



**United Nations Development Programme
Country: Botswana
PROJECT DOCUMENT¹**

Project Title:	Mainstreaming SLM in Rangeland Areas of Ngamiland District Landscapes for Improved Livelihoods
UNDAF Outcomes:	By 2016 the rural poor, especially women, are deriving greater benefits from environment and natural ecosystems
UNDP Strategic Plan Environment and Sustainable Development <u>Primary Outcome:</u>	Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded
UNDP Strategic Plan <u>Secondary Outcome:</u>	
Expected Country Programme Outcome(s):	Strengthened national capacity and improved policy and institutional framework for environmental management and sustainable development; and Enhanced capacity of communities for natural resources and ecosystem, management and benefit distribution
Expected CPAP Output(s):	Evidence-based responsive policies, legislation, programmes and projects formulated by government to accelerate progress towards Vision 2016 goals
Executing Entity:	Department of Forestry and Range Resources under the Ministry of Environment, Wildlife and Tourism, supported by the Department of Animal Production under the Ministry of Agriculture
Brief Description:	Prevalent land and livestock management processes in Ngamiland are likely to compromise the continued flow of ecosystem goods and services from the savannah ecosystem that are necessary to sustain the national economy, livelihoods and the rich fauna and flora diversity. The long-term solution proposed by the project is to mainstream SLM principles into the livestock production sector, specifically in areas adjacent to the Okavango Delta where rangeland degradation is most intense. Critically, local communities need to participate meaningfully in rangeland governance. However, inadequate knowledge and skills for adoption of SLM in livestock management and livelihood support systems, and policy and market distortions that provide disincentives for adopting SLM and sustainable range management principles in the livestock production sector are significant barriers. Outcome 1 of the project -- Effective range management improves range condition and flow of ecosystem services to support livelihoods of local communities in Ngamiland -- will put in place systems and capacities for applying improved range management principles over one million hectares of rangelands. Activities will be piloted in different areas within Ngamiland. Replication of the successful pilots could have an impact on an additional 4.5 million hectares. Outcome 2 of the project -- Effective resource governance frameworks and markets provide incentives for livestock off-take and compliance with SLM -- will facilitate the conditions necessary for development and successful implementation of the local integrated land use plans and replication of the pilot activities developed under Outcome 1. These conditions relate to improved capacity for local resource governance catalyzed through GEF resources, removing barriers to small-scale, non-beef, livestock product-based enterprises catalyzed through GEF resources, and improved access to markets for Ngamiland meat catalyzed through cofinancing.

¹For UNDP supported GEF funded projects as this includes GEF-specific requirements

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Total resources required	31,730,800.00
Total resources allocated to UNDP in this PRODOC	4,081,800.00
- Regular (UNDP TRAC)	1,000,000.00
- GEF	3,081,800.00
Government	
Department of Environmental Affairs	1,300,000.00
North West District Council	3,500,000.00
Department of Forestry and Range Resources (DFRR)	2,675,000.00
Department of Animal Production	3,000,000.00
NGOs	
Southern Africa Regional Environmental Programme (SAREP)	50,000.00
Tlhare Segolo Foundation	250,000.00
Kalahari Conservation Society	630,000.00
Other	
University of Botswana (Okavango Research Institute)	2,061,000.00
Botswana Meat Commission	14,183,000.00



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List of acronyms

APR	Annual Performance Report
BCA	Botswana College of Agriculture
BMC	Botswana Meat Commission
BNSPR	Botswana National Strategy for Poverty Reduction
CA	Conservation Agriculture
CBNRM	Community Based Natural Resource Management
CBPP	Contagious Bovine Pleuro-Pneumonia
CDR	Combined Delivery Report
CEDA	Citizen Empowerment Development Agency
CHA	Controlled Hunting Areas
CO	Country Office (of UNDP)
CPAP	Country programme Action Plan
DAP	Department of Animal Production (of the Ministry of Agriculture)
DAR	Department of Agricultural Research
DCP	Department of Crop Production
DEA	Department of Environmental Affairs (of the Ministry of Wildlife, Environment and Tourism)
DFRR	Department of Forestry and Range Resources (of the Ministry of Wildlife, Environment and Tourism)
DLUPU	District Land Use Planning Unit
DOD	District Officer - Development
DVS	Department of Veterinary Services
DWNP	Department of Wildlife and National Parks (of the Ministry of Wildlife, Environment and Tourism)
EIA	Environmental Impact Assessment
EU	European Union
FACE	Fund Authorization and Certificate of Expenditures
FMD	Foot and Mouth Disease
GEF	Global Environment Facility
HACT	Harmonized Approach to Cash Transfers
HQ	Headquarters
HR	Human Resources
ID	Identification
LD	Land Degradation (focal area of the GEF)
LD-PMAT	Land Degradation (focal area) – Portfolio Monitoring and Assessment Tool (of the GEF)
LEA	Local Enterprise Authority
MEWT	Ministry of Environment, Wildlife and Tourism
MOMS	Management Oriented Monitoring Systems
NAP	National Action Plan (for Combating Land Degradation)
NCONGO	Ngamiland Council of Non-Governmental Organizations
NDB	National Development Bank
NDVI	Normalized Difference Vegetation Index
NEX	National Execution (modality of UNDP)
NG	Ngamiland
NGO	Non-Government Organization
NPAD	National Policy on Agricultural Development
NPC	National Project Coordinator
NR	Natural Resource
NRM	Natural Resource Management
NWDC	North West District Council
OAG	Office of the Auditor General
ODMP	Okavango Delta Management Plan
ORI	Okavango Research Institute (of the University of Botswana)
PAC	Project Appraisal Committee (Meeting of UNDP)
PEB	Project Executive Board
PEBM	Project Executive Board Meetings
PIF	Project Identification Form (of the GEF)
PIMS	Project Information Management System (of UNDP)
PIR	Project Implementation Reviews
PMIS	Project Management Information System (of GEF)
PMU	Project Management Unit
PPG	Project Preparation Grant
PSC	Project Steering Committee
REDD	Reducing Emissions from Deforestation and Forest Degradation
SADC	Southern Africa Development Community
SAREP	Southern Africa Regional Environment Programme (of USAID)
SLM	Sustainable Land Management
SWOT	Strengths, Weaknesses, Opportunities, Threats

TAC	Technical Advisory Committee
TGLP	Tribal Grazing Land Policy
UNCCD	United Nations Convention to Combat Desertification
PRAIS	Performance Review and Assessment of Implementation (portal of the UNCCD)
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme – Country Office
UNDP-GEF	United Nations Development Programme – Global Environment Facility Unit
US	United States
USAID	United States Agency for International Development
WMA	Wildlife Management Areas

1. SITUATION ANALYSIS

Environmental context

1. Lying in the semi-arid interior of Southern Africa, Botswana's climate is typified by a mean annual rainfall varying from less than 200 millimeters per annum in the Southwest to 650 millimeters per annum in the Northeast with an inter-annual variability of about 40%. Approximately 80% of the country is covered with Kalahari sand soils and savannah ecosystems that support both commercial and communal livestock systems, as well as National Park and Wildlife Management Areas. The vegetation of the region is influenced by the highly variable rainfall occurring mostly in the summer months (October through March), with a drought recurring roughly every 7 years. Most rainfall is in the form of thunderstorms, depositing between 15 to 90 millimeters of rain within a few hours. Together with the widely varying temperatures, these seasonal storms have a marked regeneration effect on the vegetation, and highly influence the species composition. During the winter months (May through August) there is little or no rain and no surface water to sustain vegetation. The mean maximum winter temperature is between 27° and 30°C and the mean minimum temperature is between 9° and 12°C. In June and July, temperatures can drop below freezing, but in the summer months temperatures may exceed 40°C.

2. The Ngamiland District lies in the northwest of the country and covers an area of about 109,000 km² (10,900,000 hectares) of richly endowed rangelands and wetlands. The district is home to the famous Okavango Delta, a wetland of international importance listed under the Ramsar Convention. Plant species composition in the delta comprises about 1,300 taxa. Use of the Rosenzweig (1995) formulae show that the Okavango Delta has a density of 210 species per km², similar to the dryer and colder biomes in Southern Africa, and more than twice as high as those of the better watered and warmer grasslands and savannas in the eastern and northern parts of the sub-continent (Ramberg et al., 2006). The high species diversity is an artifact of the flood pulse system that drives the ecological dynamics of the Delta.

3. Although the flora of the district outside the Okavango Delta is not well researched or documented, it is largely in line with the semi-arid Kalahari *Acacia-Baikiaea*¹ woodlands that is the dominant savannah vegetation across the larger Kalahari basin. In its healthiest state, this vegetation is characterized by a balanced mixture of two life forms – trees and grasses – that make the savannah the most important ecosystem for livestock production in Africa. In the Ngamiland district, rangelands in good condition are dominated by open grasslands with scattered trees and bushes. The canopy is open allowing sufficient light to reach the ground and support an unbroken herbaceous layer consisting primarily of C4 grasses. The tree species are dominated by *Baikiaea plurijuga*, with varying proportions of *Colophospermum mopane* and *Burkea africana*. The grass layer is dominated by species such as *Aristida meridionalis*, *A. congesta*, *Eragrostis pallens*, and *E. lehmanniana*². In addition to providing an excellent home to livestock, the whole district (including the delta) has a very rich and diverse fauna, including a variety of ungulates such as elephants, buffalos, and rhinos.

Socioeconomic context

4. Despite significant economic growth based largely on diamonds, 47% of Botswana's population still lives under the United Nation's two US dollars per day poverty line. Pastoral agriculture represents the chief source of livelihood for more than 40% of the nation's 1.8 million residents. Indeed, livestock represents an important source of status and well-being for the vast majority of Botswana, making the savannah rangelands a critical resource. However, degradation of the savannah ecosystem has emerged as a serious threat to the country's biodiversity and livestock-based economy. Reduced resilience of the rangeland ecosystem is increasing the vulnerability of pastoral communities to environmental change. This is particularly evident in the Ngamiland District.

5. The district accounts for about 8% of the national population. According to the population census of 2011, there are a total of 84 settlements (both gazetted and non-gazetted) with a total population of

¹ Hannelore Bendtsen and Thoralf Meyer, 2002: The Dynamics of the Land Use Systems in Ngamiland, Botswana: Changing Livelihood Options and Strategies (University of Botswana).

² The Botswana National Atlas, 2000: The Government of Botswana

approximately 124,094. Population density is low, approximately 0.8, compared to the national average of 3 persons per square kilometer. The population is ethnically diverse. Tribes in the district include Batawana, Bayei, Bakalanga, Bananjwa, Basubeya, Bahambukushu, Barotsi, Basarwa and Baherero. These tribes are scattered across the district with each tribe found predominately in specific settlements.

6. Land tenure and land use in the district is analogous to the rest of the country with the dominant land tenure being communal and state land. Pastoral/arable and residential land uses take up approximately 55 percent of the surface area of the district, followed by wildlife management areas at 30.1 percent. Wetland systems, mainly the Okavango Delta and Lake Ngamiland, comprise 15 percent of the district surface area. (See table below). A rapid land use analysis indicates that between 1974 and 1995 there has been a decline of pastoral/arable/residential land uses from 92.3 percent to 55 percent while wildlife management areas have increased from zero percent to 30.1 percent.

Table 1. Land use categorization within Ngamiland

Land tenure	Land use	Area in km ²	% of land area
Communal/ Tribal Land	Pastoral/arable/residential	60,072	55
	Tribal Grazing Land Policy (TGLP) Ranch	6,460	5.9
State Land	National Parks	2,155	2
	Game Reserves	5,560	5.1
	Wildlife Management Areas	32,867	30.1
	Quarantine Botswana Livestock Development Corporation	2,016	1.8

Source: Central Statistics Office (2000)

7. The economy of Ngamiland hinges on the district's vast and highly productive rangelands that are dominated by open grasslands, scattered trees, and bushes. The main economic sectors are tourism, agriculture (crop and livestock), mining, manufacturing, and wholesale and retail.

8. **Tourism:** The district is one of the top tourist destinations in the country. The Okavango Delta, Tsodilo Hills and Moremi Game Reserves are the main attractions. Tourism activities include game drives into Wildlife Management Areas, Protected Areas, boat cruises, camping, photography, trophy hunting, filming, and research.

9. **Livestock:** The district's rangelands support a large number of livestock mainly cattle, shoats, donkeys and horses. Livestock rearing takes place under communal and commercial systems. Communal livestock rearing is practiced on communal/tribal lands and is synonymous to subsistence agriculture. The majority of the livestock in the district is found in communal areas. Commercial livestock rearing is practiced on ranches on the Haina veld that were demarcated under the Tribal Grazing Land Policy (TGLP) to encourage commercialization of the livestock sector and also reduce overgrazing on communal rangeland. However, the livestock sector in Ngamiland has been adversely affected by persistent outbreaks of diseases associated with wildlife. Livestock diseases endemic in the district are Foot and Mouth Disease (FMD) and Contagious Bovine Pleuro-pneumonia (CBPP). Due to the presence of FMD, livestock products from the district cannot be exported to the European Union. In 1996, the outbreak of CBPP in the district resulted in the culling of cattle. While a restocking exercise was undertaken in 2000, with approximately 75 percent of the original cattle population prior to culling, the livestock sector in the district has been seriously curtailed by persistent disease outbreaks and the number of households in the district whose livelihood depended on livestock has significantly been eroded.

10. **Crop production:** Most households practice subsistence crop production that is rain-fed and by flood recession along the Thamalakane, Okavango panhandle and Okavango delta wetland systems. Compared to other districts such as Chobe, Ngamiland district has no commercial crop production. Analyses indicate that crop production became an important household income generator in 1996 when all the cattle in the district were culled as a result of the outbreak of CBPP.

11. **Mining:** Geological exploration undertaken in the district over a long period of time has led to the discovery of a copper-nickel belt extending from the Zambia copper belt and running across the district into Namibia (Inside Mining, 2009). There are two mines in the district, one at Toteng which are operated by Discovery Metal Limited (an Australian listed company) and another proposed mine located at Shakawe. Mining operations in the district have created employment opportunities for residents of the district. Operation of the mining sector in the district has had multiplier effects. For instance, the mining sector has created a demand for residential accommodation facilities, which in turn has resulted in a construction boom in the area. In addition, other mining support sectors such as heavy equipment supply have set up in the area to supply the mining sector.

12. **Manufacturing:** Similar to the national economy, the Ngamiland economy has a weak manufacturing sector relative to other sectors such as tourism. However, the existence of the tourism sector in the district has created stimulus for the manufacturing sector. For instance, aluminum boats are assembled in Maun as the demand for boats by the tourism sector increased. The sector services and sells boats in the Ngamiland and the Chobe districts. In addition, some of the boats are exported regionally and internationally. Water purification plants and packaging industries have been set up to supply the tourism industry and local demand within the district.

13. **Wholesale and retail:** There are numerous wholesale and retail entities in the district to service the tourism sector – mainly lodges, mobile safaris and hotels. This sector also services the local domestic market besides the tourism sector.

Threats to the integrity of the Ngamiland savannah ecosystem

14. Despite the importance of both livestock and wildlife-based tourism to the economy, both of which rely on a healthy savannah, the integrity of the savannah ecosystem in the district has been declining steadily over several decades. This is having an impact on the ability of the savannah to continue supplying agro-ecosystem goods and services for sustaining the livelihoods of the Ngamiland people and the economy of Botswana. As stated in the National Action Program (2006), range degradation is mostly due to depletion of palatable grass species and in some cases severe soil erosion due to poor vegetative cover.

15. The productivity of the savannah ecosystem is at its best when supporting a healthy balance of grasslands and woody species. This mix evolved over millennia, influenced by ecological interactions between a set of biotic and abiotic conditions involving a mix of browsing and grazing herbivores, small and large herbivores (and other microbes), soil conditions, timing of fires and rainfall, and their positive and negative feedback pathways.

16. The natural interaction of these factors has been largely disrupted by livestock farmers, who have changed land management practices without taking into consideration the effects of the changes on the basic characteristics of the ecosystem. As a result, rangeland conditions have been deteriorating and there is widespread bush encroachment, wherein grassland with a relatively low cover of woody species is rapidly colonized by tree or shrub cover. In Ngamiland (and much of Botswana), the face of these changes is the overstocking and overgrazing of livestock.

17. **Overgrazing:** In the 1970s, the government of Botswana, recognized the seriousness of the threat of overgrazing to the national economy, and introduced the Tribal Grazing Land Policy. The objective was (i) to increase grazing control, improve range management, and increase productivity by granting exclusive usufruct rights in some areas which were expected to be fenced and managed actively; and (ii) to safeguard the interests of those who owned few or no cattle. To achieve the two objectives, tribal grazing areas were zoned into three categories of land conferring three different interests in land: (i) Commercial Grazing Areas allocated under common law lease to commercial ranchers with large herds of cattle (400 or more); (ii) Communal areas where the land rights would remain as before; and (iii) reserved areas meant for those who were unable to get allocation in the commercial areas, including the future generation. This policy sought to reduce grazing pressure on communal lands, by moving most of the livestock to commercial grazing areas, under which livestock management was supposed to be in line with principles of range management, including observation of stocking rates in line with carrying capacities, and active manipulation of the vegetation for optimum productivity. This was expected to reduce herds and grazing pressure in communal areas, which were meant for farmers with small herds.

18. As reported by Fringpong³ and many others, the effectiveness of the policy has been derailed by wide scale non-compliance. Many ranchers are simply having the best of both worlds. They own ranches but have not given up the rights to the communal areas. They, therefore, rotate between the communal areas and their own ranches instead of confining their cattle to the ranches, as required by the policy. The communal areas did not experience the expected reduction in grazing pressure, and hence the farmers with small herds have not been protected from the large scale farmers. Indeed, overgrazing has continued unabated in the communal lands and the commercial ranches.

³ Kwame Frimpong (undated) in Pula: Botswana Journal of African Studies Vol. 9 No.1; Mathuba B. M: Botswana Land Policy: MINISTRY OF LANDS AND HOUSING; Paper presented at an International Workshop on Land Policies in Southern Africa Berlin, Germany – May 26 – 27, 2003.

19. Grazing pressures on communal lands are also exacerbated by areas being declared as “cattle free zones” in order to control livestock-wildlife diseases, in particular FMD. For example, a recent outbreak of livestock disease in 2007 led to 37% of the district being declared a cattle free zone. In these areas, farmers are not allowed to rear livestock nor are facilities such as boreholes and kraals for those livestock provided, and if farmers’ cattle graze there, it is at the farmer’s risk. This effectively reduces the pasturelands available for communal grazing even further.

20. Some rangelands have become unsuitable for livestock rearing due to the occurrence of poisonous plants, such as *Dichapetalum cymosum*, *Pavetta harborii* and *Urginea sanguinea*. This issue, that reduces suitable rangelands even further, has affected about 80% of the land in the district. Livestock tend to eat these plants in the early summer because they produce green leafy material ahead of most palatable plants, and when livestock are forage deprived. The poisonous agent in the plant affects the heart and nervous system and is released once the affected animal drinks water.

21. An evaluation conducted for the Ministry of Agriculture in 1991 found that almost all ranches exceeded the recommended stocking rate of 400 livestock units. A 1991 amendment to range policy on fencing has not been successful in enforcing compliance with stocking rates in the ranches (National Policy on Agricultural Development, NPAD, Fencing Component, 1991). Indeed many of the farmers who fenced their land did so, not to reduce overstocking, but to keep cattle from other ranches out.

22. The issue of overstocking has been compounded by lack of market outlets for Ngamiland cattle due to the current beef marketing policy. Marketing of Botswana beef is largely focused on export of fresh beef to the EU, and is controlled by the Botswana Meat Commission (BMC). In accordance with the BMC Act (1976), all meat exported to the EU has to be processed through EU export-approved abattoirs, and originate from zones free of FMD. Unfortunately, Ngamiland is prone to frequent outbreaks of FMD and CBPP. Resident populations of the pathogens causing these diseases are maintained by the high wildlife numbers (particularly buffaloes) in the district, making eradication impossible. The Maun abattoir was established in 1989, but was closed indefinitely in 1996 after the outbreak of CBPP in Ngamiland, along with the destruction of 320,000 cattle as a disease eradication measure.

23. Although grazing lands showed signs of recovery after the livestock slaughter, particularly in the previously heavily degraded villages (Burgess/FAO, undated)⁴, livestock numbers have subsequently recovered, and indeed exceeded the pre-1996 levels, following the adoption of the livestock recovery program⁵. The closure of BMC-led markets to Ngamiland livestock farmers means that there has been no effective livestock off-take from Ngamiland in the last 15 years. The livestock population in the district is estimated to be between 400,000 and 500,000, while the carrying capacity is around 250,000 (Falepu/BMC, 2011)⁶.

24. The combined effect of large and growing herds, shrinking pasturelands, and disregard for sustainable principles of range management in the livestock sector have led to serious rangeland degradation, bush encroachment and loss of perennial grass cover. Using data collected in 2003, Foster (2006)⁷ reported that experts rated Ngamiland to be highly degraded around the Okavango Delta with the rest of Ngamiland rated as having medium degradation. This is significant because most livestock is kept in areas adjacent to the Okavango delta. Furthermore, livestock numbers have increased significantly since 2003. Although some experts thought degradation in Ngamiland was naturally induced (such as changing flood patterns and the oxidizing of peats), the majority felt that degradation was human-induced and was caused by overgrazing, fires and unsustainable grass harvesting practices⁸ (grass is used for thatching dwellings).

