FOREST CONSERVATION BOTSWANA

Forest Conservation Strategy

2013 - 2020

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Abbreviations

BTO	Botswana Tourism Organisation
CBNRM	Community Based Natural Resources Management
CBO	Community Based Organisation
CHA	Controlled Hunting Area
CITES	Convention on Trade in Endangered Species
CSO	Central Statistics Office
DFRR	Department of Forest and Range Resources
DWNP	Department of Wildlife & National Parks
FAO	Food and Agriculture Organisation
FCB	Forest Conservation Board
FCS	Forest Conservation Strategy
FMD	Foot and Mouth Disease
FR	Forest Reserve
FRM	Forest Resources Management
GR	Game Reserve
HIV/AIDS	Human Immunodeficiency Virus- Acquired Immune Deficiency Syndrome
HWC	Human Wildlife Conflict
IDP	Integrated Development Plan
JICA	Japan International Cooperation Agency
JVP	Joint Venture Partnership
KAZA	Kavango Zambezi Transfrontier Conservation Area
LAC	Limits of Acceptable Change
M&E	Monitoring & Evaluation
MEA	Multilateral Environmental Agreement
MEWT	Ministry of Environment, Wildlife & Tourism
MT	Metric Ton
NBDSAP	National Biodiversity Strategy and Action Plan
NDP	National Development Plan
NGO	Non-Government Organisation
NP	National Parks
NRM	Natural Resources Management
PPP	Purchasing Power Parity
REDD	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
SADC	Southern African Development Community
SAREP	Southern African Regional Environmental Programme (SAREP)
SEA	Strategic Environmental Assessment
SMART	Specific, Measurable, Attainable, Relevant & Time bound.
SWOT	Strength-Weakness-Opportunity and Threat analysis
TFCA	Tropical Forest Conservation Act
TFCF	Tropical Forest Conservation Fund
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNCBD	UN Convention on Biodiversity
UNCCD	UN Convention to Combat Desertification
UNFCCC	UN Framework Convention on Climate Change
USAID	United States Agency for International Development
WAVES	Wealth Accounting and valuation of Ecosystem Services

WMA Wildlife Management Areas

Definition of Terms

Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach this threshold *in situ* (Forest Policy, 2011)
National Parks	Any area specified in the First Schedule of the Wildlife Conservation and National Parks Act for the propagation, protection and preservation therein of wild animal life, vegetation and objects of geological, ethnological, archaeological, historical or other scientific interest for the benefit and advantage and enjoyment of the inhabitants of Botswana.
Game Reserve	Each of the areas defined in the Second Schedule of the Wildlife Conservation and National Parks Act are declared to be game reserves. The President may, from time to time, by order published in the *Gazette* declare any other area of land to be a game reserve, or alter the boundaries of, or abolish, any game reserve.
Forest resources	All resources and values associated with forest ecosystems, whether biotic, abiotic, social or economic and includes vegetation, land, water, air and recreational, spiritual and heritage values but does not include any minerals and fauna as per the *Mines and Minerals Act* and *Wildlife and National Parks Act* respectively.
Forest reserve	An area declared as a forest reserve by the President in pursuance of the provisions of the Forest Act, 1968.
Other wooded land	Land not classified as “Forest” and it includes all the areas under the different savannah vegetation types. These are *commonly* rangelands.
Veld resources	Resources relating to or produced from, or originating from any portion of wild plants or animals found in open grassland, or sparsely wooded areas classified as veld'- principally represented by wild forbs, herbs and grasses. Veld products typically include wild foods, medicines, wood, leaves, roots, seeds, bark, craft materials, tannins, gums, resins, dyes, essential oils, florist materials, ornamental plants, insects, horns, hides, skins, and many others (CBNRM Policy, 2007).
Agricultural Resources	"Agricultural resources"mean the following matters in their relation to agriculture:soils and waters of Botswana;plant life and vegetation of Botswana and the vegetable products of the soil;animal life and fauna of Botswana including animals, birds, reptiles, fish and insects; and such other things, whether similar to the foregoing or not, as the Minister may, by regulations, declare to be agricultural resources (Agricultural resources Conservation Act, 1972).

1 Introduction

1.1 Background to the strategy development

An independent evaluation of the Tropical Forest Conservation Fund (TFCF) and Forest Conservation Botswana (FCB) in 2012, recommended the development of a Forest Conservation Strategy (FCS) to guide the FCBBoard in the award of project grants and other technical activities to support forest conservation. According to the evaluation, planning in the period 2008-2010 focused primarily on the internal working efficiencies of FCB and its Board and FCB's operation did not have the desired impact on sustainable forest conservation and utilisation.This Forest Conservation Strategy (FCS) aims to provide technical guidance to FCB.

The development of the FCS has benefitted from a desk top study ofthe situation of Botswana's forests and the policies and legislative instruments relevant to the forestry sector. Interviews were also held with key resource persons and an expert workshop was organised to guide the development of theFCS by identifying and agreeing on preferred options for the FCS.

The report structure is as follows. First, the strategy provides a brief situation analysis of the forestry sector and forest resources in Botswana, based on the results of the analysis; and an identification of issues and options for forest management. By doing so, the Strategy has set priorities and targets by thematic areas,identified possible partners for its implementation, and developed criteria for the evaluation of project proposals submitted to FCB.

1.2 Situation analysis of the Botswana's forestry sector

The situation analysis of the forest sector can be summarised as follows:

- ✓ Botswana has never had a nationwide forest and range resources inventory study, hence no details are available about the country's forest resources, especially outside protected areas. However, a project for enhancing national forest monitoring system for the promotion of sustainable natural resources management (development of forest inventories is the core activity) is being undertaken by the Ministry of Environment, Wildlife and Tourism (MEWT), through the Department of Forest and Range Resources (DFRR) with technical and financial assistance from the Japan International Cooperation Agency (JICA);
- ✓ There has been a decline in the land area occupied by forests: some 23 670 km^2 of forest land was lost between 1990 and 2010 (or 17.3% of the forest area). The major physical contributing factors are unmanaged fires, damage from elephants and human encroachment. The percentage contribution of each factor to the decline is unknown and needs urgent investigation;
- ✓ Bush encroachment is widespread in communal rangelands, leading to a reduction in tree species variety and an increase in woody (shrub) biomass; there is a permanent hard core of bush encroached rangelands (around 10%), which extends during droughts to up to 25%;
- ✓ Indirect uses of forests (non-productive ecosystem services) are important but they are often forgotten until threatened and their loss ultimately results in reduced direct uses; and
- ✓ Direct use of the Forest Reserves is minimal since the 1992 suspension of timber logging; only subsistence use by surrounding communities is permitted for firewood collection, thatching grass and fruit gathering.

Threats to forests and forest resources are mostly documented in general terms. The location of and the magnitude/ importance of each threat are reported in general terms only. It is necessary for sustainable forest management that the relative importance and the spatial occurrence of each threat is better documented in future.

The following threats have been identified:

a. Physical threats:
    i. Elephant damage
    ii. Fires
    iii. Human encroachment
    iv. Climate change and variability
b. Management and perceptions inadequacies:
    i. Management inadequacies
    ii. Undervaluation of forest resources;
    iii. Inadequate research & data

These threats are briefly discussed below.

