of adaptive management fed by the results of "continual improvement" and practical experiences are to be laid out.]

6.5.1. Training \ Capacity building

[Description on how the capacity building / training of the people involved in conserving and utilizing the Reserve on all levels is organized to keep their skills and knowledge appropriate for their tasks.]

6.6. Marketing (if appropriate)

6.6.1. Non-timber Products

[Overview of possible marketing channels and marketing strategies by product]

7. Annex

7.1. Maps

7.2. Species lists

7.3. Monitoring and reporting forms

1.2 ICP outline and IC-list templates

1.0. Project details

[applicants details, forest reserve details, application number etc]

6.2 Summary

[brief summary, ½ pages]

6.3 Decision about approval

[approval or rejection, recommendations and brief justification]

6.4 Description of the affected area

[brief ecological and socio-cultural overview of the area]

6.5 Description of the projected activities

[detailed description of the impact]

6.6 Description of the compensation measurements

[detailed description of the compensation]

Annex

Maps

Impact value lists

Compensation value lists

Date of examination					
Name of Forest Reserve					
GPS data of impact area					
Business application number					
Name of business applicant					
Business name					
Name of surveyor					
IMPACT SHEET ON ABIOTIC COMPONENT [Form ISA]					
Valuable item	Multiplier	Size of the area (in m ²)	Fine tuning [1.0 – 1.25]	Subtotal	
Anthropogenic effect on soil	Extremely high [sealed ground]	1.75			
	High [partially permeable seal]	1.5			
	Moderate [removal of cover, earthworks]	1.25			
	Low [temporal exposition to strange substances]	1.0			
	Not affected	0			
TOTAL SOIL					
Anthropogenic effect on hydrologic balance	High [alters water movement of surface and/or ground water]	1.5			
	Moderate [increases evaporation]	1.25			
	Low [increased consumption]	1.0			
	Not affected	0			
TOTAL BALANCE					
Anthropogenic effect on morphology of waters	High [morphology of running or standing water is severely altered]	1.5			
	Moderate [morphology of running or standing water is altered]	1.25			
	Not affected	0			
TOTAL WATERS					
Anthropogenic effect on air	High [severe air pollution]	15	estimate number of polluters		
	Moderate [slight air pollution through petrol engines etc.]	10			
	Low [micro climatic change through air movement blockage or heating up of air]	0.05	estimate affected area in m ²		
	Not affected	0			
TOTAL AIR					
TOTAL ABIOTIC COMPONENT					

Date of examination	
Name of Forest Reserve	
GPS data of impact area	
Business application number	
Name of business applicant	
Business name	
Name of surveyor	

IMPACT SHEET ON BIOTIC COMPONENT [Form ISB]			
Valuable items [biotopes and/or smaller natural elements like specific species]	Size of the biotope (in m ²) or number of natural elements	Value points	Total
		2.74	
		2.53	
		2.34	
		2.17	
		2.02	
		1.87	
		1.75	
		1.63	
		1.52	
		1.43	
		1.34	
		1.26	
		1.18	
		1.12	
		1.06	
		1.04	
		1.03	
		1.02	
		1.01	
		1	
TOTAL BIOTIC COMPONENT			

Date of examination					
Name of Forest Reserve					
GPS data of impact area					
Business application number					
Name of business applicant					
Business name					
Name of surveyor					
IMPACT SHEET ON LANDSCAPE (Form ISL)					
Valuable item	Multiplier	Size of the area (in m ²)	Fine tuning [1.0 – 1.25]	Subtotal	
1 Extensive visual integrity	1.1 Moderately disturbed [vast clearings (e.g. new sand or gravel roads), extensive badly adapted buildings, etc.]	1.5			
	1.2 Lowly disturbed [unpleasantly integrated in landscape]	1.25			
	1.3 Not affected	0			
TOTAL INTEGRITY					
2 Share of created landscape-typical elements [ecological/structural valuable components]	2.1 Not existent [no attempt has been made to add valuable natural structures/elements]	1.5			
	2.2 Moderate [minor efforts are visible]	1.0			
	2.3 Extensive [almost every possible area was renaturalised in an ecological value-added manner]	-2		[-1.0 to -1.25]	
TOTAL ELEMENTS					
3 Migrating routes, access routes, usual places	3.1 Extremely high [migrating or water access routes of several species or only one threatened species have been cut off permanently]	2.25	Estimate the affected area that has been lost for the species		
	3.2 High [migrating or water access routes of one or two species have been cut off permanently]	2.0			
	3.3 Moderate [migrating or water access routes of one or two species have been cut off]	1.75			
	3.4 Sub-moderate [Usual gathering/mating /nesting etc. places of one or more threatened species have been disturb.]	1.5			
	3.5 Low [Usual gathering/mating/nesting etc. places of one or more species have been disturbed]	1.25			
	3.6 Not affected	0			
TOTAL ROUTES & PLACES					
TOTAL LANDSCAPE COMPONENT					
TOTAL ISA + ISB + ISL					