⁴ <http://www.fao.org/ag/AGP/AGPC/doc/Counprof/Botswana/botswana2.htm>

⁵ As reported in unpublished reports of the Department of Forests and Rangelands. Hannelore Bendsen and Thoralf Meyer (2002): The Dynamics of the Land Use Systems in Ngamiland, Botswana: Changing Livelihood Options and Strategies. University of Botswana

⁶ Interview granted by the Head of the BMC:

<http://www.mmegi.bw/index.php?sid=4&aid=1059&dir=2011/October/Friday28>

⁷ Foster R (2006) Methods for assessing land degradation in Botswana Earth & Environment 1: 238-276 - Earth & Environment 1: 238-276

⁸ Foster R (2006) Methods for assessing land degradation in Botswana Earth & Environment 1: 238-276 - Earth & Environment 1: 238-276

25. **Fires:** The high incidence of fire was explicitly recognized as the principal cause of structural and compositional change of vegetation in the adjacent Chobe-Lenyanti systems. It seems likely that a similar process of savannization is occurring in north western Ngamiland, primarily through extensive and severe bush fires. The spatial extent of fires in Ngamiland is estimated as follows: 8% in 2007, 23% in 2008, 8% in 2009, and 22% in 2010 (OAG, 2011). This is clearly a significant impact for over two and half million hectares of rangeland to burn at any one time. With the associated loss of timber, veld products, and biodiversity this represents, there is likely to be substantial, even if undocumented, degradation levels. Trolopp et al (2006) make a number of recommendations for fire management in Ngamiland, such as ‘reduce fire frequency to a rate of one in 3-5 years and promote cool burns’. Effective implementation of these recommendations through community based natural resource monitoring and management approaches should form a major part of sustainable land management in the affected areas of western Ngamiland.

26. **Arable farming and unsustainable harvest of veld products:** Additional pressure on the ecosystem comes from arable farming and unsustainable harvesting of veld (grasslands) products by the growing population. The population of Ngamiland District has grown significantly over the last three decades, rising from 68 063 to 94 534 between 1981 and 1991; and, 94 534 to 124 712 between 1991 and 2001. This is an increase of 39% and 32% respectively. Although the livestock sector is by far the most important contributor to rural subsistence and cash income, agro-pastoralism, wildlife management and conservation are important land uses, with 3.3% and 34% of the district conserved as Game Reserves and Wildlife Management Areas respectively. However, on the 63% of land under communal use (under the Tribal Land Act), cultivation constitutes an important livelihood mechanism, and despite the limited potential for crop production and the high risks this activity carries, the majority of households in Ngamiland are involved in some form of crop production. During the last 30 years, 66% of the agricultural holdings in the district planted crops (Agricultural Statistics Unit, 1968 – 2002), and agriculture gained prominence as an alternative source of livelihood after the 1996 and 2007 disease outbreaks. Agriculture is complemented by collection of veld products (such as reeds, thatching grass, wild fruits, medicinal plants etc.), basket-making, fishing and community-based tourism. Similar to the livestock production sector, these livelihood activities are contributing to ecosystem degradation due to the fact that they are being undertaken without due consideration for sustainability.

Policy and legislative context for SLM

27. The most significant policy developments in Botswana that have impacted communal rangelands include the Tribal Grazing Lands Policy (TGLP, 1975) and the National Policy on Agricultural Development (NPAD, 1991). These policies professed to reduce grazing pressures and increase productivity through privatizing the commons, as the basic assumption was that communal rangelands were effectively operating as an open-access resource and that this was leading to degradation. Thinking on range management has since evolved to encompass the concept of non-equilibrium dynamics that are at play in arid and semi-arid environments. There is a growing body of knowledge that discredits previously held notions about communal resources being equated with mismanagement, emphasizes the need to recognize the multiple uses of rangelands (hunting, gathering, and livestock keeping (including small stock) for milk and draught power (and not just beef), and recognizes the vital importance of mobility and flexibility for efficient livestock keeping in non-equilibrium environments.⁹ All of this points to the need for local communities to be involved in rangeland governance.

28. Under the PPG phase, an inventory and analysis was conducted of the relevant NRM policies and legal instruments to assess the degree to which they enable and support sustainable rangeland governance with active involvement by communities. A stakeholder workshop was conducted to confirm the relevance of policies and legal instruments chosen for the study. The main finding was that the situation is somewhat paradoxical insofar as the policy and legislative environment can be said to be saturated yet failing to effectively deliver. Several good policies or policy provisions fail to be implemented, especially those that require or advocate for cross-sectoral integration. Several policy recommendations call for the creation of committees, boards, councils etc. Some are single sector focused such as the Land Board, while others are multi-sector like the National Conservation Strategy. SLM requires multi-sectoral institutions and actions.

⁹ Cullis, A. and C. Watson (2005) Winners and losers: privatising the commons in Botswana, Adrian Cullis and Cathy Watson

29. The results of the study, summarized in the table below, highlight that there is a common vision across all these policies and laws – that of sustainable management. However, stakeholders stated that management efforts are carried out in isolation by different sectors. Natural resource management agencies admitted that there is limited or inadequate communication and participation by other sectors in their work. This has led to resource management and monitoring gaps, duplication of effort as well as clashing policies. Hence, coordination and even consolidation is not only desirable but also possible. The National Conservation Strategy provides the best vehicle for sustainable land resources management. However this policy instrument, while still guiding the work of the Department of Environmental Affairs, is no longer being implemented in full. It is also outdated and will need to be reviewed and updated to deal with current environmental resources (including land) management issues.

Table 2. Analysis of the policy and legislative environment

Instrument	Year	Objective	Observations on whether instrument is enabling and supportive of SLM
Tribal Land Act	1968 Revised 1991 Amended 1993	Communal land use planning, allocation and management	Act provides for the establishment of tribal land boards, to take over administration and management of tribal land from the Chiefs (Dikgosi). While other stakeholders such as Council may be consulted, Land Board is the final decision maker and implementer of communal land management decisions. There are no specific clauses or provisions for SLM. This presents weak support for SLM as it does not open up land management for input from other stakeholders.
Forest Act	1968 1980 2005	To provide for the regulation and protection of forests and forest products in Botswana by establishing forest reserves	Act establishes a Forestry unit in Ministry of Agriculture as sole manager of forest reserves. There are no specific clauses or provisions for SLM or participation by other stakeholders.
The Wildlife Conservation Policy (under review)	1986	Sustainable wildlife use, community involvement and rural development	The policy establishes Controlled Hunting Areas (CHAs) to allow private and community wildlife utilization; precursor to co-management of wildlife which includes CBNRM and private concessions. Users are allowed to participate in decision making through development of management plans which are subject to approval and controls by the Department of Wildlife and National Parks (DWNP) through Wildlife Management Areas (WMA) regulations. This provides medium strength support for SLM in that while the DWNP has the upper hand in decision making other stakeholders are allowed to participate.
Wildlife Conservation and National Parks Act	1992	The conservation and management of the wildlife of Botswana including control and management of national parks and game reserves	The Act establishes WMAs, and local advisory committees. It provides room for co-management and SLM by providing for establishment of local advisory committees (communities, private sector, NGOs) to contribute to parks and game reserves management (poaching, harvesting of veld products, and selling of crafts inside parks). However these committees are only advisory, hence the strength of support for SLM and the associated co-management principles remain medium.
National Conservation Strategy	1990	To integrate sectoral natural resources effort and stakeholder interest to achieve sustainable resources use and management	While outdated this strategy is perhaps the closest to the principles of co-management and multi-stakeholder action that is essential for SLM. It provides for a national conservation strategy advisory body with broad membership, a coordinating unit and environmental liaison officers in other Ministries. The strategy provides for co-management and SLM as it recommends representation of most stakeholders in the advisory Board. Particular mention is made of local authorities, the Chiefs (Dikgosi), parastatals, NGOs, private sector, business community and special interest groups. While the

Instrument	Year	Objective	Observations on whether instrument is enabling and supportive of SLM
			advisory position and potential size of the Board are of concern, the strategy provides strong support for co-management and hence a multi-stakeholder foundation for SLM.
The Tourism Policy (under review)	1990	To establish tourism as the engine of economic growth and diversification	Establishes tourism licensing Board and National Advisory Council on Tourism, both by statute. In particular, the National Advisory Council provides an opportunity for co-management as it is composed of multiple stakeholders. However, the management orientation is strongly sectoral in nature. The policy is under review and has potential for supporting SLM.
National Ecotourism Strategy	2002	Promote conservation, educate tourism stakeholders on environmental conservation, reduce negative impacts on environment and culture, improve tourism experience, increase involvement and benefits by locals	The strategy has no specific clauses or provisions for SLM. All tourism managing authorities singularly implement the strategy but there is no monitoring body. There is an appreciable level of stakeholder interaction created under this policy and it has potential to support SLM.
The Community Based Natural Resource Management (CBNRM) Policy	2007	To diversify the rural economy, address the decline in agriculture, promote community conservation and benefit from wildlife	Establishes the Technical Advisory Committee (TAC) to provide regulation and support to participating communities. TAC membership is wholly government. The policy has a strong wildlife (single sector) focus. May not be able to support multiple livelihood strategy that is essential for SLM. The CBNRM Secretariat (DWNP) is struggling to coordinate the TAC activities as this function is not a priority for the participating institutions hence not rendering strong support for SLM to take place.
Herbage Preservation Act	1978	To prevent and control bush and other fires; legal framework for the management of fire in Botswana	The Act provides for herbage preservation committees across scale. However, neither the herbage preservation committee members nor their roles are clearly specified in the act. However it does offer significant potential for co-management and thus amounts to medium strength support for SLM.
Agricultural Resources Conservation Act	1974	Conservation and improvement of the agricultural resources of Botswana	The Act provides for formation of a Board which is a corporate body and conservation committees for decentralization. It offers potential for co-management and hence SLM support. However the act does not specify the members of the Board and the committees. Selection of these is left to the Minister.
Tribal Grazing Land Policy (TGLP)	1975	Grazing control, better range management and increased livestock productivity; main features are fencing and exclusive rights	The policy has no specific clause on co-management. The policy gives sole responsibility to Land Boards that consult the Ministry of Agriculture on suitable areas. Thus, support for multi-sectoral approaches to SLM is very weak.
National Policy on Agricultural Development (NPAD)	1991	Community ranches added to the TGLP proposals	Sole responsibility for land management still remains with Land Board with the Department of Animal Production only involved in livestock development issues such as breeding and Department of Forestry and Range Management mainly dealing with range conservation through fire suppression.
Okavango Delta Management Plan	2008	Integrated natural resource management in the Okavango Delta Ramsar Site	This is inherently a co-management instrument and is the product of a District integrated environmental management team. The instrument has characteristics of co-management in its development but not implementation. Implementation strategy is based on sectoral recurrent budget and institutional systems. Civil society participation is weak. Thus, support for co-management and multi-sectoral approaches to SLM is considered to be medium.

Instrument	Year	Objective	Observations on whether instrument is enabling and supportive of SLM
Ngamiland Integrated Land Use Plan	2009	Guides land use through zoning and control of development	Proposes yearly workshops and seminars for key institutions. Also recommends that sectors budget for implementation of components of the plan which are relevant for their mandate. As the document belongs to land authority, with other institutions only being loosely associated, it provides weak support for co-management and multi-sectoral approaches for SLM. There is no mechanism or strategy in place for institutions to take up their components. This is with the exception of Tourism, which, through the earlier Okavango Delta Management Plan (ODMP) process, produced an Ngamiland Tourism Development plan for the development of land zoned for that purpose.

Source: Assessment of the capacity of different institutions to support implementation of sustainable land management project activities as part of preparation of a Global environment Fund (GEF) full sized project proposal entitled: Mainstreaming sustainable land management (SLM) in rangeland areas of Ngamiland productive landscapes for improving livelihoods. Dr. Lapologang Magole. April 2013.

Institutional context for SLM

30. Botswana has a two-tier government system – central and district. The central government is responsible for developing and overseeing implementation of national level policy and legislation. Agricultural matters (both arable and livestock) fall under the Ministry of Agriculture (MoA) and its Departments of Veterinary Services and Crop Production. The Ministry of Environment, Wildlife and Tourism (MEWT) is the government body primarily responsible for regulating the tourism, wildlife, fisheries and veld products sectors. The MEWT's DEA coordinates Botswana's National Conservation Strategy, and is also responsible for enforcing EIA legislation, while the Departments of Tourism, Wildlife and National Parks (incorporating the Fisheries Division), and Forestry and Range Resources administer the fields for which they are named.

31. District government is responsible for local level policy administration and service provision (under the Ministry of Local Government). Also at District level is the Tribal Administration which is responsible for administration of customary law, and functions through the Kgotla, a forum for village level discussion and participation. The District Council is an elected body with assigned responsibilities for the provision of social services (e.g. health, education). The Land Board is the primary agency responsible for resource management on tribal lands.

32. Under the PPG phase, an institutional analysis was carried out to study mandates and assess the institutional capacities for SLM and make appropriate recommendations. Institutions studied include, the Land Board and the District Land use Planning Unit (DLUPU) (at the District level), and relevant sections of the Ministry of Wildlife, Environment and Tourism (DEA, DWNP and DFRR), Minerals and Water Affairs (at central government level) as well as existing rangeland management institutions at community and civil society levels. The table below summarizes information on the responsibilities and capacities of key land resource management agencies, at the central and district levels, in Botswana.

Table 3. Key land resource management agencies

Institution	Responsibilities and capacities related to land resources
Tawana Land Board	The Tawana Land Board is responsible for allocating and managing tribal land in the Ngamiland District within the Batawana Tribal territory. The Board makes strategic decisions, while the Secretariat makes administrative decisions. There are also committees that play different decision making roles. The Board's actions are driven by policies, laws, directives, and other land management tools. There is a communication strategy at the Ministry level. At the district level, the institution implements a communication system which involves Kgotla meetings, publicity material, stakeholder workshops, media tours, open day and breakfast meetings.
Department Of Animal Production	The Department is mandated with supporting farmers for livestock development through implementation of artificial insemination and other government assistance programmes for the development of livestock. There is a hierarchical decision making system which involves the Director and heads of stations. Disease control strategies impede on production strategies as these require livestock movement and disease control requires restriction. Co-management is required to reconcile the two.

Institution	Responsibilities and capacities related to land resources
Department of Forestry and Range Resources	Has mandate to conserve and manage land resources and other flora through research and monitoring and fire management. Operationally, most decisions made at headquarters. Provision is there for National and District decision making bodies but not always implemented. The ministry wide and departmental communication strategies are there but not implemented. The Department implements an outdated fire act which could use stakeholder input to align with new thinking and understanding of fire.
Department of Crop Production	The Department is mandated to promote increased agricultural production and food security through soil conservation and farmer support with implementation of such innovation as irrigation and pest control. The institution is hierarchical with the head making most decisions and consulting other staff if necessary. There is no arrangement to deliberately involve stakeholders in institutional business; however, there is a known communication process to inform or determine information. This does not support SLM as it does not cater for dialogue and meaningful stakeholder involvement. This is particularly important for this Department which designs and implements farmer support programmes.
Department of Wildlife and National Parks	The Department of Wildlife and National Parks is mandated to conserve the fish and wildlife of Botswana in consultation with local, regional and international stakeholders. Decision making is guided by this mandate and departmental strategic plans. The department has committees for different areas of their mandate. Members of committees range from other Departments to community members and private entrepreneurs. The department has experience in co-management.
Department of Environmental Affairs	DEA coordinates Botswana's National Conservation Strategy, and is also responsible for enforcing EIA legislation. Decision making is guided by its mandate and obligations as laid out in relevant national laws and policies, as well as international treaties and agreements. Operational decisions are made by local technical team or local manager, while other decisions may require to be referred to headquarters. The Okavango Delta Management Plan (ODMP) created a communication strategy which is followed at the district level. The institution plays an environmental management coordination role. While the department has not set district level priorities, it is empowered by the ODMP to coordinate natural resources management the Okavango Delta RAMSAR site.
Department of Tourism	The Department of Tourism is responsible for development and implementation of policies, strategies and programmes to ensure sustainable tourism development. The Department has a district tourism office in Maun. Decision making in the district office is driven by a strategic plan, directives, and tourism policies and laws. Internal committees are used to make decisions, which are confirmed or overturned by the Director or the Botswana Tourism Organization. A communication strategy is under development.
District Land Use Planning Unit (DLUPU)	This is part of local government. It drafts District Development Plans (DDPs), assesses and directs development initiatives. DLUPU is an integrated institution that, however, only accommodates government departments.
Haina Veld farmers association	Decision making is guided by the association's constitution. There is an executive committee that makes decisions. But some decisions are referred to the membership. Field days are used to interact with stakeholders. However, these are not held regularly.
Environmental NGO (Tlhare Segolo)	Tlhare Segolo Foundation is a fledgling organization that works to create sustainable development in Ngamiland. The Foundation works to alleviate poverty, empower women and youth, better manage community based natural resources, conserve biodiversity in the Okavango Delta and Ngamiland, conduct community based research and evaluation and improve and develop derelict land. The foundation's actions are driven by the deed of trust and constitution. There is a board to make governance decisions and the volunteer coordinator and development officer makes operational decisions. The organization interacts with other relevant organizations as appropriate.
The North West District Council (NWDC) – Physical Planning	This is a local authority that undertakes physical planning of agricultural land use and land use zoning. It has various boards and committees to make decisions. These are made of members largely from other Council departments. Communication is almost entirely limited to the Land Board with whom they consult on land issues.

Source: Assessment of the capacity of different institutions to support implementation of sustainable land management project activities as part of preparation of a Global environment Fund (GEF) full sized project proposal entitled: Mainstreaming sustainable land management (SLM) in rangeland areas of Ngamiland productive landscapes for improving livelihoods. Dr. Lapologang Magole. April 2013.

Baseline programs

33. There are three programs that constitute the baseline upon which this project will build. The first two are closely related national programs and the last is a site-specific program, with a combined value of over US\$ 25 million.

34. **Botswana Meat Commission (national budget of US\$ 16,000,000 for 2010-2016):** BMC is a parastatal established in 1965 to promote the development of the country's livestock industry as well as the country's beef and related products globally. Besides owning three abattoirs in Botswana, BMC has

cold storage facilities in South Africa with marketing subsidiaries in the United Kingdom, Germany, Holland and South Africa. Due to the monopoly enjoyed by the BMC in the beef markets, it has a huge potential to affect livestock production processes in the country. However, the monopoly on beef export has faced strong challenges from the meat processors, who maintain that they have opportunities to export fresh beef into the Southern Africa Development Community (SADC) region. The country is indeed at a crossroads with regards to beef export policy, and is currently debating future policy directions. This debate has been hastened by a combination of several factors: (i) the escalating cost of accessing the EU markets in the face of continued and regular threats of FMD outbreaks, (ii) ending of the African Caribbean and Pacific quota arrangements, and (iii) the advent of an Economic Partnership Agreement in the SADC regional integration initiative, which provides newer but less lucrative markets.

35. The country is currently engaged in an intensive debate on the future policy options on the important beef trade and its role in the national economy. BMC is also in the process of re-opening the Maun abattoir (Ngamiland) and is currently re-furbishing it to the capacity of 100 animals per day. There is, however, recognition of the fact that it might have to operate in shifts to process at least 200 cattle per day in the first few years of operation in order to take care of the back-log. As fresh product cannot be taken out of Ngamiland to Southern Botswana where the markets are, BMC is investigating meat processing systems (e.g. preheating), and plans to install a heat treatment facility in Maun to heat treat the beef before being sent to another center for canning. New markets for this and other beef products are being explored, for example sale to Government for the school feeding programme.

36. **Foot and Mouth Disease Control Program (national budget of US\$ 5 million for 2010-2016):** The beef export market for Botswana is highly dependent on the effective control of FMD and CBPP in the country, necessitating a stringent control program that is closely aligned with the beef export policy. The national FMD control policy is based on effective prevention, rapid detection and response, and is geared towards achieving eradication of the disease in some parts of the country. Since the African buffalo (*Synceus caffer*) present in northern Botswana are known maintenance hosts for FMD Southern African Territories viruses, the country can never be completely free of the virus. It has therefore adopted the concept of zoning or regionalization, with disease control fences as efficient barriers between high-risk zones and disease-free zones. The government invests huge resources each year on programs of strict import controls, border security and quarantine measures, critical in reducing external and internal FMD challenges. Annual vaccination is carried out of cattle in the FMD high-risk areas (including Ngamiland) to protect them from FMD and prevent possible sprouting of disease outbreaks. (A map of veterinary disease control zones in Botswana is in Annex 1). Substantive resources are invested in establishment and maintenance of cordon fences and a public education program, which are critical pillars of the control policy.

37. The country has also aligned its national FMD control program with international animal health standards as set by the World Organization for Animal Health and European Commission requirements, and aims to achieve a quick recovery and resumption of beef trade following an outbreak. In line with these policies, the country has periodically eradicated large herds of livestock in response to outbreaks, such as the CBPP outbreak in 1994 and the FMD outbreaks of 2003-04 and 2007, when it destroyed huge numbers.

38. **The Okavango Delta Management Plan (district government budget of US\$ 10 million for 2005-2016):** In recognition of the important role the Okavango Delta plays in maintaining globally significant biodiversity, and the threat posed to this biodiversity by the degradation of the rangelands surrounding the delta, the government of Botswana prepared the Okavango Delta Management Plan (ODMP) with technical and financial contributions from many International Cooperating Partners (ICPs). The ODMP was completed in 2007 at a cost of US\$ 7 million. Subsequent plans for implementing the recommendations of the ODMP are in place, and are currently being implemented by the various government departments, at an estimated cost of US\$ 1 million per year. The Ngamiland district has prepared, and is implementing the Ngamiland Settlement Strategy, which includes sub-strategies on the sustainable utilization of the natural resources of the district. The Tawana Land Board is currently implementing the Okavango Delta Integrated Land Use Plan (2006) and is formulating a Ngamiland District Land Use Plan. The Ministry of Agriculture, through departments of Animal Production, Crop Production and Veterinary Services, is providing extension services in line with the ODMP, and the Department of Forestry and Range Resources is implementing a program of fire management. As part of the implementation of the ODMP, the country is in the process of declaring the Okavango Delta a World

Heritage Site, in addition to its status as a Wetland of International Importance under the Convention on Wetlands of International Importance (Ramsar Convention).

Long-term solution and barriers to achieving the solution

39. Despite the baseline programs described above, rangeland degradation continues in Ngamiland. If the current land and livestock management processes continue, they will compromise all efforts at securing the continued flow of ecosystem goods and services from the savannah ecosystem that are necessary to sustain the national economy, livelihoods and the rich fauna and flora diversity.

40. The long-term solution to address continued rangeland degradation in Ngamiland is to mainstream SLM principles into the livestock production sector, specifically in areas adjacent to the Okavango Delta where rangeland degradation is most intense. Critically, local communities need to participate meaningfully in rangeland governance. The local level institutions should be empowered with knowledge, financial, and capital resources to support farmers in managing their current livelihood portfolio and diversify it in the future. There are, however, a number of barriers to implementing this solution, as described below.