Elephant damage to forests

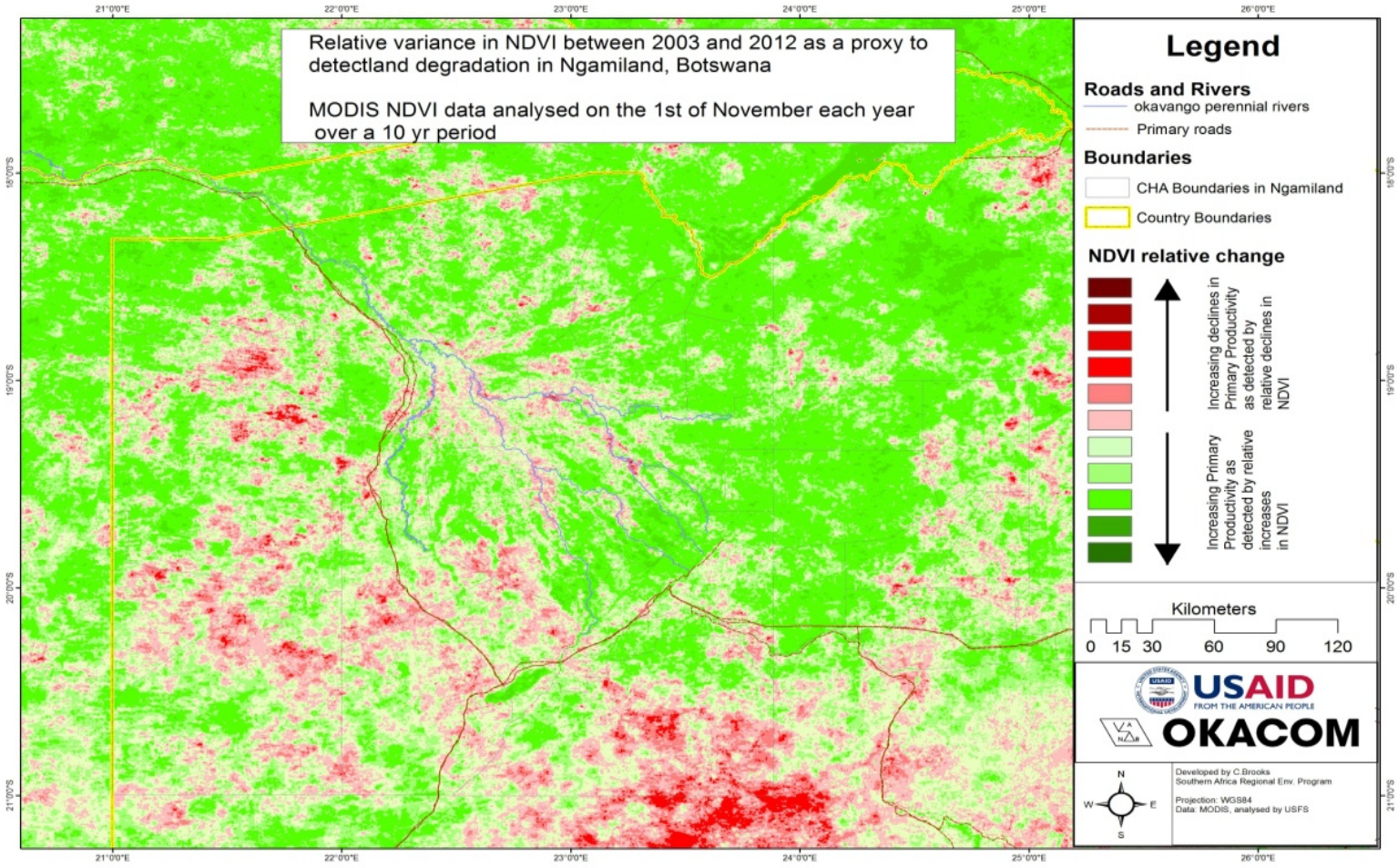
An Aerial Survey of Animals in Botswana (DWNP, 2013) shows that the country's elephant population is currently 207 545, which signals an increase of 297% in the past twenty years (1992-2012). The survey shows a highly significant upward trend in the Chobe National Park and Moremi Game Reserve. It further shows that elephants' numbers are also building up in the Makgadikgadi and Nxai Pans National Park. Many northern wildlife management areas also host significant numbers of elephants.

As the elephant population increases, localised densities are increasing and the population is ventures into new areas. Current elephant numbers exceed the target of 75 000 and lead to destruction of forest ecosystems and increasing human elephant conflicts.

Fire damage to forests

Fire damage is widespread in the Forest Reserves. There has been an increase in the number of fires, which mostly occur in western and northern Botswana. Map 1 indicates the fire impact for Ngamiland as at October 2013, measured over a 10-year period (2003-2012).Areas in red are areas of woodland and forest that have shown a significant decline in productivity over the past ten years and could be prioritised by the FCB as hotspot (fire) areas in which to support improved management. They highlight those forests/woodlands that would seem to be impacted by fire, where a focused effort on improved fire management would help to protect woodlands.

Map 1: Fire impact for Ngamiland – October 2013



Source: provided by Southern African Regional Environmental Programme (SAREP).

Table 1 indicates that the number of fires increased by 67 over a three-year period from 81 in 2006 to 148 in 2008. Furthermore, the total land area affected by fire increased significantly by 55,550km^2 from 62,360km^2 in 2006 to 117910km^2 in 2008.While fires are integral part of semi-arid grassland dynamics, if unmanaged, fires could disrupt the flow of goods and services from forests by affecting tree growth and survival, water quality and yield, and biodiversity.

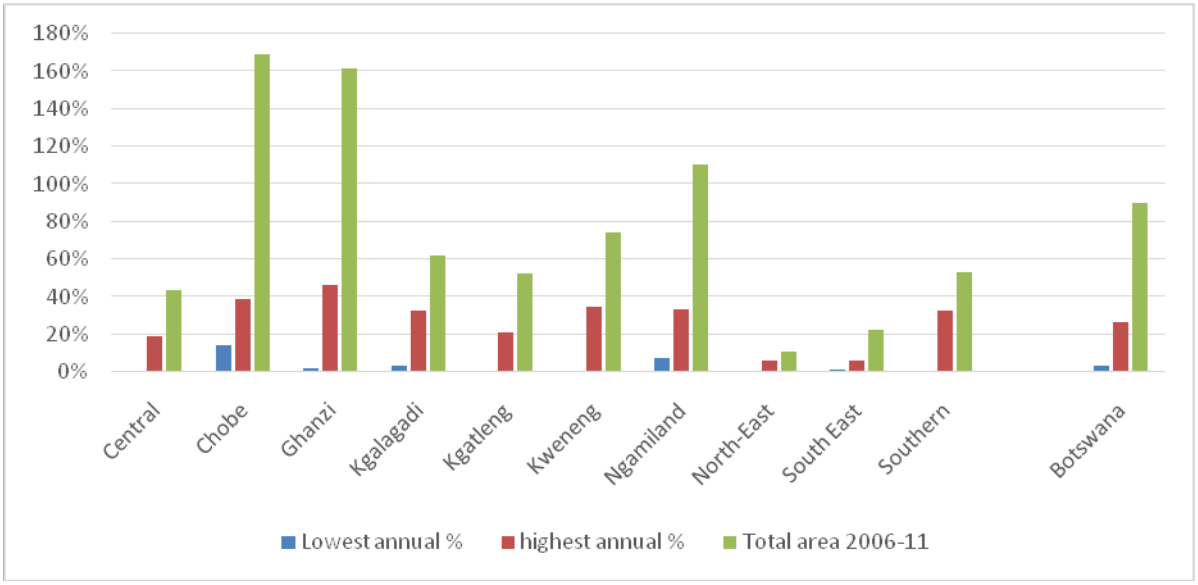
Table 1: Land area affected by fire (2006-2008).

FRA 2010 category	Annual					
	2006		2007		2008	
	Km^2	number of fires	Km^2	number of fires	Km^2	number of fires
Total land area affected by fire	62 360	81	68 110	84	117 910	148
... of which on forest	4 460	-	2 170	-	5 340	-
... of which on other wooded land	43 820	-	46 640	-	62 710	-
... of which on other land	14 080	-	1 9 300	-	49 860	-

Source: FAO, 2010.

The large impact of fires is also shown in the Environmental Statistics Report 2012, which provides data on veld fires by district (Figure 1) and in protected areas (Figure 2). Veld fires mostly affect northern and western Botswana (Chobe, Ghanzi, Ngamiland), where annually up to 40% of the area is burned. The extent of veld fires shows large inter-annual differences, as shown by the lowest and highest percentage of area burned. In good years, only a small portion is affected by fires; in bad years around a quarter of the country may burn.

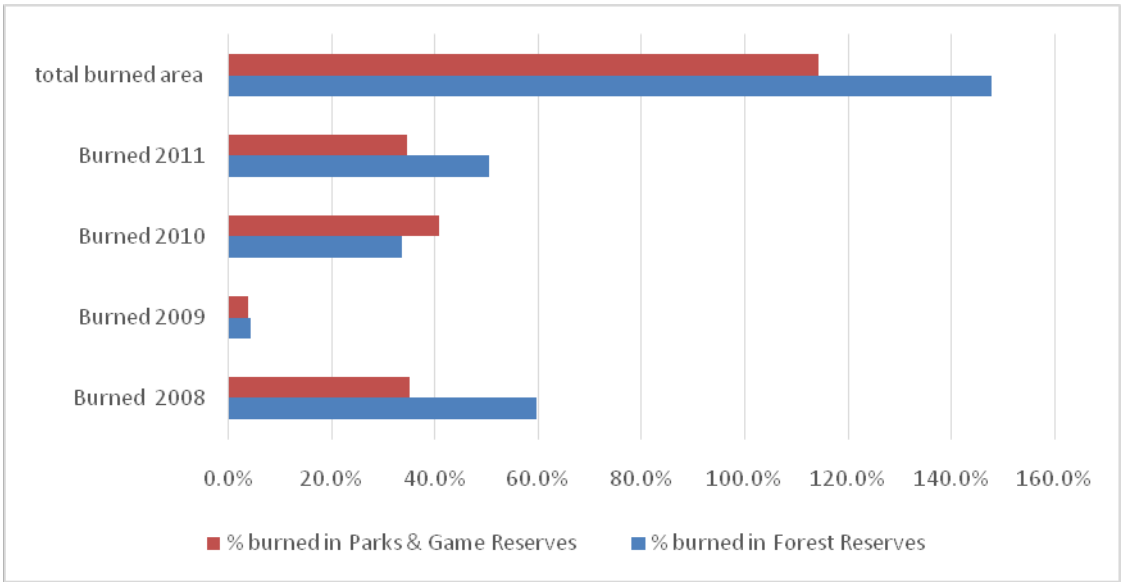
Figure 1: Percentage area burned by District (2006 – 2011; % of total area)



Source: 2012 Environmental Statistics Report.