IC-Example

IMPACT SHEET ON ABIOTIC COMPONENT					
Valuable item	Multiplier		Size of the area (in m ²)	Fine tuning [1.0 – 1.25]	Subtotal
Anthropogenic effect on soil	Extremely high [sealed ground]	1.75	1250	1.1	2406
	High [partially permeable seal]	1.5	275	1	413
	Moderate [removal of cover, earthworks]	1.25	3500	1	4375
	Low [temporal exposition to strange substances]	1.0	125	1.25	156
	Not affected	0			
TOTAL SOIL					7350
TOTAL ABIOTIC COMPONENT				7350	

IMPACT SHEET ON BIOTIC COMPONENT				
Valuable items [biotopes and/or smaller natural elements like specific species]	ecological	Size of the biotope (in m ²) or number of elements	Value points	Total
Reed grass bank [permanently wet]		500	2.74	1370
River bank /riparian forest transient area [temporarily wet]		1200	2.53	3036
Riparian forest zone [ground water influenced]		3500	2.34	8190
Sclerocarya birrea [>1.2 m circumference]		12	2.17	26
Spirostachys africana [>1.0 m circumference]		21	2.02	42
TOTAL BIOTIC COMPONENT			12664	

IMPACT SHEET ON LANDSCAPE (Form ISL)					
Valuable item	Multiplier		Size of the area (in m ²)	Fine tuning [1.0 – 1.25]	Subtotal
1 Extensive visual integrity	1.1 Moderately disturbed [vast clearings (e.g. new sand or gravel roads), extensive badly adapted buildings, etc.]	1.5	-	-	-
	1.2 Lowly disturbed [unpleasantly integrated in landscape]	1.25	650	1	813
	1.3 Not affected	0			
TOTAL INTEGRITY					813
TOTAL LANDSCAPE COMPONENT				813	
TOTAL ISA + ISB + ISL			20827		

COMPENSATION SHEET [Form CS.1]				
#	Valuable items [biotopes and/or smaller natural elements like specific species and / or other activities with a positive ecological effect]	Size of the biotope (in m ²) or number of elements	Value points [0.1 – 3]	Total
1	Permanently wet low water biotope	2750	3	8250
2	Taking off the seal of soil	550	3	1650
3	Indigenous fruit tree plantation	3000	1.5	4500
4	Elimination of invasive plant species	5000	0.5	2500
5	Rehabilitation of shrub encroachment area	25000	0.2	5000
TOTAL COMPENSATION				21900
MINUS TOTAL ISA + ISB + ISL			-20827	
OVERALL RESULT [must be > 0]			1073 ✓	

→ Note: this is only an example for the process! The real evaluation (value points etc) has to be done in a transparent participatory process that involves the stakeholders including the applying business operator.

1.3 LAC method

The Limited of acceptable change (LAC) method answers the question what resource and social conditions are appropriate (acceptable) and how do we attain those conditions?

Steps for LAC planning:

1. Identify area special values, issues, and concerns. All stakeholders in the FRs (communities, government, scientists, tourism operators, etc) would meet to identify what special features and qualities within the area require attention, what management problems or concerns; the role the area plays in both regional and national context.
2. Identify and describe recreation opportunity classes or zones: this would also include other uses of the resources (traditional uses). This would also indicate the likely human impact and how this can be managed.
3. Select indicators of resource and social conditions: these are specific elements selected to represent the conditions deemed appropriate and acceptable in each resource.
4. Inventory existing resource and social conditions: e.g. identify location of flora fauna, burial sites, heritage remnants, location of various resources, conditions in which they are
5. Specify standards for resource and social conditions in each opportunity class: you then set standards, acceptable conditions i.e. limits of acceptable change that is allowed.
6. Identify alternative opportunity class allocation: you look at different ways that resources could be used.

7. Identify management actions for each alternative: this requires an analysis of the costs that will be imposed by each alternative. E.g., some alternative might be to zone one forest reserve for example not to be opened for ecotourism development.
8. Evaluation and selection of a preferred alternative
9. Implement actions and monitor conditions: implementation plan must detail actions, costs, timetable and responsibilities to ensure timely implementation. The monitoring program focuses on the indicators selected in step 3 and compares their condition with those identified in the standards. This information can be used to evaluate the success of actions.

1.4 Potential ecotourism spots in FRs

The Forest Reserves need to offer tourism activities, which complement and enhance the tourism attractions in the Chobe National Park and along the Kasane-Kazungula river front. In addition, tourism in Maikaelelo FR offers opportunities to enhance the use of the adjacent parts of the CNP, which are currently under-utilized.