41. Barrier 1: Inadequate knowledge and skills for adoption of SLM in livestock management and livelihood support systems, in line with clear principles of range management. Managed well, the savannah ecosystems can be highly productive. But because they have developed under a very unique set of circumstances, mismanagement quickly upsets the balance between grasses and woody vegetation, weakening the foundation for a thriving livestock industry. While discussion still rages amongst ecologists on the process of bush encroachment and its control, there is general agreement on what has led to deterioration of the condition of the savannah ecosystem, certainly in Ngamiland, namely the changing grazing and fire regimes, the combination of foragers¹⁰, and the duration of rest periods. Perennial grasses for instance are known to have evolved under conditions of severe grazing followed by periods of long rest. However, they can become weakened by extremes in either direction, namely by overgrazing or over-resting. Both conditions can occur on the same rangeland, if animals are stocked lightly and continuously or under fast rotation with short rest, as occurs on many commercial farms. The most palatable grasses, especially those closest to the water point, then become overgrazed, while the less palatable species, especially those further from the water point, become over-rested, both resulting in lowered grass vigor (McNaughton, 1979). Although knowledge on how to effectively manage savannah ecosystems is increasing, very little of the currently available knowledge is being utilized to manage the livestock and livelihood support systems in Ngamiland. This is mainly due to low levels of skills amongst the land and resource managers, and weak technical expertise in the technical ministries.

42. Barrier 2: Policy and market distortions have provided disincentives for adopting SLM and sustainable range management principles in the livestock production sector. The tribal land use zoning system and the beef marketing policies have had the greatest influence on livestock production systems. The Tribal Grazing Land Policy (TGLP), which was the instrument adopted by the government in the 1970s to reduce rangeland degradation, however, has not been effective. A synthesis of the reviews provided by Frimpong¹¹ reported that while the foundation of the policy still remains sound today, implementation has faltered due to weak enforcement. The success of the policy was hinged on the hope that those granted leases for ranches would comply with the requirement for the granting of the lease. Among other things, they were expected to give up their rights to the communal land and to confine their entire production on the ranches. They were therefore expected to move their cattle from the communal areas into the ranches. In addition they were expected to manage their ranches in line with principles of range management; including observation of stocking rates/carrying capacities, and active manipulation of the vegetation for optimum productivity. This was expected to reduce the herds of cattle and grazing pressure in the communal areas, which was meant for farmers with small herds of cattle.

43. Enforcement of the policy, however, has been weak because it does not empower the Land Board to tap into the existing technical and other rangeland management knowledge necessary to enforce proper range management strategies. Enforcement can be achieved through collaboration with other

¹⁰ The combination of animals that graze, for example cows and donkeys, are on the increase and wildlife is on the decline in rangelands around cattle posts. This changes the pattern and composition of grazing as animals do not have similar gazing methods and preferences for grazing/ browsing.

¹¹ Kwame Frimpong (undated) in Pula: Botswana Journal of African Studies Vol. 9 No.1

stakeholders such as the Department of Forestry and Range Resources with their technical knowledge, and communities with their indigenous knowledge. While Land Boards had the power to allocate and administer land, they did not have the power, capacities, or skills to enforce compliance with the basic driver of the policy namely that of ensuring that livestock management was in line with the principles of range management.

44. The failure of the TGLP to reduce rangeland degradation has been compounded by the negative impacts of the current beef marketing policy on livestock sales and off-take from Ngamiland (the district is an FMD-controlled and not FMD-free zone). Because of the closure of the Maun abattoir in 1996, after the outbreak of CBPP, and the undeveloped nature of other market avenues, there has not been meaningful livestock off-take from Ngamiland in the last 15 years, leading to serious overstocking with consequent overgrazing and land degradation. Although Botswana beef can access other world markets such as Japan, USA, China/Hong Kong, and other countries in Africa, these markets are not being tapped due to the complexities placed on the industry by the monopoly of the BMC and its focus on profits, which are realized from the EU markets even with the current restrictions. Although future policy options on the important beef trade and its role in the national economy are currently being debated, it is not clear if the policy will be used to provide incentives for better rangeland management. While everyone recognizes that the beef industry remains critical to the Botswana economy, there is little recognition of the role of SLM and range management principles in the sustainability of the industry in this debate, or the critical interplay of the various policy options on land degradation. Currently the debate is heavily entrenched in economics, disease control, and profit margins. It fails to factor in the long-term cost of rangeland and ecosystem degradation on the future sustainability of the industry, or the inter-relatedness of the current land policy, stocking rates and rangeland and livelihoods degradation. This is demonstrated by a recent SWOT analysis of potential future options, which is silent on SLM. Opening up the debate has provided a great opportunity to incorporate SLM requirements into the new beef and disease control policies. However, the people of Ngamiland, who suffer the most from policy distortions, are not engaging in the policy debate because they lack a suitable forum through which to influence policy.

2. STRATEGY

Rationale and summary of GEF Alternative

45. The Government of Botswana is requesting GEF incremental assistance to remove these barriers to the above-described long term solution to addressing rangeland degradation in Ngamiland. The project objective is to mainstream SLM in rangeland areas of Ngamiland District productive landscapes for improved livelihoods. The project has been designed to realize this by addressing the two barriers outlined above.

46. The alternative scenario funded by GEF and co-financing resources is expected to result in key modifications to the baseline scenario that will generate global environmental benefits (sustainable land management). A comparison of the baseline project with GEF-project scenarios and associated global benefits are presented in the table below:

Table 4. Comparison of baseline with GEF alternative and associated global benefits

Baseline Situation	Alternative to be put in place by the project	Selected benefits
Livestock management practices are not in line with SLM or improved range management principles and ignore range carrying capacities and stocking principles.	3 local land use plans will be produced. Development of the land use plans will be led by the Tawana Land Board and DLUPU with the active participation of communities, other government and non-government stakeholders. The multi-stakeholder forum to be established by the project under Output 2.1 will provide the mechanism for eliciting participation of these different stakeholders in the formulation of the land use plans. Piloting of improved range management system on commercial ranches and communal rangelands, and promotion of a multiple livelihood system on the latter. Multi-stakeholder mechanism established to lead	Rangeland restoration and sustainable use in line with SLM principles: Improvements in vegetative cover over 1 million ha of rangelands (with the potential for replication to 4.5 million ha) Improvements in livestock productivity (one calf per cow per annum) Increase of 1 ton/ ha in the expected per annum total tons of crops to be produced from the piloting of conservation agriculture Improved livelihoods of farmers (baseline to be determined during range assessment studies; target is to double farm generated income of

Baseline Situation	Alternative to be put in place by the project	Selected benefits
	<p>district-level dialogue on mainstreaming SLM considerations in implementation of critical national and regional policies, plans and strategies. This includes policies on livestock production and marketing, and agricultural land use (Tribal Grazing Land Policy, National Policy on Agricultural Development). Particular emphasis will be placed on ensuring community participation in this forum as this has been identified as a weakness in resource governance.</p> <p>Local natural resource management/ community-based management institutions such as community trusts, farmers' committees, village development committees, and Bogosi will be empowered, through a clear mandate and financial and technical resources, to lead the design and implementation of range management principles envisioned in SLM at the local level</p>	<p>farmers involved in improved herd management and conservation agriculture (CA)</p> <p>Reduced pressure on biodiversity in the core Okavango Delta, which forms part of the Kavango-Zambezi Trans frontier Conservation Area (an initiative of the 5 riparian states of the Okavango and Zambezi river systems). The conservation of the Okavango Delta contributes directly to regional cooperation and joint management which is a key principle of SADC.</p>
Bush encroachment and loss of grass/ forage is reducing ecological health and productivity of the rangelands	Bush encroachment reduced through mechanical and labor intensive removal linked to alternative livelihoods such as charcoal production and firewood harvesting (elaborated below under the outcomes) to return current bush-encroached land into an ecologically healthier "wooded grasslands" with consequent increase in rangeland condition, carrying capacity and productivity.	<p>Bush reduction will lead to improvement in the ecological integrity of the wooded grassland savannah vegetation, increasing functionality and cover of dryland woodlands:</p> <p>Reduction in area affected by bush encroachment by 50% (baseline is estimated at 100,000 ha)</p>
Extensive and severe bush fires leading to a process of savannization in north western Ngamiland.	Pilot the effective use of fire as a savannah vegetation management tool to reduce uncontrolled fires from yearly to once every three years. This will be piloted in the Tsodilo Hills areas, which is a hot spot in the district for annual fires.	<p>By reducing the frequency of fires, quality of grazing improves and rangeland carrying capacity increases:</p> <p>Fire-affected area reduced by 50% most of the years and by 100% in two out of the five years of the project (affected area in baseline is estimated at 10,000 ha)</p>
Farmers lack access to markets for non-beef livestock products (including small stock)	Improved enabling environment for establishment of small-scale, community-based enterprises related to processing and marketing of livestock products such as leather, horn, and bones, from both cattle and other small stock.	<p>Greater economic incentives for integrating SLM principles in livestock sector that leads to improved condition of the range and related ecosystem services:</p> <p>Increased revenue from non-beef livestock products (baseline and target to be determined during feasibility studies for setting up processing and marketing facilities for non-beef livestock products)</p>
Prevalence of CBPP and FMD has led to prolonged quarantines, reducing livestock trade and off-take, compounding overstocking and degradation of rangelands	Through BMC cofinancing, slaughter capacity will be increased, capacity to produce a broader range of meat products will be increased, and a broader range of markets for Ngamiland beef will be tapped.	<p>Greater livestock off-take contributes to reducing grazing pressure, hence supporting the delivery (and sustainability) of the GEBs delivered through the GEF financed components described above:</p> <p>Increase in off-take rate for cattle (baseline and target to be determined during range assessment studies at project inception)</p>

Fit with the GEF Focal Area Strategy and Strategic Programme

47. The proposed project will contribute to Outcome 1.2 of the Land Degradation Focal Area (Improved rangelands/ livestock management), and to Outcome 3.1 (Enhanced enabling environments between sectors in support of SLM).

Project Objective, Outcomes and Outputs

48. The project objective is to mainstream SLM in rangeland areas of Ngamiland District productive landscapes for improved livelihoods. To achieve the project objective, and address the barriers (see

section on Long term solution and barriers to achieving it), the project's interventions have been organized into two components, each with several outcomes and outputs, as described below (this is in line with the outcomes and outputs presented at the PIF stage):

Component 1: Effective range management in over 1 million hectares improves range condition and flow of ecosystem services to support livelihoods of local communities in Ngamiland

49. Under this outcome, the project will put in place systems and capacities for applying improved range management principles over one million hectares of rangelands, to deliver the following outcomes: i) Sustainable land management adopted in over 1 million hectares, reducing land degradation from overstocking of cattle, goats and other livestock and enhancing ecosystem functions (water cycling, soil protection and biodiversity status); ii) Bush encroachment reduced and perennial grasses increased to return over 0.5 million hectares of current bush invaded land into ecologically healthier "wooded grasslands" with consequent increase in rangeland condition and at least 40% increase in primary productivity; iii) Capacity indicators for key land use decision making and extension support institutions increased as measured by the capacity score card. [Departments of Forestry and Range Resources, District Land Use planning Unit (DLUPU) and Tawana Land Board]

50. Activities will be piloted in different areas within Ngamiland (see Annex 2 for details on pilot areas). Replication of the successful pilots could have an impact on an additional 4.5 million hectares. Up-scaling of the lessons of the project over similar savannah areas affected by rangeland degradation will be facilitated through the extension services of the Department of Veterinary Services (DVS), Department of Crop Production (DCP), Department of Forestry and Range Resources (DFRR), and Department of Animal Production (DAP). The outcomes will be delivered via the following outputs and suboutputs.

Output 1.1: Local level land use plans developed for each pilot area to support sustainable utilization of range resources;

51. There exists a district-level master plan that outlines zoning of land use at a broad level, but lacks detailed guidance on land use at a local level. This output will focus on developing detailed land use plans for the three pilot sites (Hainaveld ranches, Lake Ngami and Toteng–Maun ranches, and northern and western Ngamiland.

52. The first step will be to undertake integrated range assessment studies for these areas. The assessments will cover social, cultural, economic, and ecological aspects to give a complete baseline picture of the state of the range and other resources, as well as the levels of use and the dynamics shaping interaction between these resources and people in specific contexts. The assessments will provide more information on the challenges and opportunities present in the different pilot sites with a view to informing the design and methodologies for the interventions proposed. The range assessment will also take into consideration the potential impacts of climate change on trends in rangeland condition, particularly the issue of bush encroachment and the apparent thriving of invasive species.

53. The preparation of the assessments will be led by expert consultants (CBO or institute of higher learning) working together with the competent authorities within government (i.e. the relevant government departments, in particular DFRR, DCP, DAP, DVS with a view to determining sustainable utilization of the range, particularly for livestock grazing purposes. Consultations will be undertaken with the participation of members of the community living in study sites and representatives of civil society organizations, and where possible research organizations to ensure that inputs from all stakeholders are taken into account.

54. On the basis of these assessments, land use plans will be developed for each pilot area. The land use plans will guide decisions on livestock management, (including sales) and the sustainable utilization of other range resources. They will be informed by up-to-date knowledge on range conditions, carrying capacities and effects of the changing climate on bush encroachment and invasive species. Through these range assessments, sustainable stocking rates for cattle will be determined for the specific pilot areas and mechanisms for meeting these will be pursued through a participatory, multi-stakeholder approach. Implementation and management of stocking rates will be pursued more directly in the ranches by limiting numbers and less directly in communal areas by employing innovative range management strategies that involve movement of livestock and improvements in marketing to reduce overstocking.

55. Development of the land use plans will be led by the Tawana Land Board and DLUPU with the active participation of communities, other government and non-government stakeholders (see Table 5 on stakeholders and their role in the project). The multi-stakeholder forum to be established by the project under Output 2.1 will provide the mechanism for eliciting participation of these different stakeholders in the formulation of the land use plans. A consultative process is essential to address land use conflicts because the participatory land use planning process is anticipated to serve as a vehicle for conflict resolution and exploring sustainable approaches to rangeland utilization, particularly for livestock farming. This will be provided by implementing the systematic local land use planning tool which is known by its product, Participatory Integrated Land Use Management Plans (PILUMPs). Stakeholders will work together to identify areas of land use conflict and incorporate strategies to optimize competing land use practices through zoning using a participatory land use planning process adopted from the World Wildlife Fund and adapted for use in Botswana by the Southern Africa Regional Environment Programme (SAREP).

56. The development of the land use plans will be supported by capacity building workshops to enhance skills and capacities for land use planning to sustain the project's results in the long run (partly funded under output 1.5). The process of producing PILUMPs provides for both training and product (land use plan) development. It comprises a series of participatory consultative meetings which are initially for collecting baseline data about the area by planners and the participating communities. These, as is stated above, will be integrated range assessments. Systematic participatory rural appraisal tools will be applied to collect this data. Another series of training workshops will follow to train the trainers, who often are the community leaders, on plan development, which includes local institutional capacity assessments, trends of key environmental, economic and social factors, problem identification and prioritisation and resource mobilisation. The next series of workshops open up the process for the wider community to participate in decision making on land zoning and implementation tasks allocation for different stakeholders. While the Tawana Land Board and DLUPU will lead this process as competent authorities, the Okavango Research Institute will facilitate the participatory planning process.

57. Land-use planning results will be communicated to relevant sub-district and district administrations and to management units of nearby protected areas. The lessons learned from the land use planning exercise will be assessed and summarized as an aid in future replication of this land use planning exercise.

58. The land use plans will inform the activities to be undertaken in output 1.2 and selected components of the land use plans will be implemented under outputs 1.3 (bush control) and 1.4 (fire strategy).

Output 1.2: Improved range management and mixed livelihood systems are piloted in line with the land use plans

59. This output will focus on improving the range management systems on commercial ranches and communal rangelands in line with the recommendations of the land use plans formulated under output 1.1. although the fine details will be guided by the land use plan, it is expected that this will involve a participatory process of bringing together traditional rangeland management systems and contemporary ones based on technical knowledge.

60. In commercial ranches that are enclosures, a system of paddocking, rotational grazing, supplementary feeding and controlled off-take will be put in place. The Department of Animal Production (DAP), Department of Agricultural Research (DAR) and Department of Forestry and Range Resources (DFRR) will work with farmer associations to identify volunteer farmers who have implemented different combinations of improved ranch management as described above. An ideal control farm will also be set up and monitored to assess benefits to the range and economic returns. Other participating ranches will also be subjected to the same monitoring for comparison. The backdrop to this is that most farmers have never implemented improved range management as per the provisions of the policies that resulted in their ranch allocation. They continued to operate the cattle post system but with limited mobility resulting in ranch degradation. Some did not implement the improved enclosure management because they were used to the traditional cattle post system which is a low-cost and low-return system; some did not implement it because they doubted the possibility of recovering the high set-up and maintenance cost of the ranch and making a profit. The project pilots will aim to find the best management combination to manage investment cost and preserve or even enhance the range

lands/ranches. The main activities for the project will be to undertake baseline physical, economic and social assessments for the range and or ranches and then set up range management experiment conditions in different ranches for monitoring throughout the project using MOMS and traditional range assessment tools.

61. Local institutions will be empowered through training and resource provision to ensure that the improved range management system can be implemented on commercial ranches. Results and lessons learned from this pilot will be presented at sub-district, district, and national levels, as well as in print materials for wider outreach.

62. In communal rangeland areas, where the cattle post livestock system is followed, the project will pilot a pastoral system based on a combination of herding, kraaling and livestock movement. In addition, practical projects aimed at enhancing the community livelihoods portfolio with alternative ones will be piloted. A gender analysis will underpin development and implementation of the alternative livelihoods to ensure that critical issues related to access and control of land resources as they relate to women are identified and addressed. Communities will be supported with training and other resources to develop a multiple livelihood production system, involving improved cattle post pastoral systems, open game farming, sustainable veld products harvesting, and conservation agriculture. (See Annex 3 for more details on proposed alternative livelihoods.) Local institutions (including women's self-help groups) will be empowered through training and resource provision to ensure that the improved pastoral system and multiple livelihoods can be effectively implemented on pilot communal rangeland areas.

63. Improvements to the cattle post pastoral system will be led by DAP and the Okavango Research Institute (ORI) of the University of Botswana. The system has champions, and trials with communities in similar conditions in Zimbabwe are already taking place and will provide benchmarking. Volunteer farmers will be sought to participate in the project by herding their livestock as a pack and managing the range in an agreed manner. Benchmarking, technical knowledge, and indigenous knowledge will all be combined to develop a management strategy for the range and the herd, to be implemented and monitored by the farmers and researchers throughout the project. This may be implemented in two areas around Thaoge and Kunyere streams, both of which flow into or towards lake Ngami. A firm decision will be made at inception where an appraisal will be done for feasibility of two sites for this activity.

64. The Department of Wildlife and National Parks (DWNP), the Botswana Tourism Organisation as well as the Tawana Land Board will support the existing Community Trust in the north-western Ngamiland area (pilot site 3) to set up a community-based open game ranch. This will include community mobilisation to foster community interest and buy-in. Training will also be provided by a team of experts from the participating institutions on different aspects of running the ranch, tourism development and entrepreneurship.

65. Training on Conservation Agriculture (CA) is already on-going for some communities through the SAREP project. These will provide benchmarking and expertise to train communities north of Gumare in the Etsha group of villages. The Botswana College of Agriculture (BCA), Department of Agricultural Research (DAR) and Department of Crop Production (DCP) will provide community mobilisation, training and technical support. They will work closely with the village Farmers' Committees.

66. Finally, this output will address rehabilitation of degraded areas through the use of live fences around homesteads and gardens, and establishment of riparian buffer strips. The area around Lake Ngami is particularly affected by loss of riparian woodlands. These activities are expected to contribute to higher tree cover, reduced soil erosion, increased rainfall infiltration, and enhanced nutrient cycling.

Output 1.3: Bush-control program is piloted and provides financial incentives for controlled bush clearance

67. This output will focus on the issue of bush encroachment that is particularly rampant in the area around Lake Ngami and moving towards the delta; and will implement the recommendations of the land use plans formulated under output 1.1. The project will work with subsistence farmers to harvest bush in overgrazed, bush-infested rangelands, and use mechanical means for the production of charcoal briquettes, fuel wood and other woodland products. This will be based on a co-management approach. The system is expected to improve range condition, productivity and carrying capacity for cattle in the pilot areas. Bush clearing will be accompanied by reseeding with perennial grasses, to support the

regeneration of grasses from any seeds that still remain in the seedbed. Perennial grasses have good self-seeding ability and with proper management they can establish and spread quickly to give good cover. The most productive grasses in the semi arid rangelands include *Cenchrus ciliaris*, *Chloris roxburghiana*, *Entropogon macrostachyus*, *Eragrostis superba*. These grasses are known to have good grazing value and persistence. They are also easy to establish, drought tolerant and able to survive and perpetuate itself.

68. A safeguards system will be used to ensure that reseeded is only with grasses endemic in Ngamiland and that bush products are sourced only from bush-invaded savannahs/ grasslands and not forests, and that the use of the bush does not cause a net increase in emissions. In developing this system, the project will liaise with other similar initiatives in the region (mainly Namibia) to examine successful approaches and lessons. Local institutions will be empowered through training and resource provision to develop and implement this program.

69. One of the most limiting factors in widespread adoption of reseeded is inadequate supply of quality seeds of high yielding rangeland grass species. The project will therefore assist farmers to obtain good quality seeds. It will then train farmers, ToTs (Trainers of Trainers) and the extension workers on methods to design, facilitate and implement seed multiplication initiatives. Keen farmers will be encouraged to grow grass seeds and/or grass for sale to others; this will contribute to improving livelihoods, providing a financial incentive to range rehabilitation. This will be realized through linking community groups undertaking rehabilitation to existing markets or livestock marketing partners particularly private sector, especially those seeking forage for feedlots for animals pending sales to the Botswana Meat Commission (output 2.2).