Figure 2 shows that fires severely affect Forest Reserves; in fact more than other Protected Areas. On average, 37% of the FR area is burned annually (2006-2011) as compared to 29% of the National Parks and Game Reserves.

Figure 2: Percentage of area burned in National Parks, Game Reserves and Forest Reserves



Source: 2012 Environmental Statistics Report.

Forest encroachment

Over the years, communal area forests in Botswana have been subjected to depletion due to sustained pressure arising from land use pressure and other uses that are not matched by compensatory afforestation and essential environmental safeguards (Forest Policy, 2011). Encroachment occurs into forest areas, mostly due to settlement and infrastructure expansion as well as other woodlands due to agricultural expansion. "The dominant land uses in communal areas include arable agriculture, livestock farming and settlements" (Botswana National Action Plan for OKACOM, 2011). Some encroachment has occurred into the FRs.

Managing forest encroachment requires effective land use planning. Land use planning entails balancing socio-economic and environmental considerations for optimal utilisation of land. This is in tandem with both Vision 2016 and the Millennium Development Goal of ensuring environmental sustainability and natural resource conservation (NDP10; p.257). Lin Cassidy (2000) contend that defining land use in Botswana is a process of study, planning and consultation which culminate in the development of District Land Use Plans, which are not effectively enforced unless such land use plans or parts thereof have been made law through gazetting.

Over-utilisation of forest products

Uncontrolled use and over-exploitation of communal-area forest resourcewood vls occurs around villages through wood harvesting for fuel, plants for medicinal and religious purposes, and grass for thatching. Excessive harvesting of fuel wood occurs particularly in the eastern corridor of the country around villages; settlements and ranches compete with natural ecosystems for grazing and water in many parts of the Kalahari, threatening certain species and ecological processes (MEWT, 2007). Over-use of forest products is distinguished in general statistics by bush encroachment, which leads to more shrubs and woody biomass but lower species diversity. As a result, the wood volume in other wooded areas is assumed to remain constant (table 2).

Table 2: Volume of growing stock in forest and wooded land in Botswana

FRA 2005 Categories	Volume (Mm^3 over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	226	207	197	573	573	573
Commercial growing stock	-	-	-	-	-	-

Source: FAO, 2005.

Climate change

Botswana is faced with the effects of climate change on her natural resources including forests. However, the impacts of climate change and variability on the forest resources has not been studied in detail. "Botswana has a semi-arid climate, characterized by warm winters, hot summers, low rainfall, and high evapo-transpiration. The country is prone to frequent droughts, lately occurring every two years rather than once every four years, as in the previous decade" (Zhou *et. al.*, 2012, p.1). It is likely that changing temperature and precipitation pattern will impact on both natural and modified forests (Kirilenko and Sedjo, 2007). (Sohngen, 1998) outlines a number of scenarios that may arise as a result of the impact of climate change on forests. Where a drier climate ensued, existing forests would give way to ones more suited to the new conditions, or even to other vegetation altogether such as grasses or shrubs. In extreme conditions the vegetative transition reverses course and forests are displaced by grassland, thus a forest may cease to exist altogether.

Forest management inadequacies

The state is responsible for forest management in Protected Areas (Forest Reserves, National Parks, and Game Reserves through DFRR and the Department of Wildlife and National Parks (DWNP) respectively. Forest management in these areas is very limited, and most efforts are focused on veld fires control. Management of wood resources in other wooded areas is largely absent. The Land Boards, District Land Use Planning units and the Agricultural Conservation Board and DFRR are all involved, but there is no holistic, coordinated management approach. Forest areas are not identified and gazetted in communal area land use planning.

Undervaluation of forests

Forest resources have a direct use value in terms of job and income generation as well as the provision of goods such as fuel wood, medicinal plants and vegetables. Forests also have an indirect use value, which is related to non-production ecosystem services such as watershed protection, groundwater recharge, wildlife refuge, and carbon storage among others. However, the value of these eco-services of forests is often not fully appreciated, and as a result forest management received lower priority in natural resource management, including land use planning, and development planning. The appreciation of indigenous plant species for landscaping purposes is currently limited, even though these species are often much better suited to the climate, requiring less water (BSAP, 2007).Furthermore, the lack of community access and user benefits from forest resources, especially in the FRs, discourage their appreciation and popular commitment to their sustainable use. Opportunities to extend the Community Based Natural Resources Management (CBNRM) Programme to forest resources and veld products are insufficiently used to-date.

Limited forestry research and data

The understanding of ecosystems functioning is currently fairly limited and more research, data collection and inventories are needed to help promote conservation and sustainable use. National inventories of flora and micro-organisms are currently not available and fauna inventories are incomplete. Biodiversity records are not computerised and this presents challenges in terms of accessing biodiversity data, and duplication of data collected, and excluding important biodiversity data in analysis. Inventories are essential to determine conservation status and should form the basis for biodiversity planning and setting of conservation priorities (MEWT, 2007).

The Forest policy recognises the importance of undertaking accelerated research to support development of more efficient forest management practices and higher productivity from the forest resource base. Research has to take into account biological, physical, social, economic variables and technological development and its application in the field of conservation and production forestry. Biotechnology is identified as one area that is least explored in Botswana (Biodiversity Strategy and Action Plan, 2007). The country has very limited capacity to undertake so called modern gene manipulation techniques. There is limited modern biotechnology activity especially in the use of new recombinant nucleic acid or cell fusion techniques. However, expertise exists in areas such as vaccine production, plant breeding and artificial insemination. Although fairly untapped and unexplored, Botswana is likely to have genetic resources with potential value for the biotechnology industry. For example, Botswana is a genetic centre for the cucurbit family (melons and cucumbers) and for vigna species (cowpeas). However, the setting up of biotechnology-based enterprises often requires major start-up investments in equipment and facilities.

1.3 Review of policies and legislative instruments

The Strategy has benefited from the analysis of policy and legal instruments on forest conservation, focusing on commitments and opportunities under international and regional agreementsas well as the Botswana policy environment.Botswana has ratified ten Multilateral Environmental Agreements (MEAs) dealing with the key issues of climate change, drought and desertification, biological diversity and waste management. These are presented in Table 3. Botswana has also adopted three strategic plans: a National Action Plan under the United Nations Convention on Biological Diversity, the Okavango Delta Management Plan and the Makgadikgadi Framework Management Plan. The Okavango Delta is a Ramsar site (Botswana Millennium Development Goals Status Report, 2010).

Table 3: Multilateral Environmental Agreements ratified by Botswana

Priority/Key area	Multilateral Environmental Agreement (MEA)
Climate Change	- Vienna Convention for the protection of the Ozone Layer, 1985 - Montreal Protocol on substances that deplete the ozone layer, 1987 - United Nations Framework Convention on Climate Change, 1992 - Kyoto Protocol, 1997
Drought and Desertification	- United Nations Convention to Combat Desertification and drought, 1994
Biological diversity	- Convention on Wetlands of international importance, especially in Waterfowl Habitat (Ramsar Convention), 1971 - Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973 - United Nations Convention on Biological Diversity, 1992
Waste Management and Pollution Control	- Basel Convention on the control of trans-boundary Movement of hazardous wastes and their disposal, 1989 - Convention on Persistent Organic Pollutants, 2001

Source: Botswana MDG Status Report, 2010

A number of regional instruments have also guided the identification of issues pertinent for consideration into the strategy. The 2002 SADC Protocol on Forestry recognises the importance of

forests in sustaining the livelihoods of a majority of the region's rural communities. Currently, the deforestation rate in the SADC region is the highest across Africa and annual fire storms are additional threats to these unique eco-systems (German Federal Ministry of Economic Cooperation and Development, 2012). Hence the SADC Sustainable Forestry Management programme that was implemented jointly with GIZ between 1996 and 2012, agreed on:

- ✓ Implementation of the SADC Regional Programme for Transfrontier Conservation Areas;
- ✓ Support to the regional SADC programmes for cross-border fire-management and Reducing Emission from Deforestation and Degradation (REDD); and
- ✓ Integration of climate change and biodiversity conservation into regional and national programmes.