Due to the obvious limitations of rural communities to recognize tourism opportunities, it is advisable that DFRR and BTB identify and start to develop tourism opportunities into products that can be fed into the process of CBNRM. With other words, in order to be successful communities, community Trusts and rural individuals must be accompanied and supported throughout the way towards profitable businesses. Botswana Tourism Board should work with the private sector to form partnerships in both the marketing and development of the ecotourism products.

Tourism activities would focus on but are not limited to the spots with an already identified ecotourism potential. DFRR efforts and consultation to-date have identified several spots with ecotourism potential. It is recommended that tourism development prioritize on the following criteria:

- The 'highest potential' spots.
- Ease of access to the areas.
- Spots with existing, old facilities such as boreholes
- Spots with evidence of current tourism use.
- Spots, which have been identified by CBOs for community tourism development.

Earlier DFRR research has identified over twenty spots with a tourism potential in all FRs.

Table 13: Suggestions of potential ecotourism spots in Forest reserves.

Potential ecotourism spots in FRs	Suggestion for utilization	Current infrastructure
Sibuyu FR		
Nyagnxyou Pan-Chipane area	game drives	-
Xhwaatshaa Pan	historical site	-
Mmashaume-Motswidi	camping site, walking safaris	-
Kabundira Gumago	camp site	borehole, remains of houses and ablution from Hunters Africa

Nunga River	game viewing, historical site	Safaris remnants of Basarwa cultivation
Xhamoguo- Golwana	game drives, bush dinner	old Basarwa camp
Chimushika	game drives	old safari camp
Biga-Digwere	game viewing, bird viewing	-
Jolley pan-Marea motshaa	game drives, bush dinners	-
Tibukai pan	game drives, bird watching	-
Kazuma FR		
Chaigo Pan	game drives	Old Basarwa camp around perennial pan
borehole 15	cultural & historical site	Old borehole for pastoral farmers before exporting livestock
Kabare Pan	game viewing, bush dinners	much wildlife & birdlife
Kazuma Pan	historical site, overnight stay	Evidence of use by safari companies
Maikaelelo FR		
One big pan	Safari lodge, tented camp	-
8 small pans	game drives	-
Chobe FR		
Ghoba Pan	tented camp	-
Nonotshaa pool	game viewing	part of CECT
Kashaba pool	game viewing	part of CECT
Kasane FR		
Lesoma valley	camp site, cultural tourism, game viewing, attraction area	illegal night and day drives
Kasane ext. FR		
Various places	night drives & bush dinners	cutline already used

Suitable opportunities for ecotourism development could be the following. However, developing a FR is, according to this manual (chapter 7.6.1), an open participatory process that is only led respectively knowledgeably guided by DFRR. The development of an Ecotourism Plan need to be done always together with the concerned population and other relevant stakeholders.

Kasane FR

Kasane FR should be developed as high potential ecotourism. It is easily accessible, well-known and therefore marketing costs will be low. It is suitable for game drives, camping and safari walks. There is no need for permanent structures as the FR is close to Kasane, Kazungula and Lesoma. Mobile safaris operators should be allowed in the Kasane Forest Reserves.

Chobe Forest Reserve

Chobe Forest Reserve should be developed as high potential ecotourism spot. It has a good road network and has in place an approved resource management and land use plan. It should be allocated to CECT on a

long lease basis. The area is suitable for development of bird watching and game viewing. Campsites can be developed in accordance with the CECT plan. For example, a campsite can be developed at Ghoha pan.

Kasane Extension Forest Reserve

Kasane Extension Forest Reserve is a high potential spot. Safari companies are already taking their clients to the reserve. It is suitable for development of night drives, bush diners and bird watching.

Kazuma Forest Reserve

Kazuma Forest Reserve should be developed as medium potential spot for ecotourism. Much of the reserve is not accessible during rainy season because of flooding. Game drives at Chaigo pans and bush dinners at Kebare pan and Kazuma pan as well as cultural and heritage tourism could also be developed. No permanent structures should be built in the Reserve only camping can be undertaken.

Maikaelelo Forest Reserve

Maikaelelo Forest Reserve is medium potential for ecotourism development because of its remoteness and limited accessibility. It should be developed in close collaboration with the CNP. The FR could work as a buffer between the CNP and communal areas. A lodge with permanent structures can be developed as well as tented camp. The reserve should specialize in game drives.

Sibuyu Forest Reserve

Ecotourism development in Sibuyu Forest Reserve need to be further investigated with communities and tourist operators. Consultations in Pandamatenga revealed that the community wishes to use the Sibuyu FR for camping.

1.5 Flowchart of the main steps of the process