70. Partnerships will be sought between the project and the Rural Industries Innovation Centre to identify the appropriate technology and possibly train users on such technology for processing wood products into briquettes. The communities around Lake Ngami will participate in the bush clearing and manufacturing of briquettes for sale. Women will be specifically identified as the target group for the activities around manufacturing and sale of briquettes through an existing local/community-based institution. A training module on sustainable methods of bush clearing will be developed and training workshops will be delivered through community based institutions working with a member of the Project Management Unit (PMU). A search will be undertaken to identify communities already implementing such programs and exchange visits will be organized for community representatives/trainers who will return to demonstrate and train the rest of the project participants. The Local Enterprise Authority (LEA) would be engaged to train the community group on basic business management, marketing and book-keeping. The Social and Community Development Council is expected to be involved to mobilize the participating community group to form and under empowered leadership who would be trained on basic organizational leadership such as conducting meetings, record keeping and reporting as well as conflict resolution. Results and lessons learned from this pilot will be presented at sub-district, district, and national levels, as well as in print materials for wider outreach.

Output 1.4: Fire management strategy is piloted in Tsodilo line with the provisions of the land use plans

71. Under this output the project will pilot the effective use of fire as a savannah vegetation management tool to reduce uncontrolled fires, improve quality of grazing and increase rangeland carrying capacity by reducing the frequency of fires from yearly to once every 3 years. This will be piloted in the Tsodilo Hills areas (that falls within pilot area 3), which is a hot spot in the district for annual fires. A fire management strategy has been prepared in the past for Tsodilo Hills. The project will help establish a multi-stakeholder Tsodilo Hills Fire Management Committee and develop its capacity to review the existing Tsodilo Fire Management Strategy and implement it. This will be based on a co-management approach. The Fire Management Committee will be facilitated to implement the fire strategy. This will include training on methodologies for managing and controlling fire and capacitated to better respond to fire outbreaks. They will also be trained to monitor fire incidences using Management Oriented Monitoring Systems (MOMS). The Department of Forestry and Range Resources (DFRR) fire rangers will facilitate the community training and facilitate increased participation of community members in fire control and management. A participatory approach to review, updating and enhancement of the existing fire management strategy will be used to create an atmosphere of co-learning where indigenous fire management knowledge will be incorporated alongside technical knowledge. Results and

lessons learned from this pilot will be presented at sub-district, district, and national levels, as well as in print materials for wider outreach.

Output 1.5: System for monitoring of range condition and productivity is in place.

72. The objective of the monitoring system will be to serve as a decision support tool for farmers to help them in planning and implementing SLM strategies, as well as re-evaluating these strategies based on results and impacts. The monitoring system will essentially be designed as a community level, management-oriented monitoring system (MOMS). It will be developed in a participatory manner. Experts from the Okavango Research Institute, DFRR and DAP will support the establishment of the monitoring system by providing support in setting-up the system (defining what data need to be collected and ensuring that data are compatible with analytical models that are to be used, how data are to be collected and by whom).

73. Data from the integrated range assessments carried out under Output 1.1 will provide the baseline against which to compare changes. Monitoring will be based on observations of key areas (monitoring plots) and key attributes. Monitoring plots and attributes are to be selected and finalized during the inception phase but are likely to include aspects of direct relevance and interest to local communities (for example, livestock productivity; animal sightings for wildlife endowment for ecotourism; local rainfall for arable production planning; problem animal issues to understand crop damage and livestock predation; veld products to monitor and manage their harvesting; early warning of disease and drought so that farmers can modify their decisions on livestock off-take, breeding, and sale), as well as conventional rangeland assessment attributes (for example, total system carbon; rangeland biodiversity; grass composition and cover as well as tree composition and density; land cover measured by Natural Divergent Vegetation Index, invasive plants). In developing the monitoring system, consistency with UNCCD impact indicators will also be ensured to support national reporting to the Convention. Results and lessons learned from the pilots via the M&E system will be presented at sub-district, district, and national levels, as well as in print materials for wider outreach. The project will contribute lessons on good practices in SLM to the PRAIS portal of the United Nations Convention to Combat Desertification (UNCCD), under the rubric of “best practices”. It will also support the country’s reporting to the UNCCD by enriching the data uploaded on PRAIS.

Outcome 2: Effective resource governance frameworks and markets provide incentives for livestock off-take and compliance with SLM

74. Under this outcome, the project will facilitate the conditions necessary for development and successful implementation of the local integrated land use plans and replication of the pilot activities developed under Outcome 1. These conditions relate to improved capacity for local resource governance catalyzed through GEF resources (Outputs 2.1, 2.2), removing barriers to small-scale, non-meat, livestock product-based enterprises catalyzed through GEF resources (Output 2.3), and improved access to markets for Ngamiland meat catalyzed through cofinancing (Outputs 2.4 and 2.5).

Output 2.1: A regional multi-stakeholder forum for facilitating a dialogue on SLM and mainstreaming SLM into regional and national policy programs and processes is created and empowered.

75. The project will support the formation of a regional multi-stakeholder SLM forum (at the Ngamiland District level) to lead district-level dialogue on mainstreaming SLM considerations in implementation of critical national and regional policies, plans and strategies. This includes policies on livestock production and marketing, and agricultural land use (Tribal Grazing Land Policy, National Policy on Agricultural Development). Experiences from the project’s pilot interventions (Outcome 1) will be used to inform the policy framework for SLM, particularly regarding rangelands and livestock.

76. Currently, there exists a multi-sectoral institution (as in multiple government sectors) at the district level namely the District Land Use Planning Unit (DLUPU). The Land Board functions as the secretariat of this institution and the DEA and DFRR are also members. DLUPU already has a land use planning and environmental advisory mandate. However, it does not have a multi-stakeholder membership (i.e., membership beyond government sectoral departments). The project thus aims to pilot an expanded multi-stakeholder forum that builds on the existing multi-sectoral one. Membership of the forum will include representatives from government, NGOs, water and land user groups such as Farmers’

Associations, community trusts, community leaders, private sector (hunting/ fishing, tourism agencies, small businesses, and enterprises), etc.

77. Particular emphasis will be placed on ensuring community participation in this forum as this has been identified as a weakness in resource governance. Local natural resource management/ community based management institutions will be developed and capacitated (potential for development of Farmers' Associations as recommended by the Ngamiland Integrated Land Use Plan) to facilitate effective participation of communities in the dialogue to ensure that local level issues are reflected in the emerging national beef marketing policy, as well as other incentive programs for marketing of livestock products. In this regard, local natural resource management/ community-based management institutions such as community trusts, farmers' committees, village development committees, and Bogosi¹² will be empowered, through a clear mandate and financial and technical resources. In addition to leading the policy discussions, the institutions will use the capacity to lead the design and implementation of range management principles envisioned in SLM at the local level.

78. The project will therefore mobilize the local institutions around the concept of SLM. The PMU together with leading government institutions (DEA and DFRR) and engaged community development mobilization experts will hold participatory training workshops with local institutions to introduce the SLM concept and project and relate it to indigenous knowledge and management systems. A few other training workshops will focus on skills development in areas of proposed SLM project activities. Financial, capital and extension support will be made available for the local institutions to attend meetings and participate in activities. They will also be supported with skills development and extension support to hold their own meetings to organize their contribution and that of their communities. Local institutions will also be supported with skills development in conflict resolution. This will be provided with the input of local leaders to ensure that it is built upon the traditional/ local conflict resolution approaches. While the project will provide and/ or mobilize this support initially, modalities of sustenance of this support through Government and NGOs will be built into the project such that it continues beyond the life of the project.

79. The capacity of civil society to lobby and advocate for SLM will be developed by having a budget allocation for their activities through Government and NGO support, and supporting NGOs' access to donor funding. Support to and involvement of these civil society institutions is important because with appropriate training and resources they are well-placed to assume responsibility for some extension services.

80. The proposed plan for the creation of the multi-stakeholder forum includes: (i) determination of a preliminary list of potential participants from Government, NGOs, water and land user groups such as Farmers' Associations, and private sector; (ii) dissemination of basic information materials on the role of the Ngamiland SLM forum to potential participants; (iii) organization of area visits and meetings for consultations on the role, status and importance of the forum, as well as local expectations; (iv) consultations on and selection of forum members; (v) preparation and implementation of the initial meeting for establishing the forum; (vi) follow-up discussions of founding documents of the forum with members; (vii) first full meeting of the forum; (viii) development and approval of the strategy and work plan for influencing key policies; (ix) continuing training and technical assistance related to SLM for forum members during the project.

81. It is expected that the forum will function through different sub-groups/ committees. For example, there will be a sub-committee on livestock products that will look at the entire livestock value chain and will ensure that all players are actively engaged in policy discussions, effectively serving as a support group/ network. There will also be a fire-management sub-committee operating in the Tsodilo area to pilot a participatory fire management strategy (Output 1.3). All pilot sites will have land use planning sub-committees to oversee the production of the local integrated land use plans through the PILUMPs process (Output 1.1). The farmer's committees and associations, who will work with communities and ranch owners on improved range management systems (Output 1.4), will also report to the regional multi-stakeholder committee.

82. The forum will lead the process of generating recommendations to mainstream SLM into the productive sector policies including the Tribal Grazing Land Policy (TGLP), The Tourism Policy (under

¹² Chieftainship

review), Forest Act, The Wildlife Conservation Policy (under review), Wildlife Conservation and National Parks Act, and the Botswana Beef and Trade Policy. Led by the Ministry of Land and Housing together with the Department of Environmental Affairs (MEWT) and Department of Forestry and Range Resources (DFRR), and with technical support from local CSO groups (including ORI), the forum will actively seek opportunities to participate in national discussions on policy reform, as well as initiate such discussions where appropriate.

Output 2.2: Improved access of farmers to markets for livestock products

83. This output will focus on improving the enabling environment for establishment of small-scale, community-based enterprises related to processing and marketing of livestock products such as leather, horn, and bones, from both cattle and other small stock. Farmers, merchants, and regulators/ policy-makers/ competent authorities will be brought together to explore the feasibility of establishing an inclusive livestock value-chain¹³, as well as opportunities for establishment of small industries based on non-meat livestock products.

84. While there is local interest in accessing markets for non-meat livestock products, the enabling environment for small farmers to enter the market is lacking. The project will work to remove barriers and facilitate entry into the sector/ market. A detailed feasibility study will be undertaken covering economic assessment, environmental assessment, and socio-cultural aspects. Options for access to credit will also be explored and facilitated through the engagement of local/national financing institutions such as the National Development Bank (NDB), Citizen Empowerment Development Agency (CEDA)¹⁴ and business development support through the Local Enterprise Agency (LEA)¹⁵.

Output 2.3: Processing plant in Ngamiland increases quantity and variety of locally processed beef products, allowing higher sales of livestock products and off-take (supported through BMC cofinancing)

85. Under this output, the project will work with the private sector, farmers and government to increase slaughter capacity and produce a broader range of meat products. By increasing the demand for Ngamiland cattle (to be processed into meat products by the plant), the project expects to contribute towards increased off-take in Ngamiland.

86. Through BMC cofinancing, the capacity of the Maun abattoir is to be increased. The aim is to raise slaughter numbers that are currently below the set rate of 100 animals a day and increase it to 120. In addition, a meat processing facility is to be established in Maun, through a partnership between BMC and a private sector partner from South Africa, which will produce a wide range of processed meat products suitable for a range of global markets. For example, the market for sous vide¹⁶ products is expanding rapidly in Eastern Europe and Asia.

Output 2.4: Product placement secured in local and regional markets (supported through BMC cofinancing)

87. Through BMC cofinancing, the project will work with the private sector, farmers and government to tap into a broader range of markets for Ngamiland beef. Currently, Botswana is exploring liberalization of the beef market that would allow more players to be involved in the export of beef products to other non-EU markets as well as export of live cattle to regional markets such as Angola and Zimbabwe. This is being spear-headed by BMC. The ability to expand access to beef markets is expected to increase the demand for Ngamiland beef products and hence lead to greater off-take. The project (along with the Department of Animal Production) will facilitate improved engagement between BMC and other small-holder farmers on strategies to increase the marketability of their cattle to the BMC for

¹³ A livestock value chain can be defined as the full range of activities involving different people that are required to bring a product (e.g. live animal, meat, milk, egg, leather, fiber, manure) to final consumers passing through the different phases of production, processing and delivery.

¹⁴ CEDA was established by the Government of the Republic of Botswana in 2001 to provide financial and technical support for business development with a view to promote viable and sustainable citizen owned business enterprises.

¹⁵ LEA is a coordinated and focused one-stop shop Authority that provides development and support services to the local industry needs of SMMEs, encompassing training, mentoring, business plan finalization, market access facilitation, and facilitation of technology adaptation and adoption.

¹⁶ Sous vide is a process of cooking vacuum sealed food at a very tightly controlled temperature, normally the temperature the food will be served at, but cooked for very long periods. More importantly, it would allow Botswana to sell very high quality tender cooked beef to this niche market.

both local and international markets (e.g. controlling infections, feeding and feedlotting to improve the quality of the beef, etc.). Emphasis will also be placed on improving the quality of production and packaging systems for finished products, and bringing products in line with ecotourism principles such as sourcing locally and reducing the carbon foot print.

Stakeholder analysis

88. The natural resource sector of Ngamiland has multiple stakeholders. During the PPG phase, a stakeholder workshop was held to identify stakeholders as primary, secondary, and tertiary according to livelihood dependence on natural resources. In addition, stakeholder interest and influence were also assessed. The table below summarizes these findings, as well as articulates the role and responsibilities of different stakeholders in project implementation.

Table 5. Stakeholders and their role in the project

Stakeholder	Interest in SLM	Degree of interest	Level of influence	Comments	Participation in project implementation
1. Subsistence farmers-pastoralists	Grazing and livestock development	High	Low	The survival of their livestock and their livelihood is directly dependent on land, but they have low influence on decision making	<ul style="list-style-type: none"> • Will participate in the land use planning process through membership in land use planning committee/multi-stakeholder forum. • Will also participate in design and implementation of management oriented monitoring system (MOMS) • Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a community enterprise • Will participate in the livestock improvement systems (to improve the marketability of animals to the Botswana Meat Commission); • Will participate in the regional consultation forum (via representation by committees) • Participate in piloting monitoring of an innovative pastoral system based on a combination of herding, kraaling and livestock movement
2. Subsistence farmer-Arable	Ploughing land	High	Low	Their livelihoods depend on rangelands but they have minimum role in decision making	<ul style="list-style-type: none"> • Will participate in the land use planning process through membership in land use planning committee. • Will also participate in design and implementation of management oriented monitoring system (MOMS) • Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a community enterprise • Will participate in the regional consultation forum (via representation by committees) • Participate in Conservation Agriculture (CA) pilots
3. Commercial farmers	Rangelands/ farm land	High	Medium/High	Their user rights allow them to make decisions on their land. Still depend on government as final decision maker. Have financial power to for example employ lawyers to speak on their behalf.	<ul style="list-style-type: none"> • Will participate in the land use planning process through membership in land use planning committee. • Participate in range resource assessment and design and implementation of appropriate range management system (including stocking rates) • Will also participate in design and implementation of management oriented monitoring system (MOMS) • Participate in livestock value chain analysis and identification of opportunities for farmers to enter new markets • Will participate in the regional consultation forum • Participate in establishing a meat processing plant
4. Other resource users in the community – community trusts, fishers, gatherers, etc.	Range resources for subsistence	High	Low	Their livelihood depends on the land but they have no decision making power	<ul style="list-style-type: none"> • Will participate in the land use planning process through membership in land use planning committee. • Participate in open game farming feasibility studies and pilots • Will participate in assessment, planning and piloting community level harvesting, value addition and marketing of veld products • Will participate in the regional consultation forum • Will also participate in design and implementation of management oriented monitoring system (MOMS)

Stakeholder	Interest in SLM	Degree of interest	Level of influence	Comments	Participation in project implementation
5. Farmers' Committee	Range resources for subsistence, farmer education	High	Low	Often not empowered by law or policy to make decisions. Have no money or knowledge to contribute to decision making.	<ul style="list-style-type: none"> • Will participate in the land use planning process through membership in land use planning committee. • Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a community business • Will participate in the regional consultation forum • Will participate in CA pilots
6. Farmers' Association	Access to the rangeland	High	High	Have financial power to for example employ lawyers to speak on their behalf; may also have members in influential positions.	<ul style="list-style-type: none"> • Will participate in the land use planning process through membership in land use planning committee. • Will participate in range assessment and innovation feasibility studies, piloting and monitoring • Will also participate in design and implementation of management oriented monitoring system (MOMS) • Will participate in the regional consultation forum (representing farmers and herders) hence influence policies processes
7. Department of Forestry and Range Resources (DFRR)	Management of forest and range resources	High	High	Are empowered by an act of Parliament to manage range resources	<ul style="list-style-type: none"> • Together with the project management unit will set up the project multi-stakeholder forum and facilitate its capacity development and empowerment • Will participate in the land use planning process as a member of DLUPU and the project multi-sectoral stakeholder forum. • Will participate in range assessment and innovation feasibility studies, piloting and monitoring • Will lead the establishment of a multi stakeholder Tsodilo Hills Fire Management Committee and develop its capacity to support the review and implementation of the Tsodilo Fire Management Strategy. • Will also participate in design and implementation of management oriented monitoring system (MOMS) and others suitable for use in ranches. • Will lead and facilitate assessment, planning and piloting community level harvesting, value addition and marketing of veld products
8. Ngamiland District Land Use Planning Unit (DLUPU)	Land resources use and management planning	High	Medium	While it is a recognized land use planning institution it does not have an empowering mode of operation. It functions as a loose institution with a non-binding participation arrangement.	<ul style="list-style-type: none"> • Will lead the land use planning process as part of the project multi-stakeholder forum. • Participate in open game farming feasibility studies and pilots • Will also participate in design and implementation of management oriented monitoring system (MOMS)
7. Tawana Land Board	Land custodian; allocation, administration and management	High	High	Have the legal mandate to manage land	<ul style="list-style-type: none"> • Will participate in the land use planning process as a land authority and secretariat of DLUPU and as part of the project multi-stakeholder forum • Participate in open game farming feasibility studies and pilots • Will also participate in design and implementation of management oriented monitoring

Stakeholder	Interest in SLM	Degree of interest	Level of influence	Comments	Participation in project implementation
					system (MOMS)
8. Department of Environmental Affairs	Coordination of all environmental and natural resource management	High	High	Legally mandated to overlook all environmental management. EIA act	<ul style="list-style-type: none"> • Together with the project management unit will set up the project multi-stakeholder forum and facilitate its capacity development and empowerment. • Will participate in the land use planning process as a member of DLUPU and the project multi-stakeholder forum. • Will also participate in design and implementation of management oriented monitoring system (MOMS)
9. DWNP	Wildlife resources management	High	High	Legally backed by the Wildlife and National Parks Act	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of DLUPU and the project multi-stakeholder forum. • Participate in open game farming feasibility studies and pilots • Will also participate in design and implementation of management oriented monitoring system (MOMS) • Will participate in the project multi-stakeholder forum
10. Department of Tourism/ Botswana Tourism Organization	Tourism development	High	Medium	Not land managers but backed by economic development vision which rates tourism high.	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of DLUPU and the project multi-stakeholder forum. • Participate in open game farming feasibility studies and pilots • Will also participate in design and implementation of management oriented monitoring system (MOMS)
11. Department of Water Affairs	Water management	Medium	Medium	Mandate does not include land management.	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of DLUPU and the project multi-stakeholder forum
12. Department of Roads	Access to land for road development	Low	Low	The interest is low because responsibility is exclusive to main roads and is dependent to other sectors, marketing infrastructure	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of the project multi-stakeholder forum
13. District Administration (District Officer Development)	Rural Development	High	High	Interest is high because rural economy is dependent on implementation of programs and policies; have the backing of implementation of District Development Plans, and village development plans	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of DLUPU and the project multi-stakeholder forum.
14. Tribal Administration	Improved community livelihoods	High	Medium	Interest is high because they care about community welfare, but they do not	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of the project multi-stakeholder forum. • Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a

Stakeholder	Interest in SLM	Degree of interest	Level of influence	Comments	Participation in project implementation
				have legal backing on land use. Often superficially involved.	<p>community business</p> <ul style="list-style-type: none"> Will co-lead assessment, planning and piloting community non-timber products harvesting, value addition and marketing Will participate in the Tsodilo Hills Fire Management Committee to support the review and implementation of the Tsodilo Fire Management Strategy as outlined in the Management Plan. Will also participate in design and implementation of management oriented monitoring system (MOMS)
15. Police Services	Law enforcement	Low	Low	Police service not yet keen on environmental resources management. But have backing of all laws including penal code.	<ul style="list-style-type: none"> Will participate in the land use planning process through membership in land use planning committee/multi-stakeholder forum.
16. NWDC-Economic Planning work with DOD and physical planner	Coordinate all district projects, especially socio-economic ones	High	High	Main local authority	<ul style="list-style-type: none"> Will participate in the land use planning process through membership in DLUPU and the project multi-stakeholder forum. Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a community business Will participate in the project multi-stakeholder forum
17. NWDC-Physical Planning-Land use from Agric. and land use zoning	Planning lay out in gazetted areas	High	High	Main local authority	<ul style="list-style-type: none"> Will participate in the land use planning process through membership in DLUPU and the project multi-stakeholder forum.
18. Social and Community Development	Improved Livelihoods	High	Low	Their interest is in improving livelihoods such as giving the destitute livestock, but they are left out of land use planning	<ul style="list-style-type: none"> Will participate in the land use planning process as a member of the project multi-sectoral stakeholder forum Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a community business Will also participate in design and implementation of management oriented monitoring system (MOMS) Will co-lead and facilitate assessment, planning and piloting community non-timber products harvesting, value addition and marketing
19. Department of Veterinary Services	Animal Health	High	High	High influence in that the beef industry is of high interest to the national economy and determined by international markets.	<ul style="list-style-type: none"> Will participate in the land use planning process through membership in DLUPU and the project multi-stakeholder forum.
20. Department of Animal	Livestock development	High	Low	Focused on the animals themselves and less on	<ul style="list-style-type: none"> Will participate in the land use planning process through membership in DLUPU and the project multi-stakeholder forum.