TheSADC Protocol on Wildlife Conservation and Law Enforcement 2003 establishes common approaches to the conservation and sustainable use of wildlife resources in the region, and assist with the effective enforcement of laws governing those resources. These entail the adoption, harmonisation and enforcement of legal instruments to ensure conservation and sustainable use of wildlife resources, and to integrate management and conservation programmes into national development plans. The SADC Protocol on Tourism Development calls for the use of tourism as a vehicle to achieve sustainable social and economic development through the full realisation of its potential for the Region. The involvement of small and macro-enterprises, local communities, women and youth in the development of tourism throughout the Region should be ensured. The SADC Protocol on Miningpromotes sustainable development by ensuring that a balance between mineral development and environmental protection is attained. The Protocol encourages a regional approach in conducting environmental impact assessments especially in relation to shared systems and cross boarder environmental effects. The 2012 Gaborone Declaration on Sustainability in Africarecognised that watersheds, forests, fisheries, coral reefs, soils, and all natural resources, ecosystems and biodiversity constitute a vital natural capital and are central to long-term human well-being, and therefore must be protected from over-use and degradation and, where necessary, must be restored and enhanced.

Botswana's aspiration to sustainably manage forests is underpinned by the Forest Act of 1968 and the Forest Policy of 2011. The Act provides for better regulation and protection of forests and forest produce but it only focuses on areas designated as forest reserves and state land. Therefore, the Act is constrained to address sustainable management of forests outside protected areas and how communities could effectively participate in the decision-making process and sustainable management of forests. The Act is too old and is still being reviewed to address some of the above issues by merging the Forest Act (1968), the Agricultural Resources Conservation Act (1974) and the Herbage Preservation (Fire Prevention) Act of 1977. There is also a need to then develop regulations to enforce the new Act.

The forest policy is more holistic in approach, and seeks to optimise the contribution of the forest and range resources to the long-term socio-economic development of Botswana by ensuring equitable and sustainable flow of benefits to present and future generations. The Department of Forestry and Range Resources is the lead government entity in forest issues, and aspires to collaborate with other stakeholders in the development of plans, strategies, techniques, policies and programmes regarding management and conservation of forests. The Forest Conservation Botswana (FCB) promotes sustainable use and conservation of forests by offering grants to support eligible activities aimed at conserving, maintaining and restoring the forests of Botswana in accordance with the terms of the Tropical Forest Agreement, Forest Act, National Forest Policy and the Tropical Forest Conservation Order. The most important policies and legislation relevant to the forestry sector in Botswana are indicated in Table 4.

Table 4: Summary of the key policies and legislation governing forest management

	Forests	Other wooded land	Both categories
National – Botswana			
Key policies		TGLP 1975 CBNRM 2007 Agricultural policies Revised National Settlement Policy 2004	Forest Policy 2011 Wildlife Conservation Policy 1986 Ecotourism Strategy Revised NBDSAP 2007
Key legislation	Forest Act 1968 Forest Reserves & State Land	Tribal Land Act 1968 and amendments Agricultural Resources Conservation Act 1974 Herbage Preservation Act	NP&WC Act 1990 for Parks and Game Reserves Herbage Preservation Act EIA Act 2011 & 2012 Regulations
Regional – SADC			
Key protocols, treaties etc.			SADC Protocol of Forestry 2002 SADC wildlife conservation & law enforcement protocol 2003
International			
Conventions & Protocols			UNCBD UNFCCC UNCCD CITES

While acknowledging the progress made in the regulatory environment, environmental challenges of climate change, land management and natural resources conservation, and water and sanitation still remain. Even though the 2010 Botswana Millennium Development Goals Status Report does not specifically discuss challenges on forest areas, rangeland degradation is acknowledged. High livestock population in excess of sustainable stocking levels, low off-take rates, bush fires, and land encroachment are identified as some of the causes of rangeland degradation.

1.4 Main forest management issues

A rapid Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis was carried out for the six FCB's thematic areas as well as for two additional areas (climate change and resource valuation/ appreciation), and the results are summarised in Table 5.

Table 5: SWOT framework of FCB thematic areas

	Threats – weaknesses	Opportunities - strengths
Existing Thematic areas		
Protected areas	Government management of Forest Reserves Inadequate coordinated management between northern NPs and FRs	Multiple use of Forest reserves Participatory management of FRs (with partnerships with private sector and communities) Accelerated ecotourism development in suitable areas after hunting ban

Forest resources management	Dated and inadequate Forest Act Fragmented legislation Lack of holistic and coordinated forest management Little documented positive impacts on forest resources (also due to lack of monitoring data)	Community Forests establishment under CBNRM policy Development of production forestry Support for 'tree based'CBOs such as Kgetsi ya Tsie. Promotion of multiple forest uses
Increasing capacities and skills	Limited forestry expertise & capacity No private sector capacity Limited community skills & capacity	Forest resources training for communities Searching for private sector interest and investment
Restoration & sustainable use of diverse plant & animal species		Bush control & re-use of removed bush (e.g. charcoal & energy)
Research on medical plants		Production forestry Research to support use edible & other forest resources (e.g. thatching grass)
Support of livelihoods of people living in or near forests	No or limited access at present	Controlled use of subsistence resource resources from FRs & NP Community participation in management of FRs and NPs (e.g. community use zones) Pro poor ecotourism & CBNRM
New FCB thematic areas		
Climate change	Unknown impacts on forests resources	Development of national REDD+programme and use of funding mechanisms (e.g. World Bank Forest Carbon Partnership and UN REDD programme) to protect carbon sequestration services of forests
Forest valuation & appreciation	Forests & forest resources currently undervalued Forest resource use not recognised as a distinct land use (except for FRs) Limited understanding of indirect use values of forests	Forest accounts linked to Botswana WAVES programme Opportunities to integrate forest management & development planning Opportunities for forest valuation as part of BioChobe Opportunities for payment for ecosystem services

From the analysis above, a number of issues arise for each FCB thematic area (Table 6). Two additional thematic areas are suggested: climate change and valuation/appreciation forest resources.

Table 6: Identified Issues for thematic areas

FCB thematic areas	Key forest conservation & management Issues
Protected areas	Coordinated management of FRs and northern NP Multiple use of FRs
Forest resources management	Holistic & comprehensive forest/ rangeland resources Act Policy development: land policy approval and implementation, sustainable land management and bush control programmes/ strategies. Review feasibility of production forestry Support for forest based CBOs (e.g. KyT & in FRs) Developing monitoring tools and data base Integration of forest resources and use in (multiple) land use planning (e.g. Chobe) Control of over utilisation of forest resources
Increasing capacities and skills	Increasing forest management capacity Partnership development (communities- private sector-government)
Restoration & sustainable use of diverse plant & animal species	Bush control and re-use of products Use & conservation of veldproducts
Research on medical plants	Production forestry, including forest resources processing industries Research to support use edible & other forest resources (e.g. thatching grass)
Support of livelihoods of people living in or near forests	Increasing local community benefits from protected areas/ Controlled use of subsistence resources from FRs & NP Community participation in management of FRs and NPs (e.g. community use zones) Pro poor ecotourism & CBNRM
Climate change	Research impacts of CC on forest resources Activity and Funding opportunities for forest management (e.g. REDD+[1])
Forest valuation and appreciation	Accounting for forest stock and uses Appreciation of the value of forest resources, including indirect use values – ecosystem services Use of traditional knowledge

[1]DRC, Tanzania and Zambia have national REDD programmes.

2 Options considered for the Forest Conservation Strategy

The forestry sector in Botswana has a very low profile, in part because of the limited forest resources but also because of limited capacity as well as interest and limited involvement of the private sector and communities. For example, Botswana does not have community forests (as for example Namibia). Forest resources in Botswana cover forest in the more traditional sense (20% of the country) and other wooded land (basically rangelands), which constitute 60% of the country.

The FCS of FCB seeks to increase the positive impact of FCB activities on forest conservation and utilisation, but also more generally to:

a. Raise the visibility and profile of the forestry sector in Botswana; and
b. Conserve and utilise the available forest resources better for the benefit of the country's development and rural livelihoods.