Stakeholder	Interest in SLM	Degree of interest	Level of influence	Comments	Participation in project implementation
Production				the range	<ul style="list-style-type: none"> Will participate in range assessment and innovation feasibility studies, piloting and monitoring Will participate in livestock value chain analysis and setting up a meat and animal products plant in Ngamiland Will participate in the formation and capacity development of the Tsodilo Hills Fire Management Committee to support the review and implementation of the Tsodilo Fire Management Strategy as outlined in the Management Plan. Will also participate in design and implementation of management oriented monitoring system (MOMS and others suitable for use in ranches)
21 Department of Crop production	Improved agricultural production	High	High	Is legally mandated and empowered to facilitate improved agricultural production	<ul style="list-style-type: none"> Will participate in the land use planning process as a member of DLUPU and the project multi-stakeholder forum. Participate in conservation agriculture pilots Will also participate in design and implementation of management oriented monitoring system (MOMS)
21. Department of Agricultural Research and other Academics	Range and livestock development research	High	Low/Medium	High interest because their core business is research on range land. Influence is low because they can only recommend action; sometimes medium as they have access to Government, Ministry of Agriculture	<ul style="list-style-type: none"> Will participate in the land use planning process as a member of the project multi-stakeholder forum Will participate in livestock value chain analysis and setting up a meat and animal products plant in Ngamiland Will participate in range assessment and innovation feasibility studies, piloting and monitoring Participate in the research part of piloting of innovative pastoral system based on a combination of herding, kraaling and livestock movement and CA
22. Botswana Meat Commission	Meat for market	High	High	Backed by Government	<ul style="list-style-type: none"> Will participate in the land use planning process as a member of the project multi-stakeholder forum Will participate in livestock value chain analysis and setting up a meat and animal products plant in Ngamiland
23. Butcheries	Meat for market	High	Low/Medium	Usually left out of decision making as a stakeholder group but may be part of powerful stakeholder group e.g. commercial farmers.	<ul style="list-style-type: none"> Will participate in livestock value chain analysis and setting up a meat and animal products processing plant in Ngamiland
24. Expert	Livestock development and range development	Low	Medium/high	Usually contracted to give advice, so likely to influence action	<ul style="list-style-type: none"> Will participate in livestock value chain analysis studies Will participate in range assessment and innovation feasibility studies, piloting and development of the monitoring tool
25. Private sector (Livestock, Tour Operators,	Land for other uses	High	High	Have economic power to buy land or influence decision making. Have	<ul style="list-style-type: none"> Will participate in the land use planning process as a member of the project multi-stakeholder forum. Will participate in livestock value chain analysis and setting up a meat and animal

Stakeholder	Interest in SLM	Degree of interest	Level of influence	Comments	Participation in project implementation
Banks and other financiers)				national development priority backing.	<p>products plant in Ngamiland through financing or direct investment</p> <ul style="list-style-type: none"> • Participate in open game farming feasibility studies and pilots by supporting ecotourism activities and purchase of other products of game farming • Will also participate in design and implementation of MOMS
26. NGOs, Eg, Tlharesegolo NCONGO	Conservation	High	Medium	Civil society not empowered to be involved in land management. But may have access to knowledge and information to access decision making process.	<ul style="list-style-type: none"> • Will participate in the land use planning process as a member of the project multi-stakeholder forum. • Participate in pilot harvesting of bushes for charcoal briquettes and firewood as a community business • Participate in open game farming pilots • Will facilitate assessment, planning and piloting community non-timber products harvesting, value addition and marketing • Will also participate in design and implementation of management oriented monitoring system (MOMS)

Socio-economic benefits including gender dimensions

89. The focus on access to a broader range of markets for a wider variety of livestock products, supported by greater access to finance, will ensure more community members participate in livestock markets, thus increasing household incomes. This will contribute to securing livelihoods and food security in the short term as well as increasing prosperity for the rural poor in the long-term. Revitalizing local institutions for range and resources management and governance will increase social capital and improve empowerment.

90. Women play a critical role in livestock husbandry (particularly small stock) and natural resources management in Ngamiland, both as beneficiaries but often as victims of the effects of reduced productivity. In recognition of this fact, a gender analysis will underpin development and implementation of the alternative livelihoods promoted by the project, to ensure that critical issues related to access and control of land resources and other natural resources as they relate to women are identified and addressed. The aim is to promote a more effective targeting of initiatives, and provide disaggregated data for monitoring, in line with the UNDP gender marker. Thus, a number of project activities are expected to directly and indirectly contribute towards improving the condition of women. This would be through enhancing their capacity to participate in decision-making processes, and engaging in land use activities that have the potential to improve their economic situation. For instance, where there is collection of firewood and clearing of bush encroachment, pilot activities to generate income from the sale of such firewood will deliberately target women beneficiaries.

91. In addition, the project will actively empower women and other excluded groups, particularly those at high risk of suffering from the effects of rangeland degradation and climate change vulnerabilities. This will be achieved through social mobilization utilizing Women Self Help Groups (SHGs) and other such community based structures. These groups will benefit particularly from skill development (education/training), access to financial resources and markets for sustainably produced/harvested veld products.

92. Expanding the processing of livestock products will increase jobs in the district, further contributing to household incomes and social capital. Increasing trade in livestock will increase the overall tax revenue available to the regional and national governments, providing funds that can be potentially used to support further improvement to natural resources management and/or provision of social services (education, health clinics, roads, etc.).

Cost-effectiveness

93. GEF funding in the proposed sustainable land management project for Botswana is designed to be catalytic insofar as it builds upon on-going government efforts to improve land use, and on past and current international development efforts to pilot more sustainable practices. In order to realize the project objective of mainstreaming SLM in rangeland areas of Ngamiland District in the most cost-effective manner, project design has been based on the following principles.

94. 1) The project will pilot existing best practices and streamline the process of applying them at a wider scale. In most cases the adoption of the selected best practices will meet the interests of land users, and the project will apply a cost sharing requirement whenever this is feasible. To take the example of ranches, some have not implemented the improved enclosure management system because they doubted the possibility of recovering the high set-up and maintenance cost of the ranch and making a profit. The project pilots will aim to find the best management combination to manage investment cost and preserve or even enhance the range.

95. 2) In order to facilitate further replication of best practices in the most cost-effective manner, the project will focus on providing technical advice, developing decision-support tools, and building the capacity of existing technical extension services (extension services of the Department of Veterinary Services,

Department of Crop Production, Department of Forestry and Range Resources, and Department of Animal Production). The project will, thus, encourage resource allocation by land users and competent authorities in sustainable land use, and only need to cover a limited proportion of direct investments required to demonstrate and propagate the selected best practices. This will lead to better allocation of GEF and non-GEF resources.

96. 3) Regular communication and coordination with other donor agencies working on similar interventions will be established to ensure that there are no overlaps of activities and full advantage of beneficial synergies are taken. For example, in developing the project's pilot activities on controlling bush encroachment (by harvesting bush and using mechanical means for the production of charcoal briquettes, fuel wood and other woodland products), the project will liaise with other similar initiatives in the region (mainly Namibia) to examine successful approaches and lessons.

97. 4) The project will aim to improve access of farmers to alternative markets for livestock products to create an incentive for greater livestock off-take and integration of SLM principles in rangeland management. Due to the prevalence of livestock diseases, conventional markets for beef are less accessible. One approach is to undertake measures to control diseases and still be able to access these markets. Substantive resources are being invested in the baseline to this end (e.g., the government's FMD control program). The project will explore an alternative, cost-effective way to provide incentive for greater off-take namely, by enabling farmers to tap into markets for non-beef livestock products (leather, horns, etc.) and regional markets for processed meat products.

98. 5) In terms of policies that impact rangeland use and management, Botswana's policy and legislative environment can be said to be saturated yet failing to effectively deliver. The key missing element is lack of multi-stakeholder involvement in the implementation of policies, which is critical for sustainable land management. Most importantly, community participation in resource governance is particularly weak. The most cost-effective way of ensuring that the existing policy environment is supportive of SLM, is to provide for multi-stakeholder dialogue and engagement. The project will focus on providing such a forum to lead district-level dialogue on mainstreaming SLM considerations in implementation of critical national and regional policies, plans and strategies. Furthermore, practical experience gained through the pilot activities of the project will inform this policy dialogue.

Outline the coordination with other related initiatives

99. There are a number of projects addressing key natural resource management challenges in Ngamiland District. These projects provide opportunities for complementarities and building of synergies with the proposed project. The Department of Wildlife and National Parks, in partnership with the World Bank, is implementing a project to address wildlife/human conflicts by promoting co-existence (The Human-Wildlife-Coexistence Management Project in Northern Botswana). One of the project sites is in Seronga area within Ngamiland. The project intends to develop and pilot strategies of human co-existence with wildlife and mitigating the effects of problem animals. One of the key intervention areas of the project is to improve livelihoods of the communities who live in wildlife areas. The project will coordinate activities with this Human-Wildlife Coexistence Management project, especially activities related to piloting conservation agriculture and open game farming at the community level, to ensure that successful approaches for managing conflict are integrated into the pilot activities.

100. The USAID SAREP, which aims to assist the Countries of Botswana, Namibia and Angola to effectively manage the resources of the Okavango River Basin, will facilitate the implementation of the Ngamiland Integrated Land Use Plan. In addition, SAREP will assist in the formulation of a Strategic Environment Assessment for Ngamiland which will take in to account aspects of SLM. SAREP will further work with the various departments such as Ministry of Agriculture to explore alternative investments for SLM such as REDD+. Decision support systems will be developed to facilitate decision making in land

management. The proposed project will coordinate closely with SAREP in order to share information, knowledge and approaches.

101. A GEF funded project with the main objective of building local capacity for the conservation of biodiversity in the Okavango Delta; Biokavango project is working primarily in the wetland system of the Okavango Delta; strengthening tourism, fisheries and sustainability of veld products as livelihood support systems. Notable interventions include facilitation of the establishment of local level resource management structures and active community involvement in biodiversity conservation in Tubu, Panhandle area and the eastern distal ends of the Delta. Sustainable Land Management initiatives proposed under this initiative will utilize the systems and processes initiated by Biokavango project.

102. The Government of Botswana, working with local communities and the private sector, is initiating a project under the REDD+ mechanism of the UNFCCC. The pilot project will take place in NG 8 controlled hunting area within Ngamiland District. This project will complement the SLM project through protection of rangeland areas, monitoring and releasing benefits from such resources. ORI (Okavango Resource Institute) of the University of Botswana is currently in the process of establishing a resource monitoring system. The capacity within ORI and other monitoring initiatives in the district such as biomass assessment by the DFRR provide an opportunity for collaboration in building the capacity of local farmers, planners and decision makers in range resource monitoring.

Project consistency with national priorities and plans

103. The project is in line with several national development frameworks, starting with the National Strategy for Poverty Reduction (BNSPR, 2003), the Vision 2016 document, and the Millennium Development Goals (MDGs). These macro-policy frameworks seek to provide the Botswana with tools to meet national aspirations for an educated, informed and prosperous society with sustainable livelihoods and development. The programmes pursued through the National Strategy for Poverty Reduction (BNSPR) include the advancement of sustainable livelihoods through employment creation, support to rain-fed crop production; increasing small stock production; strengthening the Community Based Natural Resources Management Programme; creating employment opportunities in the tourism industry; and building capacity for small and medium citizen businesses. The project is also in line with the country's National Action Plan for Combating Land Degradation (NAP, 2006), formulated to facilitate the implementation of the UNCCD program in the country. The objectives of the NAP are, amongst others, facilitating sustainable use and management of natural resources, Development of mechanisms for mobilizing and channeling financial resources to combating desertification, poverty alleviation and community empowerment, *inter alia* by promoting, viable and sustainable alternative livelihood projects, strengthening capacity for research, information collection, analysis and utilization.

104. At the district level, the project is in line with the Okavango Delta Management Plan (ODMP), and the constituent sector based implementation sub-programs (outlined in the baseline section). The overall goal for the ODMP is to promote integrated resource management in the Ngamiland District, especially within the Delta and its environs, to ensure long-term conservation and to provide benefits for the present and future well-being of the Botswana. One of the outputs from the ODMP is the Integrated Land Use and Management Plan for the Okavango Delta Ramsar Site and the Fire Management Strategy. The ODMP therefore provides a basis for, and baseline information on, the use and management of resources within the Okavango Delta Ramsar Site. These plans are important for sustainable land management in the district, and, if effectively implemented, they can positively contribute to addressing land degradation in the district.

3. PROJECT RESULTS FRAMEWORK

This project will contribute to achieving the following Country Programme Outcome as defined in the CPAP: Strengthened national capacity and improved policy and institutional framework for environmental management and sustainable development and Enhanced capacity of communities for natural resources and ecosystem, management and benefit distribution
Country Programme Outcome Indicators: No. of community-based organizations with capacity to develop and implement plans in natural resources and ecosystem management and benefit distribution
Primary applicable Key Environment and Sustainable Development Key Result Area: Mainstreaming Environment and Energy
Applicable GEF Strategic Objective and Program: LD 1: Maintain or improve flow of agro-ecosystem services sustaining the livelihoods of local communities; LD-3: Reduce pressures on natural resources from competing land uses in the wider landscape
Applicable GEF Expected Outcomes: Outcome 1.2: Improved rangelands/ livestock management; Outcome 3.1: Enhanced cross-sector enabling environment for integrated landscape management
Applicable GEF Outcome Indicators: Indicator 1.2 Increased land area with sustained productivity and reduced vulnerability of communities to climate variability; Indicator 3.1 Policies support integration of agriculture, rangeland, forest, and other land uses

Project Strategy	Objectively Verifiable Indicators	Baseline	Target	Sources of verification	Risks
Objective ¹⁷ : To mainstream SLM in rangeland areas of Ngamiland District productive landscapes for improved livelihoods	Hectares of rangeland that are under improved management	Zero	1 million hectares by project end (In addition, it is expected that project lessons can be replicated to an additional 4.5 million hectares post-project)	Project PIR, Independent Evaluation, periodic field surveys/field visits	<ul style="list-style-type: none"> Slugging of the current buy-in from planning institutions and Government. There is a possibility of conflicts arising from perceptions of interference and differences on approaches to how the issues could be addressed, especially between government institutions and civil society organizations. The benefits generated by the project may be offset by the impacts of climate change, which might exacerbate the usual droughts.
Outcome 1 ¹⁸ : Effective range management improves range condition and flow of ecosystem services to support livelihoods of local communities	Area of rangeland with improved grass and herbaceous species cover	64,000 ha denuded in ranches	Approx. 40% (25,600 ha) in 4 ranches rehabilitated by project end	Field and remotely sensed data collected during the project	<ul style="list-style-type: none"> Weak enforcement of the TGLP has in the past encouraged overstocking in the communal lands since commercial farmers have retained the right to offload excess livestock to the communal areas. Increased access to livestock markets might become a perverse incentive and fuel higher
	Area of riparian woodland preserved	10,000 ha of riparian woodland lost around Lake Ngami	200 meter buffer zone reclaimed by project end	Field and remotely sensed data collected under the project	
	Incidence of late dry season fires	Fires burn annually at Tsodilo	Frequency reduced to every three years	DFRR data	
	Extent of uncontrolled fires	10,000 ha affected by uncontrolled fire	Fire-affected area reduced by 50% most of the years and by	DFRR data	

¹⁷ Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

¹⁸ All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.

Project Strategy	Objectively Verifiable Indicators	Baseline	Target	Sources of verification	Risks
			100% in two out of the five years of the project		stocking rates, if governance is not improved simultaneously. <ul style="list-style-type: none"> Reluctant participation by local communities due to fear that the project will compromise their livelihoods by introducing strict management systems.
	Area affected by bush encroachment	100,000 ha affected by overgrazing and bush encroachment	Decrease by 25% by the end of the project	Field and remotely sensed data collected under the project	
	No. of farmers practicing conservation agriculture	Zero	30 every other year, trained and given extension support	Department of Crops data	
	No. of farmers practicing in improved and effective herd management	Zero	30 farmers enrolled for participation in the project (20 initially and 10 more added by project end)	DAP and ORI data	
	Stocking rates in line with the prevailing condition of the rangeland	Tbd during the range assessment studies of this project	Tbd during the project and implemented in 4 ranches by project end	DAP and ORI data	
	No. of farmers ¹⁹ with improved livelihoods	Tbd during range assessments which will cover farmer livelihoods as well	Double farm generated income of farmers involved in improved herd management and CA by project end	Baseline and monitoring data collected by project	
	Economic returns per land unit	Tbd during range assessments which will include establishment of economic returns from different land uses (ranches and communal rangelands)	Increase returns by a quarter of the baseline every year after the 2 nd year	Baseline and monitoring data collected by project	
	Capacity of key land management institutions for SLM	Summary baseline capacity score 28%	Raise to 50% and improving by the end of the project	Capacity Development Scorecard (see Annex 4) ; project M&E data	
Outcome 2: Effective governance framework and markets provide incentives for livestock off-take and compliance with SLM	Multi-stakeholder forum for mainstreaming SLM issues in national and regional policies, plans and strategies	Existing multi-sectoral institution is limited to multiple government sectors	Active participation from government, NGOs, water and land user groups, community trusts, community leaders, private sector by project end	Meeting minutes	<ul style="list-style-type: none"> Difficulties in matching new markets to new products, or farmers fail to meet the quality specifications for new products and new markets.
	Revenue from non-beef livestock products	Zero	Tbd during feasibility studies for setting up a processing and marketing plant	Project reports on pilot activity	
	Off-take rate for cattle	Tbd during range assessments under the economic section	Tbd after range assessments	Data from district office of Ministry of Agriculture	

Note: A more detailed description and rating of project risks is provided in Annex 5.

¹⁹ Farmers are disaggregated according to gender, age group and small stock keeping

4. Total Budget and Work Plan

Award ID:		00077645									
Award Title:		PIMS 4629 –Integrated SLM in Ngamiland									
Business Unit:		BWA10									
Project Title:		Mainstreaming Sustainable Land Management in Rangeland Areas of Ngamiland District Landscapes for Improved Livelihoods									
Atlas Project ID:		00088298									
PIMS number:		4629									
Executing Entity:		Department of Forestry and Range Resources under the Ministry of Environment, Wildlife and Tourism, supported by the Department of Animal Production under the Ministry of Agriculture									
GEF Component (Outcome) /Atlas Activity/ outputs	Impl. Agent	Fund ID	ERP / ATLAS Budget Code	Atlas Budget Description	2014 (USD)	2015 (USD)	2016 (USD)	2017 (USD)	2018 (USD)	TOTAL Amount (USD)	Notes
1.1 Local level land use plans developed for each pilot	NEX	62000	72100	Contractual Services-Companies	50,000	50,000	40,000	10,000		150,000	1
	NEX	62000	75700	Training	30,000	10,000	10,000	5,000		55,000	2
	NEX	62000	71600	Travel	10,000	10,000	10,000	5,000		35,000	3
	NEX	62000	72300	Materials and Goods (agric and Forestry)	20,000	20,000	4,000			44,000	4
	NEX	62000	74200	Audio Visual & Print Prod Costs	5,000	5,000	5,000	1,000		16,000	5
Output subtotal					115,000	95,000	69,000	21,000	0	300000	
1.2. Improved range management and mixed livelihood systems are piloted	NEX	62000	71400	Contractual Services - Individuals	35,000	27,000	27,000	27,000	27,000	143,000	6
	NEX	62000	75700	Training	15,000	15,000	15,000	15,000	15,000	75,000	7
	NEX	62000	71600	Travel	10,000	10,000	10,000	10,000	10,000	50,000	8
	NEX	62000	72100	Contractual Services-Companies	50,000	50,000	50,000	40,000	10,000	200,000	9
	NEX	62000	72300	Materials and Goods	83,000	80,000	80,000	60,000	40,000	343,000	10
	NEX	62000	74200	Audio Visual & Print Prod Costs	5,000	4,000	3,000	2,000	3,000	17,000	11
Output Sub Tot					198,000	186,000	185,000	154,000	105,000	828,000	
1.3: Bush-control program is piloted and provides	NEX	62000	71400	Contractual Services - Individual	25,000	25,000	25,000	25,000	10,000	110,000	13

financial incentives for controlled bush clearance	NEX	62000	71600	Travel	10,000	10,000	5,000	5,000	1,000	31,000	14
	NEX	62000	75700	Training	20,000	20,000	20,000	10,000	10,000	80,000	15
	NEX	62000	72100	Contractual Services-Companies	40,000	40,000	40,000	30,000	10,000	160,000	16
	NEX	62000	74200	Audio Visual & Print Prod Costs	4,000	2,000	1,000	1,000	1,000	9,000	17
	NEX	62000	72300	Materials and Goods	60,000	50,000	50,000	40,000	20,000	220,000	18
Output sub Tot					159,000	147,000	141,000	111,000	52,000	610,000	
1.4 Fire management strategy is piloted	NEX	62000	71600	Travel	10,000	5,000	5,000	5,000	5,000	30,000	20
	NEX	62000	75700	Training	20,000	20,000	20,000	10,000	1,000	71,000	21
	NEX	62000	72300	Materials and Goods	50,000	20,000	10,000	15,000	4,000	99,000	22
Output sub Tot					80,000	45,000	35,000	30,000	10,000	200,000	
1.5: System for monitoring of range condition and productivity is in place	NEX	62000	75700	Training	20,000	10,000	5,000	5,000	5,000	45,000	23
	NEX	62000	71400	Contractual Services - Company	10,000	10,000	10,000	9,000	5,000	44,000	24
	NEX	62000	74200	Audio Visual & Print Prod Costs		2,000	2,000	2,000	5,000	11,000	25
	NEX	62000	71600	Travel	5,000	5,000	5,000	4,000	1,000	20,000	25a
	NEX	62000	74100	Professional Services		42,000			43,000	85,000	26
Output subtotal					35,000	69,000	22,000	20,000	59,000	205,000	
Outcome Subtotal					587,000	542,000	452,000	336,000	226,000	2,143,000	
Comp 2. Effective resource governance frameworks and markets provide incentives for livestock off-take and compliance with SLM											
2.1 - A regional multi-stakeholder forum for facilitating a dialogue on SLM is created	NEX	6200	71400	Contractual Services - Individual	20,000	18,000	18,000	18,000	18,000	92,000	27
	NEX	62000	75700	Training	20,000	20,000	36,000	10,000	5,000	91,000	28
	NEX	62000	72300	Materials and Goods	30,000	20,000	20,000	10,000	5,000	85,000	29
	NEX	62000	72510	Publications	5,000	5,000	5,000	5,000	5,000	25,000	30
Output subtotal					75,000	63,000	79,000	43,000	33,000	293,000	