A range of options were reviewed as part of the FCS preparation to enhance FCB's impact on forest conservation and utilisation. FCB can prioritise short term, high impact projects, but this is difficult as most forest projects yields results in the medium term, especially where communities are involved. FCB can prioritise two to three of its thematic areas instead of covering all areas similarly. The latter dilutes the visibility and impact of the FCB projects. The other thematic areas become support themes, which take place in the spatial areas identified under the priority themes. FCB could also focus on a few larger projects instead of spreading limited funding over more projects. This has happened in the past when the grant funding ceiling was raised. If additional funding partners/ other existing projects/ programmes can be identified, the impacts of FCB projects would be enlarged. For example, FCB could link up with SAREP for forest projects in the Okavango river basin and with the Wealth Accounting and Valuation of ecosystem Services (WAVES) for forest and ecosystems accounting. FCB an also mobilise and offer technical support to grant projects to improve their performance and enhance their impacts; for example, FCB could form an expert support group for mentoring of projects. FCB could invite experts to prepare thematic notes for the priority thematic areas. It would also be wise for FCB to invite an expert to review the technical results of its past and current projects in terms of use and management of forest resources. Finally, FCB could focus on output-oriented projects in terms of conservation applications and sustainable development benefits.

During the expert workshop, the following strategic technical options were adopted:

1. Diversification of FCB activities beyond grants. The FCB will pursue this option by:
   a. Offering technical assistance and support to grant projects and to the forestry sector in general;
   b. Formation of a forestry expert network in Botswana and the region;
2. Focusing of FCB grants on three thematic areas to increase the impacts and ease the technical support to be offered. Once satisfactory progress has been achieved in a thematic area, another area could be selected by the Board. Prior to grant invitations, an expert would prepare a thematic area note to outline the issues and challenges and the options for projects;
3. A permanent option to support innovative and creative project proposals that are linked to one of the six thematic areas will also be pursued. In this way, the Board maintains flexibility to support deserving projects outside the selected thematic areas;and
4. Initiation of projects by FCB.The strategy needs a provision for projects that FCB initiates itself with a partner (e.g. CBO) and which are implemented by the partner. For example, a

CBO that utilises and conserves trees resources could be approached to jointly develop a project to support its activities. In this way, FCB becomes less re-active (dependent on submitted proposals) and more pro-active.

Thematic areas options

The selection of thematic areas for focusing was based on the following criteria:

1. Must include forest category (e.g. Forest Reserves or NP). This is Botswana's hard core of forests;
2. Cover resource conservation and livelihood improvements. This is entrenched in the FCB' overall goal;
3. Have a community component to assist the implementation of the CBNRM policy. This will support livelihoods, increase the chance of maintenance of biodiversity and is already linked with existing policies;
4. Build capacity, expertise and partnerships. This will help to overcome current constraints and partnerships, especially with the private sector will offer additional expertise and investments sources.

On the basis of the above criteria and the expert discussions, the following three thematic areas were prioritised and these are: the over-arching thematic area of 1.Forest resources managementwith applications in the 2. Protected areas, notably the Forest Reserves, and communal areas; and3. Livelihoods improvementfrom forest resources in both protected areas and communal areas.

Other existing FCB thematic areas would support the FCB primary areas. Given their importance, climate change and variability as well as appreciation/ valuation of forest resources should be added as additional support thematic areas.

3 FCB Forest Conservation Strategy

3.1 The objectives and structure of the FCS

The FCB Forest Conservation Strategy seeks to balance forest conservation and improvements of rural livelihoods through the direct and indirect use of forest resources. This is the essence of sustainable development applied to the country's forest resources in line with the goals of Vision 2016 and NDP10 and more recently with the 2012 Gaborone Declaration on Sustainability in Africa. FCB does not support either forest resource preservation or all types of livelihood improvements but focuses on forest conservation through improved forest management and livelihood improvements, which will reduce pressure on forest resources and lead to greater appreciation of forests.

Recognising that FCB is only one of the players in the forest sector, the*Vision* of the FCS is 'to be a reputable partner in Community Based Forest Conservation in Botswana'. This requires well conserved, diverse and sustainably used forests and forest resources for the benefit of the people. The FCB *mission* is to promote the implementation of activities that maintain, restore, protect and ensure sustainable utilisation of Botswana's forests.

The overall FCS objectives are to:

a. Contribute positively to improved forest resources conservation and sustainable utilisation;
b. Increase the appreciation of the value of forests and forest resources by increasing the benefits of communities living in and near forests and by increased community participation in forest management;
c. Raise the profile and value of the forestry sector in Botswana.

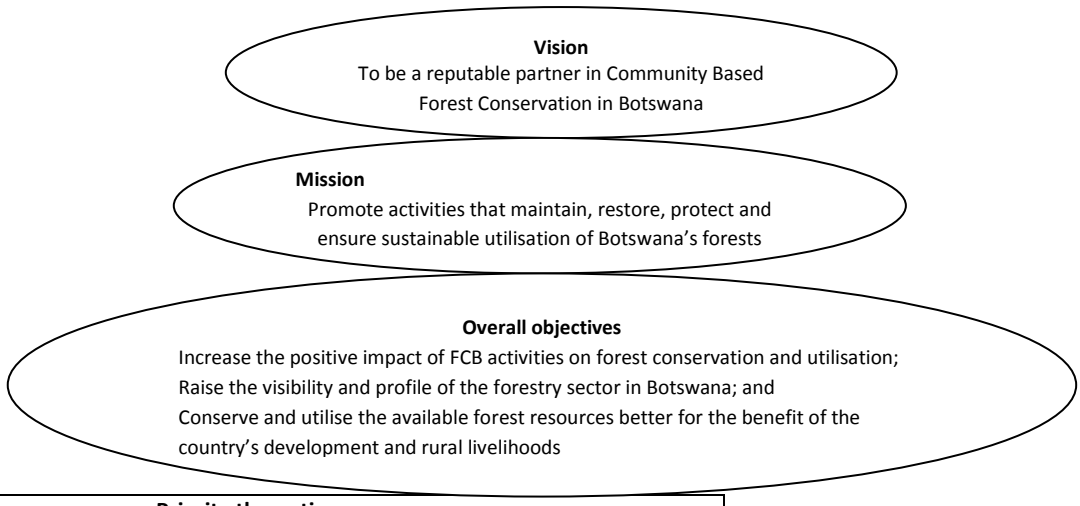
The FCS aims to address the main physical threats to forest resources (i.e. elephants, veld fires, human encroachment and climate change) as well as management and perception inadequacies (i.e. inadequate forest management, undervaluation of forest research and inadequate research and data). The focus will be on forest conservation through improved forest management in selected protected areas and communal areas. The reduction of the threats should result in the slow-down of the decline in forest areas, and forest conservation and sustainable use. While it is recognised that the policy environment needs to be improved, this can only be achieved on the longer term and exceeds the ''powers'' of FCB.

The FCS is developed for a seven year period 2013 – 2020, which allows measuring some of the project results. This FCS goes beyond Vision 2016 and will be completed during NDP11. This offers the opportunity to provide continuity in the forestry sector, until the mid-term review of NDP11.

The FCS will be focused on selected Forest Reserves (as Protected Areas) and selected communal forest resources. The Strategy will prioritise the FRs for which DFRR is first developing management plans (a DFRR requirement for encouraging multiple use of Forest Reserves). Furthermore, the Strategy will focus on high value communal area forests, which will be identified through a remote sensing/ GIS and local fieldwork checks project (proposed as part of the Forest Resources Management thematic area). High value forests in communal areas have not yet been identified to-date. On the basis of the outcome of the study, the FCB will select two areas with important forests and forest resources in communal areas for focusing conservation efforts. The successes realised from these 'pilot' areas would then be replicated in other communal forest areas.

The structure of the FCS is shown in Figure 3.

Figure 3: Structure of the FCB Forest Conservation Strategy



Priority thematic areas			
	Forest resource management	**Protected Areas**	CBNRM for forest appreciation & conservation
Objectives	Promote sustainable management of forests and forest resources and prevent forests degradation; Promote sustainable use of forest resources to generate local benefits and forest appreciation; Implement effective fire management to conserve forest resources; and Enhance regeneration of forest resources.	Promote sustainable management of biodiversity and forest resources in the Forest Reserves; Encourage participatory management of Forest Reserves; Promote sustainable multiple use of Forest Reserves.	Increasing the benefits of forest resources for local communities; and Ensuring sustainable use of community managed forest resources.
Targets	Reduce the area annually burned and the amount of damaged wood resources; Improve the age structure of different tree species populations; Reduce the number of threatened forest resources; Reduce the occurrence of alien invasive species; Include all forests and important forest resources outside protected areas in land use plans; and Increase the contribution of forest resources to local livelihoods.	Establish 1 joint venture between communities and companies for ecotourism development in each Forest Reserve with a management plan; Establish stakeholder advisory group for each Forest Reserve with a management plan; Identify and implement other compatible multiple uses of Forest Reserves.	Forest resources become an important additional/alternative livelihood source to agriculture; and Reduced degradation of forest resources in communal areas.
Activities	Identification of forest areas outside Forest Reserves; Thematic area paper; Valuation and forest accounting; Support communities in harvesting logs; Management of invasive alien species; Develop zones for land allocation; Community fire management	Joint venture between communities and private sector to operate ecotourism in Forest Reserves; Development of controlled community utilisation programmes in Forest Reserves; Feasibility study of sustainable commercial logging.	Ecotourism in Forest Reserves; Sustainable economic use of forest resources; Conservation agriculture e.g. agro-forestry; and Processing and marketing of forest products.
Partners	SAREP, WAVES, BioChobe, DEA, Birdlife, Livestock farmers, CBNRM forum, Land Board, BOCOBONET, Educational institutions	BioChobe, SAREP, WAVES, DWNP, DFRR, Private sector, BTO and District Councils	Ministry of Agriculture, DFRR, Communities (CBOs), Private Sector
Expected impacts	Enhanced appreciation and valuation of forest resources for better informed decisions regarding management and sustainable use; Eradication of alien invasive species and the promotion and conservation of indigenous species; Reduced fire damage to forests and forest resources; Effective land use planning through land zoning.	Possible resumption of logging of damaged wood in Forest Reserves for commercial purposes; Improved community livelihoods through infrastructure development, employment creation, etc. Ecotourism would stimulate development of complementary businesses and linkages; and More in kind and cash income from veld products and increased livelihood resilience.	Growing number of community organisations involved in ecotourism ventures; Establishment of forest processing industries and marketing infrastructure; and Agricultural diversification through use of alternative farming methods.
M & E Indicators	Forest areas annually burned; Number of threatened forest resources; Spread of invasive alien species; Age structure of key tree species populations; Number of district land use maps with identified forest hotspots; and Forest resources contributions to local livelihoods.	Forest resource contributions to local livelihoods; Stakeholder advisory group established; Feasibility of logging assessed; Size of other compatible Forest Reserves uses; and Number of joint venture partnerships.	

3.2 Priority thematic areas

3.2.1 Forest resources management (FRM)

The development and implementation of scientifically sound systems of forest resources management is the core of this theme. Activities outlined under this theme[2] range from establishment of forest inventories, to development and implementation of forest management information systems, community based forest management, and to forest regeneration and rehabilitation. While the Chobe Forests Inventory and Management Plan were prepared in 1993 by the Norwegian Forestry Society for the Ministry of Agriculture, Botswana has never had a nationwide forest and range resources inventory study. Therefore no details are available about the country's forest resources, especially outside protected areas. However, a project for enhancing national forest monitoring system for the promotion of sustainable natural resources management (development of forest inventories is the core) is being undertaken by MEWT, through DFRR with technical and financial assistance from the Japan International Cooperation Agency (JICA).

The Food and Agriculture Organisation (FAO, 2010) data based on the Botswana Country Report indicate that there has been a decline in the land area occupied by forests, with an indication that 23 670 km^2 of forest land was lost between 1990 and 2010 (or 17.3%). However, this loss has occurred countrywide and the main reasons given, besides the forest fires and elephants' damage, are that there is overuse of forest resources by the local communities (especially those near urban centres), depredation due to the increase of wild animal population, and failure of natural regeneration, which is aggravated by the effects of climate change.

The objectives of this thematic area are to:

i. Promote sustainable management of forests and forest resources and curb and/or prevent forest resources degradation;
ii. Promote sustainable use of forest resources to generate local benefits and forest appreciation;
iii. Implement effective fire management to conserve forest resources; and
iv. Enhance regeneration of forest resources.

Targets:

a. Reduce the area annually burned and reduce the amount of damaged wood resources;
b. Improve the age structure of different tree species populations;
c. Reduce the number of threatened forests resources;
d. Reduce the occurrence of alien invasive species;
e. Include all forests and important forest resources outside protected areas in land use plans;
f. Increase the contribution of forest resources to local livelihoods.

Priority project for immediate implementation: *Identification of forest areas outside FRs*
Forests outside protected areas are at the risk of being endangered because of weak management. Some of these forest areas are not known and need to be urgently identified and incorporated in land use plans. The FCB should support a project aimed at identifying forest areas outside protected areas. This can be done through remote sensing in conjunction with on the ground assessments of communities and FCB staff (e.g. through the current FCB projects). This presents an opportunity for

[2] As per the Forest Conservation Agreement

communities since they are the ones who reside in the vicinity of those forests and are better placed to assist in their identity.

As part of the strategy implementation, FCB will select two areas with important forests and forest resources in communal areas for focusing activities of this thematic area and of the livelihood enhancement thematic area.

Thematic area paper
The paper should seek to provide guidance to the FCB and other partners by identifying, assessing and recommending possible project areas for funding by the FCB, or implementation through joint venture partnerships. Possible areas relate torestoration, protection and maintenance of protected areas and communal lands; sustainable utilisation of forest resources; and supporting community livelihoods.

Indicative- Potential Activities:

Valuation and forest accounting
Projects which seek to establish and promote the value of forests as natural capital should be supported. Experiences should be drawn from valuation studies for the Okavango Delta and Makgadikgadi. Opportunities exist for joint venture partnerships in the area of natural capital accounting. For instance, a partnership could be forged with WAVES in the creation of forests and ecosystems accounts, following on the successful development of water accounts.Other examples include the development of the KAZA Master Integrated Development Plan and the OKACOM Strategic Action Plan, where FCB projects could assist in their implementation.

Support communities in harvesting logs
Community projects geared at harvesting of logs should be supported. These projects may also be piloted in one region (preferably Ngami or Chobe) before being rolled out to other regions. By doing so, communities will be empowered to sustainably manage forest resources especially in areas outside protected areas where proper management of the resource is generally weak.

Management of invasive alien species
Invasive alien species such as prosopis have colonised certain parts of the country, posing danger to indigenous species by depleting available water resources. Projects to control the existence and spread of such alien invasive species should be supported.

Develop zones for land allocation
Land use zonation remains a panacea for land use conflicts arising out of poor land use planning. The FCB should support projects, especially from other government entities (Ministry of Lands, Land boards and District Councils) that seek to develop land use zones with a clear provision for forest protection. These projects could be targeted by geographic location, depending on where the severity of the conflicts is. It would include identification of community forests (as part of CBNRM) and valuable forest areas outside Protected Areas.

Community fire management
DFRR is actively engaged in fire management, but has a limited capacity. Therefore, involvement of communities in fire management would greatly expand the capacity and reach of fire management. This could be integrated into CBNRM projects.

Expected impacts:
The expected impacts from the activities above are as follows:

- ✓ Enhanced appreciation and valuationof forest resources for better informed decisions regarding management and sustainable use.
- ✓ Eradication of alien invasive species and the promotion and conservation of indigenous species.
- ✓ Reduced fire damage to forests and forest resources
- ✓ Effective land use planning through land zoning.

Partners include (but not restricted to):DEA, Land Board, SAREP, WAVES, BioChobe, Birdlife, Livestock farmers, CBNRM forum, BOCOBONET, Educational institutions (UB/ORI, BCA, BIUST, etc)

M & E indicators:

- ✓ Forest areas annually burned;
- ✓ Number of threatened forest resources;
- ✓ Spread of invasive alien species;
- ✓ Age structure of key tree species populations
- ✓ Number of district land use maps with identified forest hotspots; and
- ✓ Forest resource contributions to local livelihoods.

3.2.2 Forest resources management in Forest Reserves

This thematic area calls for the restorationand maintenance of Forest Reserves.From a conservation perspective, unmanaged fires andincreasing elephant populations are the major contributing factors to degradationof FRs.In terms of use, the Forest Reserves currently provide few direct uses, albeit with significant indirect use value. Indirect use values are likely to be significant but are insufficiently recognised in development planning and resource management.

DFRR is responsible for management of FRs; community access and benefit from these resourcesis limited. With the approval of Ecotourism and Forestry guidelines by the DFRR, it is hoped that communities will benefit more from the use of FRs and contribute to their conservation. Other uses may include thatching grass collection, beekeeping and controlled livestock grazing during droughts.

The objectives of this theme are to:

i. Restoration of forest resources in FRs;
ii. Sustainable and participatory management of biodiversity and forest resources in the FRs;
iii. Promote sustainable multiple use of FRs.

Targets:

a. Establish one joint venture between communities and companies for ecotourism development in each FR with a management plan;
b. Establish stakeholder advisory group for each FR with a management plan;
c. Identify and implement other compatible multiple uses of FRs.

<u>Indicative – possible activities:</u>

Joint venture between communities and private sector to operate ecotourism in FRs
The forest reserves could offer a wide range of ecotourism products which would enhance Botswana's appeal as an ecotourism destination. These could include cultural and heritage tourism, agro-tourism, photographic safaris, walking safaris, campsites, lodges, game drives, bird watching,

etc (Centre for Applied Research, 2009). There is need for proper monitoring within the FRs to ensure that ecotourism activities do not exceed the Limits of Acceptable Change (LAC).