2.2: Improved access of farmers to markets for livestock products	NEX	6200	71400	Contractual Services - Individual	20,000	10,000				30,000	32
	NEX	62000	71600	Travel	10,000	10,000	5,000	5,000	2,000	32,000	33
	NEX	62000	72100	Contractual Services-Companies	50,000	50,000	30,000	30,000	20,000	180,000	34
	NEX	62000	72300	Materials and Goods	21,000	85,000	25,000	20,000	7,000	158,000	35
Output subtotal					101,000	155,000	60,000	55,000	29,000	400,000	
2.3: Processing plant in Ngamiland increases quantity and variety of locally processed beef products, allowing higher sales of livestock products and off-take (supported through BMC cofinancing)	NEX	62000	71600	Travel	5,000	5,000	5,000	5,000	5,000	25,000	37
	NEX	62000	72100	Contractual Services-Companies	5,000	5,000	5,000	5,000	5,000	25,000	38
Output subtotal					10,000	10,000	10,000	10,000	10,000	50,000	
2.4: Product placement secured in local and regional markets (supported through BMC co-financing)	NEX	62000	71600	Travel	5,000	5,000	5,000	5,000	5,000	25,000	39
	NEX	62000	72100	Contractual Services-Companies	5,000	5,000	5,000	5,000	5,000	25,000	40
Output subtotal					10,000	10,000	10,000	10,000	10,000	50,000	
Outcome Subtotal					196,000	238,000	159,000	118,000	82,000	793,000	
Project Management	NEX	6200	71400	Contractual Services - Individual	18,000	17,000	17,000	17,000	17,000	86,000	41
	NEX	62000	72200	Equipment and Furniture	1,000	1,000	1,000	1,000	800	4,800	42
	NEX	62000	72500	Office Supplies	500	500	500	500	500	2,500	43
	NEX	62000	72400	Communication & Audio Visual Equip	5,000	1,000	2,000	1,000	500	9,500	44
	NEX	62000	74500	UNDP Cost Recovery Charge	9000	9000	7000	6000	6000	37,000	45
	NEX	62000	74500	miscellaneous	2000	2000	500	500	1000	6,000	46

Output subtotal	35,500	30,500	28,000	26,000	25,800	145,800	
Outcome Sub Total	35,500	30,500	28,000	26,000	25,800	145,800	
Grand Total	818,500	810,500	639,000	480,000	333,800	3,081,800	0

Budget Notes

Note	Explanation
1-5	<p>This output will support the development of 3 Integrated Land Use Plans for Hainaveld ranches, Lake Ngami and Toteng–Maun ranches, and northern and western Ngamiland. The development of the land use plan will be led by the Tawana Land Board and DLUPU with the active participation of communities, other government and non-government stakeholders including DFRR, DCP, DAP, DVS. The budget will be used as follows:</p> <ol style="list-style-type: none"> 1. Funds will be used to contract a technical institution (either a CBO or the Okavango Resource Institute (ORI) to provide technical support to the government institutes and Tawana Land Board, which will jointly facilitate the formulation of the land use plans. The technical support will be in undertaking integrated range assessments (social, cultural, economic, and ecological, levels of use, determining carrying/stocking capacities, etc.). This information will be used to inform the land use plans. The contracted institution will also provide technical support in the actual design of the integrated land use plans; 2. Training - These funds will be used to pay for the cost of training events, at which communities will be trained on subjects relevant to the design and implementation of integrated land use plans. 3. Travel – the funds will be used to support travel related to fieldwork by Tawana Land Board and DLUPU as well as other government and non-government stakeholders including DFRR, DCP, DAP, DVS. Costs include fuel, vehicle maintenance and DSAs; 4. This budget will be used to purchase materials needed for land use planning. This will include cost of maps, equipment for surveying, a laptop and other relevant materials. 5. This budget will support the printing of material related to training, production and distribution of finished land use maps, and publications related to the design and implementation of integrated land use planning. The latter will be used to share lessons and support upscaling of the initiative.

This output will focus on improving the range management system on commercial ranches and communal rangelands. This will involve a participatory process of bringing together traditional rangeland management systems and contemporary ones based on technical knowledge. Effective implementation of the output will need contributions from technical staff of the line ministries with technical assistance from civil society, academic institutions and the private sector. The budget will be used as follows:

6. This budget will be used to contract an individual to coordinate technical input from the line the technical staff of line ministries, civil society, academic institutions and the private sector – and channel the assistance to the communities. Due to the long-term nature of the initiative, a service contract will be more appropriate than a consultant contract (at US\$ 2,250 per month).
7. Training – this budget will be used to support actual training for relevant groups of farmers to provide the skills they need to implement the program of improving range and livestock management systems. Training for commercial ranchers will revolve around effective use of enclosures, paddocking, rotational grazing, supplementary feeding and controlled off-take and marketing. Training of farmers on communal lands will revolve around the improvement of pastoral system based on a combination of herding, kraaling and livestock movement and marketing. The budget line will pay for the development of training materials and the actual cost of delivering the training.
8. The Department of Animal Production (DAP), Department of Agricultural Research (DAR) and Department of Forestry and Range Resources (DFRR) will be the frontline for implementing the training. This budget will finance the travel of the technical staff of these departments, including the costs of fuel, vehicle maintenance and DSAs, etc.
9. This budget line will be used to identify and contract companies/civil society and academic institutions to provide the line ministries with technical assistance to ensure that implementation of the output is based on the best science and cutting edge practices. Technical assistance will be provided in undertaking baseline physical, economic and social assessments for the range and or ranches, reviewing international best practices in range management and livestock stocking rates/carrying capacities, and application of the information to design range improvement systems for both commercial ranches and communal lands. Further technical assistance will be needed in identifying sustainable, economic viable income generating activities for improving livelihoods, and designing an implementation strategy. Institutions identified during PPG include the following: i) Okavango Research Institute (ORI) of the University of Botswana, which will support DAP in the improvements to the cattle post pastoral system (communal lands); ii) Botswana Tourism Organization and Tawana Land Board which will support the existing Community Trust to set up a community-based open game ranch in the north-western Ngamiland area (pilot site 3), working closely with the Department of Wildlife and National Parks (DWNP); iii) the Botswana College of Agriculture (BCA) which will support the Department of Agricultural Research (DAR) and Department of Crop Production (DCP), which will jointly provide community mobilization and training; working closely with the village Farmers' Committees.
10. This budget line will be used to purchase materials and goods required by the communities to effectively implement the range and livestock improvement programs as well as the livelihoods improvement programs designed through the project support. Careful assessment of needs will inform the purchases, which are likely to include materials for trialing income generating activities (bee hives, setting up honey processing facilities, local technologies for improving processing of veld (grasslands) products and linking them to markets, setting up revolving grant schemes for supporting processing and value addition to livestock products, etc.).
11. This budget will support printing of training materials and publications documenting lessons for widespread sharing;
12. Deleted (no budget).

13-19	<p>This output will support on rangeland improvement via bush control and reseeded in the area around Lake Ngami and moving towards the delta. The project will work with subsistence farmers to implement a bush control program based on a co-management approach, supported by the staff of relevant line ministries, civil society and the private sector. The budget will be used as follows:</p> <ol style="list-style-type: none"> 13. This budget will be used to contract an individual to coordinate technical input from the line the technical staff of line ministries, civil society, academic institutions and the private sector (which are all needed to contribute) – and channel the assistance to the communities. Due to the long-term nature of the initiative, a service contract will be more appropriate than a consultant contract (at US\$ 2,250 per month). 14. This budget will finance the travel of staff of the line ministry, especially the extension service of the Ministry of Agriculture and the Department of Forestry and Range Resources, which will be the frontline staff to facilitate and supervise the bush control and range resources improvement program (including reseeded). The budget will meet the costs of fuel, vehicle maintenance and DSAs, etc. 15. Training – this budget will be used to support actual training for relevant groups of farmers to provide the skills they need to implement the program of bush control and range resource improvement. Training areas will include methods of identifying and harvesting bush (without degrading the rangelands); technology for processing wood products into briquettes; methods for range reseeded (what seeds, where to plant, when); methods to design, facilitate and implement seed multiplication initiatives. Training will also be in supporting areas such as book keeping, work planning, trading, entrepreneurship, etc. 16. This budget line will be used to identify and contract three institutions to provide technical assistance to the extension staff of the line ministries and the communities in identifying the most effective methods for bush control, converting the bush into sustainably marketable wood products and range reseeded. The institutes identified during the PPG are i) the ORI (University of Botswana) which will provide technical assistance, based on current cutting-edge practices, to make sure that the bush control program and the range reseeded are informed by the best science, and are undertaken sustainably, without negatively impacting on the ecosystem condition, and its ability to deliver goods and services; ii) the Rural Industries Innovation Centre which will provide training on local technologies for converting harvested bush to wood products (including briquettes); iii) the Local Enterprise Authority (LEA), which will train the community group on basic business management, marketing and book-keeping; as well as link keen farmers and community groups undertaking rehabilitation to existing markets or livestock marketing partners (especially those seeking forage for feedlots for animals pending sales to the Botswana Meat Commission), and other marketing avenues; iv) The Social and Community Development Council which is expected to mobilize the participating community groups (they will themselves be empowered with skills under output 2.1). 17. This budget will support printing of training materials and publications documenting lessons for widespread sharing; 18. This budget will be used to purchase materials and goods required to enable the communities to utilize the training to implement the bush control and range improvement program. A careful assessment will be made before actual purchase plan is put in place; however, there will be need to purchase equipment for effective bush clearing, briquetting equipment, good quality grass seeds, etc. 19. Deleted (not budget).
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Budget	Notes
20-22	<p>Under this output the project will pilot the effective use of fire as a vegetation management tool in the Tsodilo Hills areas using a co-management approach. The budget will be used as follows:</p> <ol style="list-style-type: none"> 20. Travel – The Department of Forestry and Range Resources (DFRR) fire rangers will facilitate the community training and facilitate increased participation of community members in fire control and management. This budget will support the field work by the department, including paying for fuel, DSAs and other field work related expenses.

	<p>21. The budget will be used to establish a multi-stakeholder Tsodilo Hills Fire Management Committee and to review the existing Tsodilo Fire Management Strategy. This budget line will also pay for the expenses of training the fire management committees and the land users on the use of fire as a management tool. This training will be delivered by the DFRR.</p> <p>22. This budget line will be used to purchase equipment and other materials related to the actual implementation of the fire management plan.</p>
23-26	<p>The output will support the development of a participatory management-oriented monitoring system to serve as a decision support tool for farmers; it will allow them to plan and implement SLM strategies, as well as re-evaluate them based on results and impacts. The budget will be used as follows:</p> <p>23. Training – of communities and staff of line ministries on formulation of M&E plans, to be delivered jointly by the ORI and the technical staff of the line ministries (those with the skills already);</p> <p>24. To contract ORI to provide technical assistance to the line ministries – especially DFRR and DAP, who will facilitate the communities to collect monitoring data, formulate and implement the M&E plans, utilize data for adaptive management;</p> <p>25. This budget will support printing of training materials and publications documenting lessons for widespread sharing, including sharing lessons from all the outputs (including linking to PRAIS portal of the UNCCD).</p> <p>25a. This budget will finance the travel of the technical staff of these departments, including the costs of fuel, vehicle maintenance and DSAs, etc.</p> <p>26. Professional services (audit, mid and terminal reviews/evaluation)</p>
27-31	<p>The output will support the formation of a regional multi-stakeholder SLM forum (at the Ngamiland District level) to lead district-level dialogue on mainstreaming SLM considerations in implementation of critical national and regional policies, plans and strategies. The output will empower local institutions in SLM issues, particularly the review of policies and formulation of recommendations for mainstreaming SLM into selected productive sector policies. The budget will be used as follows:</p> <p>27. The budget line will be used to hire an individual to provide technical services to lead the establishment of the regional multi-stakeholder SLM forum. The contractor will ensure that the formation of the forum is based on relevant experiences from the region and the international level. The contractor will facilitate the formation of the forum through the steps (i) determination of a preliminary list of potential participants from Government, NGOs, water and land user groups such as Farmers’ Associations, and private sector; (ii) dissemination of basic information materials on the role of the Ngamiland SLM forum to potential participants; (iii) organization of area visits and meetings for consultations on the role, status and importance of the forum, as well as local expectations; (iv) consultations on and selection of forum members; (v) preparation and implementation of the initial meeting for establishing the forum; (vi) follow-up discussions of founding documents of the forum with members; (vii) first full meeting of the forum; (viii) development and approval of the strategy and work plan for influencing key policies; (ix) continuing training and technical assistance related to SLM for forum members during the project. Working closely with the Ministry of Lands and Housing together with the Department of Environmental Affairs (MEWT) and Department of Forestry and Range Resources (DFRR), the contractor will also facilitate policy reviews and formulation of recommendations; and produce policy briefs. S/he will also link with national processes to influence policy discussions and reform process.</p> <p>28. This budget will support empowerment of the local natural resource management/ community-based management institutions such as community trusts, farmers’ committees, village development committees, and Bogosi²⁰ to be able to participate in the policy discussions, as well as lead the design and implementation of range management principles envisioned in SLM at the local level. The budget line will support the development and delivery of training for these groups.</p> <p>29. This budget line will be used by the local natural resource management/ community-based management institutions and the multi-stakeholder forum to facilitate their participation in the forum discussions, including organizing meetings with communities to consolidate consultations, particularly of policy reviews; and participating in national level policy discussions.</p> <p>30. To finance production of training materials as well as technical publications sharing findings.</p>

²⁰ Chieftainship

	31. Deleted (no budget).
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Note	Explanation
32-36	<p>This output will focus on improving the enabling environment for establishment of small-scale, community-based enterprises related to processing and marketing of livestock products such as leather, horn, and bones, from both cattle and other small stock. The project will identify and remove barriers to entry into the sector/ market by livestock farmers. The budget will be used as follows:</p> <p>32. The budget line will be used to hire an individual to provide technical services to assess livestock products value chains, identify potential opportunities for establishing small industries based on non-meat livestock products; identify barriers to entry and make recommendations for addressing them. This will include detailed feasibility studies on economic assessment, environmental assessment, and socio-cultural aspects. The contractor will also identify options for access to credit and facilitate linkage of potential businesses to local/national financing institutions such as the National Development Bank (NDB), Citizen Empowerment Development Agency (CEDA).</p> <p>33. This budget will support the design and delivery of a training program for potential business/entrepreneurs – including business processes, entrepreneurship and related subjects. Training will be led by the Local Enterprise Agency (LEA), working closely with the individual contracted via budget line 27 and the PMU.</p> <p>34. This budget line will be used to purchase materials and goods needed to remove barriers to entry for livestock farmers to enter the livestock trade – or to establish small-scale, community-based enterprises related to processing and marketing of livestock products such as leather, horn, and bones, from both cattle and other small stock. A plan of purchases will be made, carefully based on needs assessment.</p> <p>35. To finance production of training materials as well as technical publications sharing findings.</p> <p>36. Deleted (no budget).</p>
37-38	Under this output, the project will work with the private sector, farmers and government to increase slaughter capacity and produce a broader range of meat products. By increasing the demand for Ngamiland cattle (to be processed into meat products by the plant). This budget will be used to support incidental activities related to linking livestock farmers in the project pilots with the BMC processes, such as attending critical meetings or formulating positions, etc.
39-40	Through BMC co-financing, the project will work with the private sector, farmers and government to tap into a broader range of markets for Ngamiland beef. Currently, Botswana is exploring liberalization of the beef market that would allow more players to be involved in the export of beef products to other non-EU markets as well as export of live cattle to regional markets such as Angola and Zimbabwe. This budget will be used to support incidental activities related to linking livestock farmers in the project pilots with the BMC processes, such as attending critical meetings or formulating positions, etc.
41-46	<p>This budget will support project administration, evaluation and auditing as follows:</p> <p>41. Cost of a Project Administrator at US\$ 1,200 per month (including recruitment);</p> <p>42. Equipment and furniture;</p> <p>43. Office supplies;</p> <p>44. Communication & Audio Visual Equip</p> <p>45. Implementation of this project will involve a great deal of procurement. This budget line will be used to provide UNDP direct assistance in procurement that is not catered for under GMS; thus this constitutes Direct Project Cost (DPC)</p> <p>46. Miscellaneous.</p>

Summary of Funds

	GEF	Co-fin
Component Total	2,143,000	9,966,000
Output 1.1	300,000	1,500,000
Output 1.2	828,000	4,500,000
Output 1.3	610,000	2,000,000
Output 1.4	200,000	966,000
Output 1.5	205,000	1,000,000

Component 2 Total	793,000	17,683,000
Output 2.1	293,000	1,500,000
Output 2.2	400,000	2,000,000
Output 2.3	50,000	7,000,000
Output 2.4	50,000	7,183,000
PM	145,800	1,000,000
Grand Total	3,081,000	28,649,000

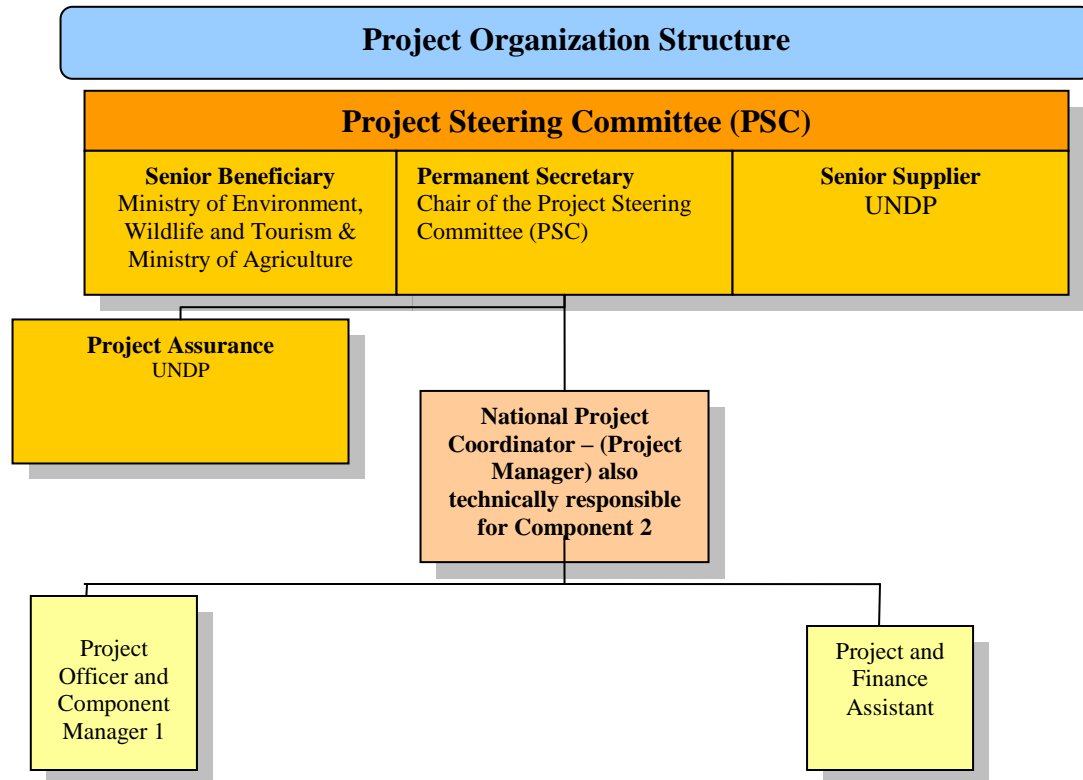
Sources of Co-Finance

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount(\$) exchange rate=8.33*
Multilateral	UNDP	Cash	1,000,000
National Government	Department of Forestry and Range Resources (DFRR)	Cash	2,675,000
National Government	North West District Council	Cash	3,500,000
National Government	Department of Environmental Affairs	Cash	1,300,000
National Government	Department of Animal Production	Cash	3,000,000
National Government	Botswana Meat Commission	Cash	14,183,000
Civil Society Organisation	Kalahari Conservation Society	Cash	630,000
Civil Society Organisation	Tlhare Segolo Foundation	Cash	250,000
Bilateral Aid Agency	USAID - Southern Africa Regional Environmental Programme	Cash	50,000
Academic Institution (National)	University of Botswana (Okavango Research Institute)	Cash	2,061,000
Total			28,649,000

5. MANAGEMENT ARRANGEMENTS

Project Implementation arrangement

105. The project will be executed by the Government of Botswana, under the UNDP National Execution (NEX) modality following NEX guidelines and requirements that are set out in the UNDP Programming Manual. Experience has shown that NEX provides the best opportunity for project support in conformity with Government priorities and to ensure national ownership. Oversight of project activities will be the responsibility of the Project Steering Committee (PSC), chaired by the Permanent Secretary of MEWT (or his/her nominee). Day-to-day operational oversight will be ensured by UNDP, through the UNDP Office in Gaborone, and strategic oversight by the UNDP/GEF SLM Regional Technical Advisor responsible for the project. The UNDP Country Office in Botswana will be the responsible institution. The Executing Agency will be the MEWT through the Department of Forestry and Range Resources (DFRR) in partnership with the Ministry of Agriculture (Department of Animal Production – DAP) as lead agencies. Project activities will be undertaken by relevant governmental, non-governmental, parastatal, private sector and community based entities. The executing agency will remain accountable to UNDP for the delivery of agreed outputs, and for financial management, including the cost-effectiveness of project activities.



106. Since the project is fairly large and will involve substantial coordination of different stakeholders from a variety of land-use sectors in Ngamiland, a small Project Management Unit (PMU) will be set up to coordinate the implementation of the project on a day-to-day basis. The PMU will be composed of a National Project Coordinator (NPC) who will function as the Project Manager and also be technically responsible for outputs 1.2, 1.3 and 2.1. Support staff will include a Project Officer who will also function as Component Manager for output 2.2, and a Project and Finance Assistant who will also play a coordination role for administrative and M&E activities of the project (see diagram above). In addition to their technical contribution, the PMU will be responsible for overall project coordination, implementation and routine reporting. Project staff will be based in Maun and will report to UNDP and the Project Steering Committee (PSC). (See Annex 6 for generic terms of reference for key project personnel and consultants.)

107. DFRR and DAP will nominate counterparts to work with this team. This will include a senior officer at DFRR (HQ) and another at DAP (HQ) who will coordinate the activities of DFRR and DAP respectively, and district officers at the district Ngamiland/North-West level to ensure there are responsible officers for site-based actions.