Development of controlled community utilisation programmes in FRs
This could involve controlled harvesting of thatching grass, mophane worms and other forest resources. During droughts, livestock could be permitted to graze in FRs with strict herding.

Feasibility study of sustainable commercial logging
The viability of sustainable commercial logging within FRs needs to be reviewed, particularly focussing on excess damaged hardwood species. A pilot project could be initiated in one of the forest reserves and then be replicated in other forest reserves upon successful implementation. It is essential that commercial extraction should be directed towards salvageable material from dead and damaged trees and that it will be accompanied by replanting where possible. Also significant is the need to extend the hardwood species harvested beyond just Baikiaea plurujugaand Pterocarpus angolensis,especially as community involvement means that more species will be important. It is important that logging is carried out in a sustainable and certified way and that the forestry products would be certified and recognised as responsible trade (www.wwf.org). Moreover, logging would need to be combined with a processing industry that augments the development benefits of logging (Centre for Applied Research, 2009).

Expected impacts:

- ✓ Possible resumption of logging of damaged wood in Forest Reserves for commercial purposes. The activity will lead to employment creation and generate income for communities;
- ✓ Improvedcommunity livelihoods through infrastructure development, employment creation, conservation of culture and traditions and conservation of flora and fauna, etc.
- ✓ Ecotourism would stimulate development of complementary businesses and linkages, for example, selling of artefacts and souvenirs, opening up of restaurants and eating and sleeping places, convenience stores, supply of locally produced foodstuffs to the hospitality establishments. This would create more jobs and local income.
- ✓ More in kind and cash income from veld products and increased livelihood resilience.

Partners include (but not restricted to):
BTO, DFRR, DWNP, District councils, BioChobe, SAREP, WAVES and Private sector.

M & E indicators:

a. Forest resource contributions to local livelihoods;
b. Stakeholder advisory group established;
c. Feasibility of logging assessed;
d. Size of other compatible FR uses;
e. Number of joint venture partnerships.

3.2.3 CBNRM for forest appreciation & conservation

This theme is premised upon the development and support of the livelihoods for communities living in or near the forests. Thus the Community Based Natural Resources Management (CBNRM) becomes an approach to conservation and development that recognises the rights of local people to manage and benefit from the management and use of natural resources around them. Forests have a direct use value in terms of jobs and income generation to society as well as the provision of goods and services, namely: wood and non-wood products; food and medicinal plants; and opportunities

for recreation, education, cultural and spiritual activities. Direct uses of the Forest Reserves are minimal since the 1992 suspension of timber logging and only limited use by surrounding communities is permitted for activities such as firewood collection and fruits gathering. Plans exist to encourage ecotourism in the FRs. Ecotourism and forest guidelines are currently being developed. At present, ecotourism is not yet promoted in the FRs. Local communities currently benefit little from FRs, but this could change when ecotourism (and possibly other uses such as thatching grass collection) are promoted. The resources are therefore not open to any exploitation without prior permission from the Department of Forestry and Range Resources.

Forests in National Parks and Game Reserves are exclusively used for ecotourism. The revenues mostly accrue to government, tour operators and some surrounding communities. Access and utilisation of forests within communal areas is freely open to all community members and these can be harvested for use or trade within and between settlements (CSO, 2004). However, some parts of the communal areas are privatised to people who eventually have a de facto control of those woodlands within the surrounding areas.

The indirect uses refer to ecosystem functions such as carbon sequestration, ground water recharge, wildlife refuge, etc. The indirect uses of forests are often forgotten, until these functions are threatened and result in reduced direct uses or have to be taken over by human activities. Valuation studies of the Okavango Delta and Makgadikgadi wetlands have shown that the indirect use values are significant.

The objectives of this thematic area include:

i. Increasing the benefits of forest resources for local communities;
ii. Improving the appreciation of forest resources and the need for their conservation; and
iii. Ensuring sustainable use of community managed forest resources.

Targets:

a. Forest resources become an important additional/ alternative livelihood sources to agriculture;
b. Reduced degradation of forest resources in communal areas.

Activities:

Ecotourism in Forest Reserves
Covered under protected areas.

Sustainable economic use of forest resources
Community projects aimed at promoting sustainable use of forest resources and veld products should be encouraged. For instance, projects aimed at regeneration and utilisation of protected species such as Mokolwane, sengaparile, morula, mophane, etc should be supported. It would also cover storage and marketing of such products (see below). This will ensure that communities are able to conserve important tree species and at same time, derive socio-economic benefits through sustainable use.

Conservation agriculture
In the past, poor methods of tillage have contributed to soil erosion, water loss from the soil and decreased soil fertility. Agricultural projects which promote soil conservation (no tillage) should be encouraged and funded. Non-tillage farmingcouldhelp sustain the soils organic levels for a longer period and also reduce time and labour costs.

Establishment of community forests in CBNRM areas
Areas with valuable forests outside protected areas should be given priority.

Processing and marketing of forest products
Communities should be supported to venture into projects aimed at the processing and marketing of forest products. Existing projects such as Kgetsi ya Tsie could be offered further assistance to sustain and expand their operations. Through CBNRM, communities could also enter into joint venture partnerships with private businesses to establish processing plants/industries.

Expected impacts:
- ✓ Growing number of community organisations involved in ecotourism ventures
- ✓ Establishment of forest processing industries and marketing infrastructure
- ✓ Agricultural diversification through use of alternative farming methods

Partners include (but not restricted to):
Ministry of Agriculture, DFRR, Communities (CBOs) and Private Sector.

M & E indicators:
a. Contribution of forest resources to livelihoods;
b. Extent of forest resource degradation.

3.3 Support thematic areas

The support thematic areas are meant to offer support to the implementation of the main thematic areas. These support areas are: training, capacity building and skills development; restoration and sustainable use of animal and plant species; research on medicinal plants; climate change and resource appreciation/ valuation. They are discussed briefly as follows:

3.3.1 Training, capacity building and skills development

This thematic area revolves around training programmes to increase scientific, technical and managerial capacities of individuals and organisations involved in natural resources management.The transfer of skills and knowledge to communities on how to manage and utilise their assets is limited (Gujadhur, 2001). Therefore, there is need for transfer of skills to communities; need to secure investment and tenure over land and resources; and to build trust among the various stakeholders (Cassidy and Jansen, 2000). The role and participation of women,as major beneficiaries of forest resources, needs to be enhanced by “accommodating women’s needs and responsibilities when arranging training and workshops” (Cassidy, 2001). There is limited private sector involvement and capacity within the forest sector. Building Joint Venture Partnerships (JVPs) between communities and the private sector will facilitate skills transfer to communities and build resilience on community projects such as ecotourism projects in FRs.

3.3.2 Restoration and sustainable use of animal and plant species

This area contributes to sustainable natural resources management, including protected areas. It could refer to restoring parts of western Botswana with sand dunes in the Kgalagadi sandveld around Straizendum advancing (Patrick and Moroke, *undated*).Restoration/regeneration of endangered plant/protected species should be pursued both within protected and communal areas.

Community projects[3]established to combat desertification can be financially and technically supported.

3.3.3 Research on medicinal and edible plants

This theme is applicable to all the three major areas. Research on medicinal plants is broadened to also include edible fruit plants. Research and generation of knowledge about the country's available medicinal and edible fruit plants will contribute towards improving the health of communities. Medicinal plants constitute one of the important overlooked areas of international development, albeit representing a form of biodiversity with the potential to do much good and not just in the healthcare (Motlhanka and Makhabu, 2010). Hoodia gordonii (appetite suppressant), Harpagophytum procumbens(anti-inflammatory) and Artemisia afra(anti-malaria and antioxidant), Sclerocarya birrea (nutritional and medicinal) are some of the plants whose domestication offers a lucrative avenue for income generation as the global demand for plants as sources of drugs and novel foods increases. Ethno-botanical Survey of Medicinal Plants in the Tswapong North, in Eastern Botswana revealed that the plants identified as herbal remedies in the management of various ailments, present considerable potential for further scientific research which may lead to the discovery of newer and perhaps safer drugs (Motlhanka and Nthoiwa, 2012). However, this study has revealed that knowledge on uses of medicinal plants is shrinking because of restrictions from religions, migration to urban areas, and lack of interest by younger generations on uses of medicinalplants.

3.3.4 Climate change

More research is needed to assess climate change impacts and adaptation strategies within the forestry sector. Projects seeking to address the impacts of climate, for instance droughts and floods, contribute towards the improvement of community livelihoods.