108. The main duties of the PSC will be to receive project reports and documents, make recommendations and approve budgets and work plans. The PSC is responsible for making executive decisions for the project and provide guidance as required by the NPC. There will be Mid-Term and End-of-Project Review and Evaluation, as well as routine project M&E according to the project’s M&E Plan. The PSC will convene four times a year to review progress and recommend adjustments to actions. Quarterly reports will be produced and shared with the members of the PSC for information. Changes within the stipulated budget of an output will not require convening of the PSC. However, changes across outputs (the outputs represent also deliverables of different institutions) will have to be approved by the PSC.

Financial and other procedures

109. The Implementing Partner(s) will utilize the FACE and HACT mechanisms and provide at the end of each quarter both the financial report and physical report. In the case of Government procurement, Government procurement rules apply, while UNDP rules will apply in the case of Country Office support to NEX. The Implementing Partner(s) will use the following procedures and transfer modalities for requesting cash and reporting on its utilization – (i) *Direct Cash Transfer* – This will be in the form of an advance disbursed to the Implementing Partner for obligations and expenditures to be made by them in support of activities in annual work plans (AWPs); (ii) *Direct Payments* – This would be payments to vendors and other third parties for obligations incurred by the Implementing Partner in support of activities agreed in AWPs; and (iii) *Reimbursement* – This would be reimbursements to the Implementation Partner for obligations made and expenditure incurred by them in support of activities agreed in AWPs.

110. Since the project will be implemented through a NEX modality, the preferred method of cash transfer is the Direct Cash Transfer (i.e. Advance). Direct Payments and Reimbursements will only be allowed in emergency cases which cannot await processes of an advance (Direct Cash Transfer) and/or UNDP is unable to honor the request for an advance at the time of request (e.g. in cases where the UNDP account has not yet been replenished).

Audit Clause

111. Audit will be conducted according to UNDP Financial Regulations and Rules and applicable Audit policies (only);

6. MONITORING FRAMEWORK AND EVALUATION

112. The project's monitoring and evaluation (M&E) activities will build on UNDP's existing M&E Framework for land degradation programming. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from the UNDP/GEF Regional Coordination Unit. The Project Results Framework provides performance and impact indicators for project implementation along with their corresponding means of verification. The LD-PMAT will be used to monitor the project's impact on land degradation (see Annex 7). The M&E plan includes: inception report, project implementation reviews, quarterly and annual reviews, an independent mid-term review and an independent final evaluation. The following sections outline the principle components of the M&E Plan and indicative cost estimates. The project's M&E Plan will be presented and finalized in the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project start:

113. A Project Inception Workshop will be held within the first 6 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

114. The Inception Workshop will address a number of key issues including: (a) Assist all partners to fully understand and take ownership of the project. (b) Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. (c) Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. (d) The Terms of Reference for project staff will be discussed again as needed. (e) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks. (f) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled. (g) Discuss financial reporting procedures and

obligations, and arrangements for annual audit. (h) Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Project Steering Committee meeting should be held within the first 2 months following the inception workshop.

115. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Project Implementation Workplan:

116. Immediately following the inception workshop, the project will be tasked with generating a strategic workplan. The workplan will outline the general timeframe for completion of key project outputs and achievement of outcomes as detailed within this project document. The workplan will map and help guide project activity from inception to completion. This will include process indicators to monitor project activity. These time-bound indicators will serve as benchmarks to measure progress towards achievement of intended project outcomes and outputs. The updated workplan and related progress report will be submitted annually to the Project Board and UNDP/RTA for review. To ensure smooth transition between project design and inception, the inception workshop and work planning process will benefit from the input of parties responsible for the design of the original project, including as appropriate relevant technical advisors.

Quarterly Progress Monitoring:

117. Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform. Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical). Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot. Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually (Annual Project Review/Project Implementation Reports (APR/PIR)):

118. This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements. The APR/PIR includes, but is not limited to, reporting on the following: (a) Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative); (b) Project outputs delivered per project outcome (annual); (c) Lesson learned/good practice; (d) AWP and other expenditure reports; (e) Risk and adaptive management; (f) ATLAS QPR; (g) Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits:

119. UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no more than one month after the visit to the project team and Project Board members.

Mid-term of project cycle:

120. The project will undergo an independent Mid-Term Evaluation during the mid-point of project implementation (October - November 2016). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness,

efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization and terms of reference of the mid-term evaluation will be decided after consultation between the parties to the project document.

121. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The terms of reference will be completed one-year before the planned mid-term. The international evaluator/team leader will be recruited directly by the Regional Coordinating Unit of UNDP-GEF. The international independent expert will be recruited at least eight-months prior to the planned commencement of the mid-term evaluation. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

End of Project:

122. An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

123. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response that should be uploaded to PIMS and to the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

124. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Communications and Visibility Requirements

125. Full compliance with UNDP's Branding Guidelines and guidance on the use of the UNDP logo will be maintained. These can be accessed at <http://web.undp.org/comtoolkit/reaching-the-outside-world/outside-world-core-concepts-visual.shtml>. Full compliance will also be maintained with the GEF Branding Guidelines and guidance on the use of the GEF logo. These can be accessed at http://www.thegef.org/gef/GEF_logo. The UNDP and GEF logos will be the same size. When both logos appear on a publication, the UNDP logo will be on the left top corner and the GEF logo on the right top corner.

126. Full compliance will also be maintained with the GEF’s Communication and Visibility Guidelines (the “GEF Guidelines”).²¹ Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

127. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements will be similarly applied.

Table 6. M&E Activities, Responsibilities, Budget and Time Frame

Type of M&E activity	Responsible Parties	Budget US \$ Excluding project team Staff time	Time frame
Inception Workshop	Project Manager UNDP CO UNDP GEF	\$10,000	Within first three months of project start up
Inception Report	Project Team UNDP CO	None	Immediately following Inception workshop
Measurement of Means of Verification for Project Purpose Indicators	Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized in Inception Phase.	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Oversight by Project Manager Monitoring and Evaluation Officer Project team	To be determined as part of the Annual Work Plan's preparation.	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	Project Team UNDP-CO UNDP-GEF	None	Annually
Quarterly progress reports	Project team	None	Quarterly
CDRs	Project Manager	None	Quarterly
Issues Log	Project Manager UNDP CO Programme Staff	None	Quarterly
Risks Log	Project Manager UNDP CO Programme Staff	None	Quarterly
Lessons Learned Log	Project Manager UNDP CO Programme Staff	None	Quarterly
Mid-term Evaluation	Project team UNDP- CO UNDP-GEF Regional Coordinating Unit External Consultants (i.e. evaluation team)	\$12,000	At the mid-point of project implementation.
Final Evaluation	Project team, UNDP-CO UNDP-GEF Regional Coordinating Unit External Consultants (i.e. evaluation team)	\$35,000	At the end of project implementation
Terminal Report	Project team UNDP-CO local consultant	Funds are budgeted for local consultants to assist where needed (approximately \$10,000)	At least one month before the end of the project
Lessons learned	Project team Monitoring and Evaluation Officer UNDP-GEF Regional Coordinating Unit (suggested formats for documenting	Funds are budgeted for local consultants to assist where needed (approximately \$10,000)	Yearly

²¹The GEF Guidelines can be accessed at http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_GEF%20final_0.pdf

Type of M&E activity	Responsible Parties	Budget US \$ Excluding project team Staff time	Time frame
	best practices, etc.)		
Audit	UNDP-CO Project team	\$6,000	Once during lifetime of project as per UNDP audit regulations
Visits to field sites	UNDP Country Office UNDP-GEF Regional Coordinating Unit (as appropriate) Government representatives	Paid from Implementing Agency fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US \$ 83,000	

7. LEGAL CONTEXT

128. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the Standard Basic Assistance Agreement and all CPAP provisions apply to this document.

129. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

130. The implementing partner shall: (a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; and (b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

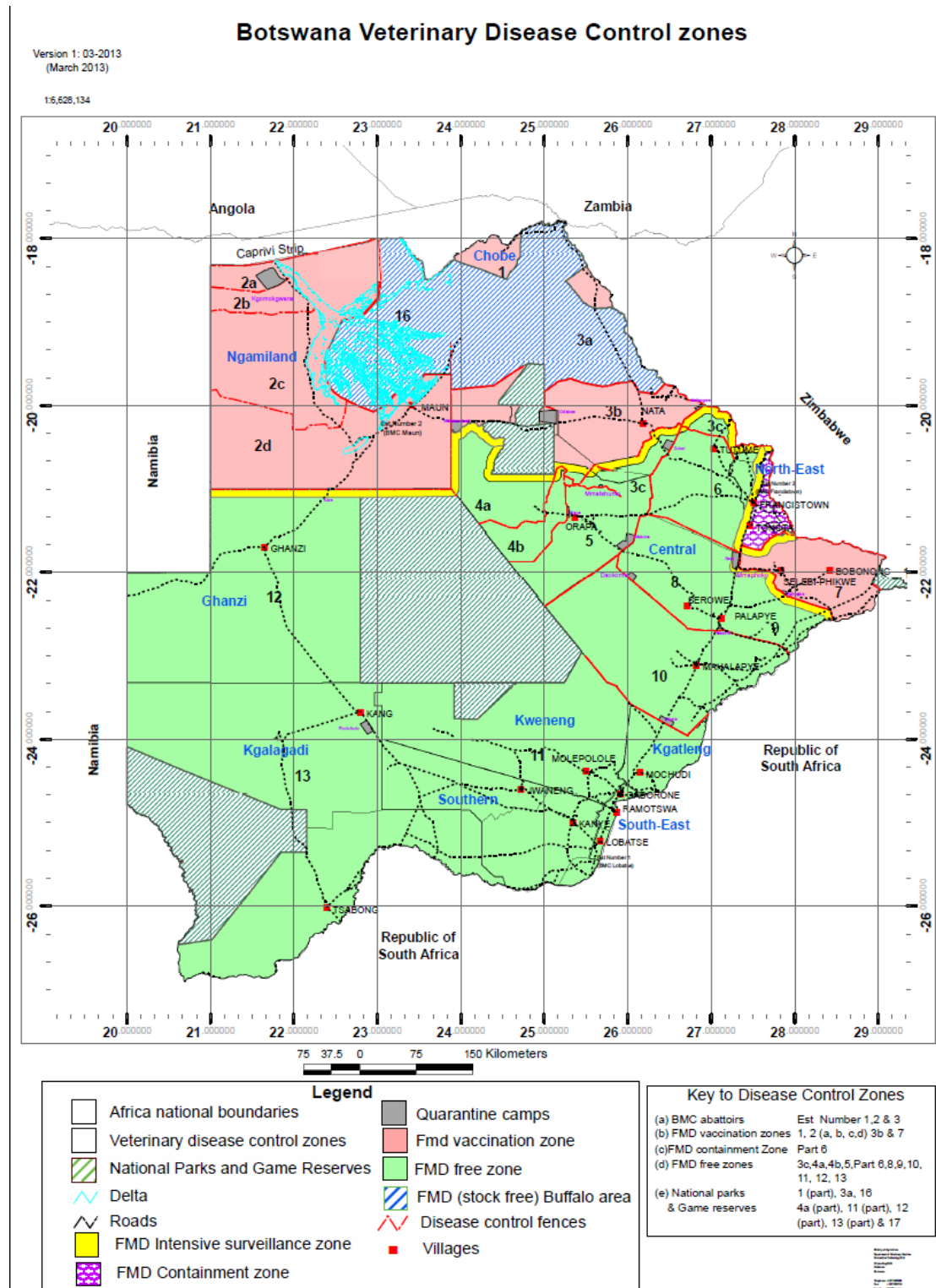
131. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

132. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

8. ANNEXES

(Next page)

ANNEX 1: MAP OF VETERINARY DISEASE CONTROL ZONES



ANNEX 2: PILOT AREAS WHERE SUSTAINABLE RANGELAND MANAGEMENT WILL BE DEMONSTRATED

133. The Ngamiland District can be broadly sub-divided into six land use zones, as described below. Of these areas, the project will focus SLM demonstrations in the Hainaveld and Toteng–Maun ranches, Lake Ngami and surrounding areas, and northern and western Ngamiland (underlined areas below and areas marked 1, 2 and 3 in map below).

134. The Okavango Delta and surrounding associated Wildlife Management Areas: This zone is largely wilderness and is protected and managed through a range of wildlife and tourism policies and acts. Major land use is wildlife based tourism.

135. The Okavango panhandle: This zone consists of the river channel surrounded by the riverine forest where riparian communities practice arable agriculture, livestock rearing, fishing, harvesting veld products, and tourism.

Hainaveld and Toteng–Maun ranches: Land use in this zone consists of mixed cattle and wildlife ranching.

136. Lake Ngami and surrounding areas: Land use in this zone consists of cattle post livestock rearing, arable farming, and fishing

137. Northern and western Ngamiland: This zone is largely dry and sandy with low water availability, sparse population; land use consists of mixed agricultural production and veld products harvesting.

138. Eastern Panhandle: This zone has a high elephant population. The area is used by communities for mixed farming, community based ecotourism and veld products harvesting.

139. The Okavango delta core is conserved and protected by the Moremi Game Reserve and the associated and surrounding Wildlife Management Areas (WMAs). Although susceptible to rangeland degradation, the regulatory requirements on land system managers (PA managers, WMA managers) for adaptive management and ecosystem monitoring act as a safeguard for the area. The same level of applied, adaptive management intervention is not in place within the surrounding landscapes, exposing these areas to the potential extremes of rangeland degradation. The focus of the Ngamiland SLM project is, therefore, on these surrounding landscapes.

140. That said, it is critical not to separate land management within the Okavango Delta from that of the surrounding dry Kalahari sandveld. The two ecosystems are intimately linked with connectivity between them essential if sustainable returns from both the agricultural and wildlife sectors are to be realized. The importance of ecosystem connectivity within the concept of sustainable land management for Ngamiland has been highlighted because of the susceptibility of the area to climatic variation, with spatially and temporarily variable rainfall patterns that drive migratory movement of wildlife out of the Delta into the surrounding landscape. Undermining the ecosystem connectivity of the region would destabilize the wildlife populations, which are of international importance and support the local tourism industry, upon which many livelihoods depend.

141. Several factors have influenced the selection of sites for the project that include the following: the relevance to existing and proposed land use planning; existence of key rangeland management issues and challenges that affect a range of livelihoods (including the livestock sector) and demand an integrated and balanced approach; the role that ecosystem connectivity plays in terms of its regulatory function for wildlife, its socio-economic importance to people's livelihoods, and the impact that maintaining or losing connectivity would have on rangeland degradation. In addition, temporary, unusual events, such as the filling of Lake Ngami, have also to be taken into consideration in selection of pilot sites, as over time it is predicted that Lake Ngami will dry out again, once this period of exceptional flows from the Angolan highlands is over.

142. The map below depicts the pilot areas of the project where SLM pilot activities are to be undertaken – areas marked 1, 2 and 3. The red section of the map denotes areas affected by poor rangeland management and rangeland degradation. The light green section indicates areas affected by land use conflicts. The pink areas are where arable agriculture takes place and human-wildlife conflicts occur.

Pilot Area 1: Hainaveld and Maun-Toteng Ranches

143. Brief description of area: This is the commercial ranch block in Ngamiland. An important component of National and District Livestock Development Policy is to extend commercial beef production on fenced ranches. As the commercial ranch block is extended spatially, it is important to assess the success, or otherwise, of range and herd management within the ranch block. The Toteng-Maun/ Hainaveld ranches are therefore an important component of the land use policy. Yet, from the results of a preliminary range degradation study undertaken through remote sensing, using a 10 year trend assessment (2002 – 2012) in Normalized Difference Vegetation Index (NDVI) by the US Forest Service, they appear to be undergoing widespread deterioration in range condition.

144. Key SLM issues/ problems:

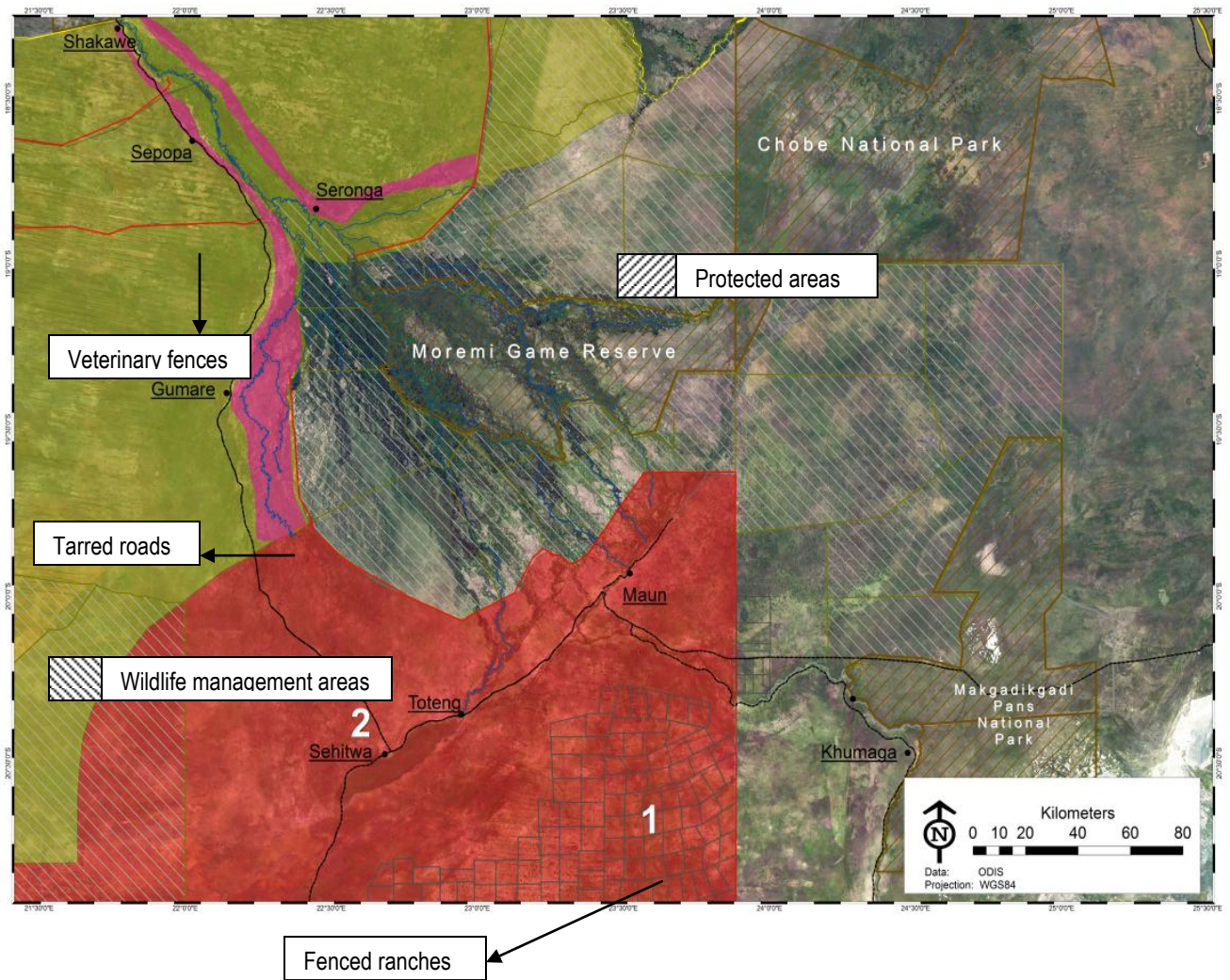
- Poor management of fenced ranches, overgrazing, bush encroachment
- Deterioration in range condition
- The ‘front line’ ranches are unfenced with many of the ranches suffering severe bush encroachment.
- Overstocking hence need for increased mobility/ off-take
- Specific SLM pilot activities and sites:

145. Discussions with the Chairman of the Hainaveld Farmers Association have established that the following ranches will provide a good illustration of how herd and range condition vary within the ranch block, so enabling a ‘demonstration’ or comparative approach to sustainable land management to be adopted. Because of variations in herd and range management strategies, by selecting ranches close to each other, differences in range condition can be attributed to different management strategies rather than variations in rainfall or vegetation and soil conditions. The ranches not only display the full spectrum of management approaches, but also have the advantage of being easily accessed from Maun. The specific nature of the pilot activities will be defined in consultation with the farmers, but will focus on a combination of mechanical and labor intensive bush clearing in conjunction with commercial development of firewood sales, improved stock rotation policy between paddocks and associated rangeland monitoring, and comparative assessments of range condition between game and cattle ranches.

Table 1 Ranches selected for pilots

Ranch Number	Owner	Characteristics
OM12	Mr. G.Sekeletu	Paddocked
OM4	Mr. Makwati	Unfenced
OM25	Mr. C.Ngwanatsele	Paddocked
OM14	Mr. K.G.Ramokweng	Paddocked
OM33	Mr. S.Polokabatho	Unfenced
OM34	Mr. P.B.Wright	Fenced
OM20	Mr. K.Brink	Mixed Game/Cattle
OM5	Mr. Tolankwe	Mixed Game/Cattle

Map 1 Location of the pilot areas



Pilot Area 2: Lake Ngami and surrounding area

146. Brief description of area: Livestock expansion along the Nhabe River that flows into Lake Ngami has been made possible by the recurrence of flows since 2009. The gradual filling of Lake Ngami, while transforming the dusty dry lake bed into an extensive expanse of water, has also displaced many cattle herds into surrounding grazing areas. It is a significant and interesting dynamic for inclusion within the SLM project as it more fully covers livestock management on communal land.

Key SLM issues/ problems:

147. Overgrazing has led to severe rangeland degradation, observed through transformation of the grassland composition from predominantly perennial to annual grass species, and bush encroachment, particularly by *Acacia mellifera* and *Dichrostachyiscineria*, which in part has been caused by people's decision not to sell their cattle due to the recurring FMD problem which drives the district beef prices down.

148. Limited to no rangeland management. The area is dominated by communal rangelands, where the primary form of land management by the Land Board is to restrict the density of cattle post development with a minimum 6km permissible distance between cattle post boreholes. There is no structured community management of the rangeland owing to the collapse of the traditional range management practices in recent decades.