3.3.5 Resource appreciation/ valuation

Appreciating the value of forest resources would lead to better management decisions. This activity will provide up-to-date data and information on the forest stocks and how those could be used and managed for the benefit present and future generations. Projects could include the preparation of forest accounts and forest valuations in the selected FR and communal areas).

3.4 The FCS in summary

FCS Vision: The existing FCB vision is 'to be a reputable partner in Community Based Forest Conservation in Botswana'.

FCS Mission: To promote the implementation of activities that maintain, restore, protect and ensure sustainable utilisation of Botswana's forests.

Main issue: Decline in forest resources

Identified threats:

[3]Currently, they are mainly woodlots, agroforestry and sand dune stabilisation projects

- ✓ Physical threats: fires, elephants, human encroachment/ over utilisation, climate change
- ✓ Management and perception inadequacies:
    - o Management inadequacies
    - o Undervaluation of forest resources;
    - o Inadequate research & data

Objectives:

- ✓ Contribute positively to improved forest resources conservation and sustainable utilisation;
- ✓ Increase the appreciation of the value of forests and forest resources by increasing the benefits of communities living in and near forests and by increased community participation in forest management;
- ✓ Raise the profile and value of the forestry sector in Botswana.

Three primary thematic areas centred around forest conservation:

- Forest resources management
- Forest management in Forest Reserves; and
- CBNRM for forest appreciation & conservation.

Five support thematic areas:

- Existing FCB themes: capacity building, research
- Additional themes: climate change and forest valuation/ appreciation.

Spatial scope:

- Application of forest management in FR in 1 or 2 FR with early management plans (DFRR requirement)
- Livelihood improvements: focus on 2 communal areas with valuable forests (identified through a forest inventory outside protected areas)

Duration: 2013 – 2020.

Activities:

- ✓ Grants
- ✓ Technical assistance: thematic notes and project support
- ✓ Pro-active project identification by FCB
- ✓ Establishment of Forest network in Botswana.

4 Strategy implementation

The successful implementation of the Strategy is dependent upon clear criteria for evaluating projects, roles of partners, and availability of financial resources. These factors are discussed below.

4.1 Criteria for evaluation of grant applications

The following criteria are proposed for the evaluation of the grant applications:

a. The projects should address the thematic area of natural resources management in the context of protected areas and/ livelihoods enhancement in the two selected communal areas. Activities related to support thematic areas need to be assessed on their merits for these priority areas;
b. The project need to clearly demonstrate its expected impacts in terms of the targets, especially with respect to forest conservation/ sustainable management and livelihood enhancement;
c. To ensure sustainability of projects financed through the FCB fund, there is a need to support community projects which have been planned and are implemented jointly with the private sector. The private sector partners will likely support implementation of the project even after the FCB funds are exhausted.
d. One project per grant round should be awarded to the most innovative and creative project proposal, linked to one of the six themes.

FCB should have a provision for projects that it initiates itself together with a partner (e.g. CBO) and which are implemented by the partner. For example, a CBO that utilises and conserves tree resources could be approached to jointly develop a project to support its activities. In this way, *FCB becomes less re-active (dependent on submitted proposals) and more pro-active.* This also requires a special sub-fund to make sure that sufficient funds are left for grants. When there is under-spending on the grant vote, more projects could be initiated by FCB.

4.2 Possible partners for co-implementation

The Strategy recognises the role of various partners for its effective implementation. These partners were identified during the expert workshop, and are generally categorised into: Government (both central and local), Communities, Non-governmental organisations, private sector, and funding institutions. These are outlined in Table 7. FCB needs to annually review new possible partners.

Table 7: List of possible partners

Partner	Organisations
Government (including agencies)	Department of Forestry and Range Resources Department of Wildlife and National Parks Department of Environmental Affairs Botswana Tourism Organisation Land Boards (Tawana) District Councils National Environmental Committee Botswana Innovation Hub
Non-governmental organisations	CBNRM forum NCONGO Birdlife Botswana BOCOBONET

Private Sector	Joint Venture Partners Livestock farmers associations Game ranchers Academic and research institutions (UB/ORI, BCA, etc) Media
Funding institutions	Southern Africa Regional Environmental Programme BioChobe Wealth Accounting & Valuation of Ecosystem Services
Communities	

4.2.1 Institutional arrangements

The assessment of institutional arrangements is made in line with the provisions of the National Forest Policy. According to the policy, closer collaboration and networking is required between government agencies, non-governmental organisations, community-based organisations and the private sector. Therefore, the following institutions are identified as having a key role in forest resources management:

a. Department of Forestry and Range Resources. The Department is responsible for overall management of forest resources in Botswana. The Department leads in the development of plans, strategies, techniques, policies and programmes regarding the management and conservation of forests. The DFRR supports tree planting and conservation activities through seedling production, distribution and planting in suitable sites;
b. Forest Conservation Botswana. Forest Conservation Botswana (FCB) is a non-profit making entity established in 2008 to manage the Tropical Forest Conservation Fund on behalf of the Board. FCB promotes sustainable use and conservation of forests by offering grants to relevant activities designed to conserve, maintain and restore the forests of Botswana. It also oversees activities financed from the fund. The entity is headed by a Chief Executive Officer, with the Finance and Projects Managers and Monitoring and Evaluation Officer;
c. Community Based Organisations. The Forest Policy recognises the role of Community Based Organisations, and it advocates for their support as it views them as important partners in community based natural resources management. Collaboration with CBOs underscores government policy of co-management for natural resources management as encapsulated in the CBNRM Policy;
d. Non-government organisations such as Forestry Association of Botswana (currently dormant), Thusano Lefatsheng and Veld Products (e.g. wishing to strengthen storage and marketing facilities and channels) mostly deal with the promotion of sustainable use of veld products such as the grapple plant, *morula* products and various teas (e.g. *mosukudu*). Most NGOs are financially struggling and have had to curb their programmes. NGOs also offer support to CBO activities;and
e. Private Sector. The Private Sector is regarded as an engine for economic growth, and thus it has a role to play in the conservation and sustainable management of forest resources. “Privately owned land constitute 5% of the total land area, and all private land owners are encouraged to manage vegetation resources with private estates in accordance with the principles of ecologically sustainable development as part of the national forest estate” (Forest Policy 2011, page 11). For the purpose of the strategy implementation, the private sector is seen as a potential and complimentary source of funding for conservation projects through partnerships with communities.

f. International community such as development agencies and non-governmental organisations both regionally and internationally. They forge strategic alliances and

collaborations for exchange of technology, information and expertise between institutions, and the need to provide financial and technical assistance in the forestry sector.

4.3 Funding of implementation

Funding for implementation of the Strategy will be borne largely by FCB through issuance of grants to deserving projects and technical support and assistance. Other funding opportunities lie with international funding programmes and partners such as SAREP, WAVES, GEF, etc. These sources may be used to complement funding from the FCB and may also assist to promote joint venture partnerships between communities and the private sector. Implementation of the National Environmental Fund will in future, present another avenue through which funding may be sourced.

4.4 Marketing and outreach

Marketing and outreach strategies should seek to achieve the overall objectives of the Strategy on improved forest resources conservation, livelihood improvements, and raising the profile and value of the forestry sector in Botswana.People should know that the TFCF and FCB exist and that they should be able to access the fund. The marketing and outreach strategies outlined in the FCB Corporate Strategy should form the basis for marketing of this Strategy. However, the strategies are not properly crafted and needs to be better packaged.

Marketing and outreach should aim to develop name recognition and promote a widespread knowledge and understanding of the FCB mission and accomplishments. This will help to enhance the visibility of the Fund, Board and FCB. A high impact strategy will be to encourage fund beneficiaries to integrate the FCB image in a range of their activities and products such as conferences, promotional items, audio-visual productions, public events, etc. Other generic strategies may include: the use of both print and electronic media by FCB to market itself, use of company website, use of social media, public awareness campaigns in selected areas, blogging, etc. The establishment of the Forestry Network and partnerships with NGOs and other institutions as outlined in the Strategy will also assist to raise the profile of the FCB. A lot of creativity and innovativeness is required to market the Strategy.

4.5 Monitoring and Evaluation

Monitoring of the Strategy would be undertaken at three levels: priority thematic areas, individual projects and technical support/ assistance. Monitoring will determine if activities are implemented as planned, and if the expected/intended impacts are achieved. This will determine the level of attainment of each individual thematic area.

Evaluation shall be based on the results of monitoring, which in turn are guided by Specific-Measurable-Achievable-Relevant-Time bound (SMART) targets and indicators. Satisfactory attainment of these targets is dependent upon effective participation by all the relevant partners. The specific activities, targets, indicators and relevant partners for each main thematic area were covered in detail in Chapter 3.

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