149. Limited market for Ngamiland cattle because of its classification as a 'red zone' prone to FMD infections and other diseases. This has kept cattle prices low providing no incentives for selling. The livestock market is also dominated by beef products, leaving out other livestock and non-beef cattle products such as leather, horns, bones etc.

150. Breakdown of traditional livestock and range management systems without replacement. This includes loss of intergenerational transfer of indigenous rangeland management knowledge.

151. Specific SLM pilot activities:

152. *Local Land Use Plan:* Ngamiland District has a regional Integrated Land Use Plan which defines broad zones of land use. However at local level traditional land zoning still exists for most settlements. However these are not recognized by government, and interference from the land authority, often without consultation with the local leaders and their community, has resulted in land conflicts between traditional land uses and the so called alternative modern ones such as tourism and conservation. For this pilot site and site 3, as described below, local land use plans will be developed to ensure the existence of agreed upon land zoning on which the land authority will base its land allocations. Participatory methods will be used to conduct land use and land needs situation analysis studies as part of the broader integrated range management studies. This will form the basis for agreed local land use zoning.

153. *Mechanical removal of bush encroachment:* High cattle densities in areas surrounding Lake Ngami have resulted in significant alteration to the rangeland, with bush encroachment evident in these hotspots. Areas such as Tsau and Sehitwa have observed a steady encroachment of *Acacia mellifera* and *Dichrostachyiscineria* to the detriment of the carrying capacity. Mechanical removal and labor intensive removal will be undertaken, with the outputs being packaged and sold as firewood and charcoal briquettes. The latter is expected to serve as an incentive to clear the bush.

154. *Innovative communal rangeland management:* Limited to no cohesive management of the communal rangeland has resulted in localized overstocking, limited movement of cattle that are based around boreholes that show clear signs of the piosphere effect and the end of herd mobility which was evident in the earlier part of the century. While a complete transformation of pastoral management cannot be expected, the promotion and establishment of communal farmers' associations will help to promote stakeholder participation in decisions that affect livestock husbandry. Using these forums to dialogue and communicate will promote SLM that is characterized by more effective rangeland monitoring. The objective is to empower

local farmers to take control of their local rangeland. Legal powers would be sought for the associations through the Agricultural Resources Act initially. It may be possible to link this back to powers already in existence at the Land Board, so that these associations may refer to the Land Board for action using their powers. Anticipated devolution of powers to these farmers associations would include approval for the development of new boreholes and cattle posts based on MOMS feedback on rangeland monitoring. The innovative rangeland management system to be implemented by the farmers associations and range experts would draw a lot from traditional pastoral management systems and other expert led innovations. The innovation would require that associations have a level of control over an area large enough to promote more mobile grazing practices, enabling cattle to move to where better conditions are, and allowing other areas to recover through time or weather. The associations would enable a number of smaller herds to be managed as one larger unit with an on-site management structure, that would resemble a CBNRM Trust and that would work to the advantage of all stock owners. The SLM project would provide technical support and extension facilities to support the development and implementation activities of the farmers associations. The location of the pilot sites would be defined by a number of criteria, including: the receptiveness of farmers to the proposed associations, the location of overstocking hotspots and sites of significant rangeland degradation.

155. *Non-beef livestock processing plant:* So far beef products have dominated the livestock market of Botswana, a market which livestock/cattle owners of Ngamiland cannot access due to FMD. The project would support the farmers through their associations to do a feasibility study and implement the setting up of a non-beef livestock processing plant which should be located as close to Maun as possible for marketing purposes.

Pilot Area 3: Northern and western Ngamiland

156. Brief description of area: This extensive area of rangeland contains both wildlife and livestock. Connectivity between the Okavango Delta system (Zambezi domain) and the outlying Kalahari sandveld (Kalahari-Highveld domain) is critical to the maintenance of the key wildlife populations and ecosystem resilience. It is also a key component of future land use planning changes in both the livestock and wildlife sectors, with proposals to reinforce the buffalo fence and use game ranches as a buffer zone along it, and also as a dominant mode of secondary production in western Ngamiland.

Key SLM issues/ problems:

157. Poorly planned land allocation, which is currently intensifying land use conflicts and resulting in the loss of ecologically critical riparian woodland

158. Use of arable farming practices which are susceptible to variations in rainfall and result in the loss of the riparian woodland

159. Unsuitable harvesting of veld products (grasses, poles, and edible veld products) as commercialization increases. There is also lack of organized market and low levels of value-addition to the veld products which are often sold raw and at low prices

160. Depredation by lions and leopards, and elephant damage to crops

Specific SLM pilot activities:

LOCAL LAND USE PLAN: AS DESCRIBED ABOVE

161. *Open game farming:* Open 'non-fenced' game farming will be promoted with the use of boreholes and artificial water points to promote wildlife numbers. Species such as kudu, impala, zebra and gemsbok can intermix with cattle with limited conflict for grazing resources. Demonstrating the tourism value of wildlife is expected to diffuse the human-wildlife conflict. Multi-species production systems will be promoted in areas adjoining land with mogau and in areas with decreased levels of ground water, as wild animals require less water than cattle. Pilot areas will be defined following a more detailed assessment of

mogau occurrence, which has been initially undertaken as part of the PPG, and in conjunction with the land allocation strategy of the Tawana Land Board.

162. *Fire management:* Effective fire management strategies, as detailed by Trollope et al (2006) in the ODMP, will be implemented, so as to halt widespread range degradation and negative damage to key forest and range resources that is occurring. The Department of Forestry and Range Resources has identified Tsodilo hills and surrounding areas as the fire hot spot of Ngamiland. Fires occur in this area annually. The proposal is to reduce the return rate to one fire in three years. The Tsodilo Management Plan has a fire strategy that will require improvement and support to be implemented. An integrated fire management committee will be formed and supported to develop and implement the strategy.

163. *Conservation agriculture:* Soils in this area are characterized by low fertility, rainfall is variable and crop failure is common. The project will pilot this labour intensive soil and moisture conservation crop production system which has been tried and found to be productive in parts of Namibia with similar conditions. CA has also been found to greatly reduce the need to clear large tracks of land and will hence reduce riparian forest clearing. SAREP is also in the process of piloting the system with other communities. The project will aim to expose this system to those farmers who have not worked with SAREP. Activities will include exchange visits, and training and experimentation by implementing the system on the ground with volunteer farmers.

164. *Sustainable veld products harvesting and marketing:* Pilot a community based sustainable veld products management, harvesting and marketing project. An assessment of the veld products harvesting and availability situation and issues should be done, depending on which there could be deliberate focus on wild fruits.

ANNEX 3: ALTERNATIVE LIVELIHOODS

Livelihood activity	Current situation	Opportunities for expansion	Challenges	Project strategy/ activities
Livestock products	<p>Ngamiland has been declared a red zone because of FMD and CBPP. Thus, beef from the area can only be sold and consumed when it is pre-cooked and deboned; sales can only be locally or in the region. Currently, pre-cooked meat is supplied to markets in Gaborone and also local markets in the country.</p> <p>Beef is the only product that is marketed, while other products such as hides are not marketed at all. Currently, there are locals who make and sell saddles for horse/donkey riding purpose albeit on a very small scale purpose.</p> <p>Marketing strategies devised by BMC to market beef in the district include improving and adhering to relevant hygiene standards of beef handling by farmers in the district so that the beef can be sold to the tourism sector within the district.</p> <p>BMC is looking into establishing partnerships with companies that have expertise in processing of cooked meat and converting it to other products such as sausages, minced meat, etc.</p> <p>Measures are underway to sensitize farmers on the importance of controlling FMD; measures to control FMD include vaccination of livestock thrice a year.</p> <p>Currently, the only market for live animals from Ngamiland is Zimbabwe. Presently marketing efforts are concentrated on identification of southern African region markets for live cattle</p>	<p>District has a large herd of cattle estimated at over 10% of the national herd. The sheer number of livestock translates into an opportunity for growth for the livestock sector</p> <p>Various emerging economies in the region such as Angola, Mozambique and South Sudan have declared interest in purchasing Botswana beef.</p> <p>Thus far emphasis has been solely on cattle while small stock (goats, sheep) has been neglected. Small stock presents an unexplored opportunity for expansion of the livestock sector within the district.</p> <p>Products from livestock especially cattle, such as leather and hooves: Communities could set up small scale manufacturing projects where end products like leather, glue, brush (tallow) and shoe polish are manufactured and sold to retail stores.</p>	<p>Challenges to increasing markets for beef products and thus increasing off-take rate: Because of prevalence of various diseases such as FMD and CBPP, countries are generally reluctant to receive meat from FMD areas.</p> <p>Government policies in the district appear to favor the tourism sector. For instance, tourism land uses encroach into grazing areas in the district.</p> <p>There is significant wildlife-livestock conflict which manifests through predation and destruction of livestock infrastructure, mainly water infrastructure, by wildlife such as elephants.</p> <p>Drought events present a significant challenge – "...The supply of fresh drinking water both to livestock and to the producer is also a limiting factor. The irregularity of rainfall, both in time and its highly scattered nature, means that fodder production is seasonal and local..."Burgess (2006:23)</p> <p>Land available for various economic sectors is rapidly shrinking (Burgess, 2006), mainly due to encroachment of settlements into ploughing fields, which, in turn, encroaches into grazing areas. In addition, the wildlife zone as demarcated by the buffalo fence has taken much of the grazing areas in the district.</p>	<p>Understanding of the livestock value chain and improving access of farmers to markets for non-beef livestock products.</p> <p>Through BMC cofinancing, (i) increase slaughter capacity of abattoir, (ii) increase capacity of processing plant to produce a broader range of meat products, and (iii) secure greater product placement in local and regional markets.</p> <p>Through these measures, the project expects to contribute to greater off-take of Ngamiland cattle</p>
Crop production	<p>This is mainly undertaken at the subsistence level for domestic consumption and not commercially.</p> <p>Major crops are cereals (maize, sorghum, millet).</p>	<p>Suitability analysis indicates that Ngamiland is high yielding in crops such as millet and cow peas. These crops also have a high demand and are considered high value grains. It</p>	<p>Low soil fertility. Ngamiland is covered by the kgalagadi sands which are devoid of many vital soil nutrients which are necessary for plant growth. The cost of improving these soils is often beyond</p>	<p>Pilot CA which helps improve soil fertility and conserves soil moisture. CA also increases yields significantly and reduces the</p>

Livelihood activity	Current situation	Opportunities for expansion	Challenges	Project strategy/ activities
	Demand for vegetables is high in the district, making it easy for farmers to sell locally. Horticulture farmers in the district mostly supply chain stores.	<p>is important that the district emphasize production of these.</p> <p>Until recently residents of the district did not place an emphasis on horticulture production. There is a huge potential for production of vegetables at a commercial scale, as the demand is high. The market for vegetables has not been saturated. Ngamiland district is well endowed with water resources (surface and groundwater).</p> <p>Department of Crops, in collaboration with Tawana Land Board, has identified and reserved horticulture plots along the river solely for horticultural production.</p> <p>Canning of vegetable products such as tomato sauce, canned beans, etc.</p>	<p>what farmers can afford.</p> <p>Human-wildlife conflict. Majority of the area that is planted is destroyed by wildlife, mainly elephants. On average, 50% of the harvest is lost to wildlife. Discussions with farmers around Shorobe, Shakawe and Gumare settlements indicated that they lose most of the harvest to elephants and other wildlife such as kudus.</p>	<p>need to plough large areas. Small areas are easy to weed and control pests (including wild and domestic animal field raids and crop destructions).</p> <p>Pilot community open game ranches for communities to manage and benefit from wildlife in their area.</p>
Wildlife Tourism	Currently, the tourism sector in the district is foreign dominated, mainly by South Africans.	There is an opportunity to branch from livestock rearing to game farming. Game farming, unlike beef ranching, has multiple benefits such as seasonal photographic safaris, trophy and game meat hunting, and also skin and feather which have lucrative markets overseas (Burgess, 2006).	<p>Local communities believe that tourism is always favored by the government over agricultural sector. These perceptions result in a negative attitude towards biodiversity, which is the main driving factor behind tourism. The tourism sector is booming and hence a source of resentment amongst the locals.</p> <p>Another significant challenge facing the tourism sector in the district is that of increasing local participation in the industry. Local tourism businesses account for only 20 percent, which mainly include guest houses and small entities. Large operations which generate sufficient revenue are white foreign dominated.</p> <p>Availability of funding to increase local participation in the tourism sector.</p>	Piloting of community based open game ranches with the support of the Botswana Tourism Organization, thus tapping in to the tourism opportunities therein.
Veld products	Products produced for commercial purposes include timber poles for fencing (game and beef ranches), wooden sculptures, baskets, and	In addition to basket weaving, there are other resources that can be exploited such as honey, wild fruits and tubers, medicinal plants, herbal	Widespread fire events in the district have catastrophic impacts on availability of natural resources used to produce products.	Pilot integrated fire management in Tsodilo Pilot a community based sustainable veld products

Livelihood activity	Current situation	Opportunities for expansion	Challenges	Project strategy/ activities
	<p>medicinal plants. Most prevalent product is baskets, produced mainly for the tourism sector.</p>	<p>teas and others. This is an untapped market. Consultations with communities involved in the veld product sector reveal that the demand for products by international tourists is healthy and significant. However, they indicated that tourists are reluctant to buy due to luggage restrictions by commercial airlines. Therefore, there is an opportunity to utilize internet services and sell the products on-line.</p> <p>Rangeland and the wetland systems in the district produce a wide range of wildlife fruits such as Motsentsela (Bird plum), Mmilo (Wild medlar), Morula, Mokutsomo, Motsaodi and many others.</p> <p>Some of these products are already sold in chain stores like Spar and also supplied to the national commercial airline as in-flight meals/snacks.</p>	<p>The extensive illegal harvesting of natural resources could result in unsustainable utilization and subsequent decline in natural resources in the district.</p> <p>There is lack of monitoring of harvesting rates and stock inventory exercises. A harvest permit allocation system already exists, and this should be used as a tool to ensure sustainable harvesting.</p> <p>Communities lack capacity to undertake extensive marketing and transportation of their products to access markets in other major cities such as Francistown and Gaborone. Lack of capital to market internationally and regionally relegates the communities and traders to sell within Ngamiland district where the demand is low and supply high.</p>	<p>management, harvesting and marketing project. An assessment of the veld products harvesting and availability situation and issues will be undertaken. Depending on the situation there could be deliberate focus on wild fruits</p> <p>Pilot a community bush harvesting and charcoal briquettes making and fire wood packaging and marketing project in bush encroached areas.</p>

ANNEX 4: CAPACITY DEVELOPMENT SCORECARD

Summary results from the Capacity Development Scorecard

Strategic Areas of Support	Systemic			Institutional			Individual			Average %
	Project Scores	Total possible score	% achieved	Project Scores	Total possible score	% achieved	Project Scores	Total possible score	% achieved	
(1) Capacity to conceptualize and formulate policies, legislations, strategies and programs	2	6	33.33	0	3	0	n/a	n/a	n/a	16.66
(2) Capacity to implement policies, legislation, strategies and programs	1	3	33.33	5	24	20.83	4	12	33.33	29.16
(3) Capacity to engage and build consensus among all stakeholders	1	6	16.66	2	6	33.33	1	3	33.33	27.77
(4) Capacity to mobilize information and knowledge	1	3	33.33	1	3	33.33	1	3	33.33	33.33
(5) Capacity to monitor, evaluate, report and learn	2	6	33.33	2	6	33.33	1	3	33.33	33.33
TOTAL Score and average for %'s	7	24	29.16	10	42	23.80	7	21	33.33	28.05

Detailed results from the Capacity Development Scorecard

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
1. Capacity to conceptualize and formulate policies, legislations, strategies and programs					
	Systemic	The SLM agenda is being effectively championed / driven forward	0 -- There is essentially no SLM agenda; 1 -- There are some persons or institutions actively pursuing a SLM agenda but they have little effect or influence; 2 -- There are a number of SLM champions that drive the SLM agenda, but more is needed; 3 -- There are an adequate number of able "champions" and "leaders" effectively driving forwards a SLM agenda	1	Weak policy and legal support
	Systemic	There is a strong and clear legal mandate for the establishment and management of SLM structures	0 -- There is no legal framework for SLM; 1 -- There is a partial legal framework for SLM but it has many inadequacies; 2 -- There is a reasonable legal framework for SLM but it has a few weaknesses and gaps; 3 -- There is a strong and clear legal mandate for the establishment and	1	The legal framework offers weak support for SLM

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
			SLM structures		
	Institutional	There is an institution responsible for SLM able to strategize and plan (this is 2 issues - needs separating, 1 Systemic, 2 institutional)	0 – Potential SLM institutions have no plans or strategies; 1 – Potential SLM institutions do have strategies and plans, but these are old and no longer up to date or were prepared in a totally top-down fashion; 2 – Potential SLM institutions have some sort of mechanism to update their strategies and plans, but this is irregular or is done in a largely top-down fashion without proper consultation; 3 – Potential SLM institutions have relevant, participatorially prepared, regularly updated strategies and plans	0	DLUPU has no plans and strategies. The institution does not implement its integrated planning mandate
2. Capacity to implement policies, legislation, strategies and programs (total for systemic to be changed to 3)					
	Systemic	There are adequate skills for SLM planning and management	0 -- There is a general lack of planning and management skills; 1-- Some skills exist but in largely insufficient quantities to guarantee effective planning and management; 2 -- Necessary skills for SLM planning do exist but are stretched and not easily available; 3 -- Adequate quantities of the full range of skills necessary for effective SLM planning and management are easily available	1	Serious staff and skills shortages at District level.
	Institutional	SLM institutions are effectively led	0 – Potential SLM institutions have a total lack of leadership; 1 -- Potential SLM institutions exist but leadership is weak and provides little guidance; 2 -- Potential SLM institutions have reasonably strong leadership but there is still need for improvement; 3 -- Potential SLM institutions are effectively led	1	Leadership is weakened by lack of support from legal framework
	Institutional	There exists regularly updated, participatorially prepared, comprehensive management plans for SLM	0 – There are no SLM management plans; 1 -- Poor SLM management plans exists but they are typically not comprehensive and were not participatorially prepared; 2 – Good SLM management plans exist though some are old, not participatorially prepared or are less than comprehensive; 3 – There exist regularly updated, participatorially prepared, comprehensive management plan	1	Inadequate stakeholder participation
	Institutional	Human resources are well qualified and motivated	0 -- Human resources are poorly qualified and unmotivated; 1 -- Human resources qualification is spotty, with some well qualified, but many only poorly and in general unmotivated; 2 -- HR in general reasonably qualified, but many lack in motivation, or those that are motivated are not sufficiently qualified; 3 -- Human resources are well qualified and motivated.	1	Staff shortages and lack of motivation to work in remote areas

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
	Institutional	Management plans are implemented in a timely manner effectively achieving their objectives	0 -- There is very little implementation of management plans; 1 -- Management plans are poorly implemented and their objectives are rarely met; 2 -- Management plans are usually implemented in a timely manner, though delays typically occur and some objectives are not met; 3 -- Management plans are implemented in a timely manner effectively achieving their objectives	1	Staff and skills shortages
	Institutional	Potential SLM institutions are able to adequately mobilize sufficient quantity of funding, human and material resources to effectively implement their mandate	0 -- Potential SLM institutions typically are severely underfunded and have no capacity to mobilize sufficient resources; 1 -- Potential SLM institutions have some funding and are able to mobilize some human and material resources but not enough to effectively implement their mandate; 2 -- Potential SLM institutions have reasonable capacity to mobilize funding or other resources but not always in sufficient quantities for fully effective implementation of their mandate; 3 -- Potential SLM institutions are able to adequately mobilize sufficient quantity of funding, human and material resources to effectively implement their mandate	0	Government funding available for some institutions but grossly inadequate. DLUPU has no budget.
	Institutional	Potential SLM institutions are effectively managed, efficiently deploying their human, financial and other resources to the best effect	0 -- While Potential SLM institution exists it has no resources management role; 1 -- Institutional management is largely ineffective and does not deploy efficiently the resources at its disposal; 2 -- The institution is reasonably managed, but not always in a fully effective manner and at times does not deploy its resources in the most efficient way; 3 -- The potential SLM institution is effectively managed, efficiently deploying its human, financial and other resources to the best effect	0	Top-down management reduces operational capacity
	Institutional	Potential SLM institutions are highly transparent, fully audited, and publicly accountable	0 -- Potential SLM institutions totally non-transparent, not being held accountable and not audited; 1 -- Potential SLM institutions are not transparent but are occasionally audited without being held publicly accountable; 2 -- Potential SLM institutions are regularly audited and there is a fair degree of public accountability but the system is not fully transparent; 3 -- Potential SLM institutions are highly transparent, fully audited, and publicly accountable	1	Audit largely internal for some institutions
	Institutional	There are legally designated SLM	0 -- There is no lead institution or agency with a clear mandate or responsibility for SLM;	0	Sectoral approach to

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
		institutions with the authority to carry out their mandate	1 -- There are one or more institutions or agencies dealing with SLM but roles and responsibilities are unclear and there are gaps and overlaps in the arrangements; 2 -- There are one or more institutions or agencies dealing with SLM, the responsibilities of each are fairly clearly defined, but there are still some gaps and overlaps; 3 -- SLM institutions have clear legal and institutional mandates and the necessary authority to carry this out		NR management
	Individual	Individuals are able to advance and develop professionally	0 -- No career tracks are developed and no training opportunities are provided; 1 -- Career tracks are weak and training possibilities are few and not managed transparently; 2 -- Clear career tracks developed and training available; HR management however has inadequate performance measurement system; 3 -- Individuals are able to advance and develop professionally	1	Staff training and development managed centrally at headquarters
	Individual	Individuals are appropriately skilled for their jobs	0 -- Skills of individuals do not match job requirements; 1 -- Individuals have some or poor skills for their jobs; 2 -- Individuals are reasonably skilled but could further improve for optimum match with job requirement; 3 -- Individuals are appropriately skilled for their jobs	1	No clear strategy for job specific skills development
	Individual	Individuals are highly motivated	0 -- No motivation at all; 1 -- Motivation uneven, some are but most are not; 2 -- Many individuals are motivated but not all; 3 -- Individuals are highly motivated	1	Staff not motivated to work in remote areas
	Individual	There are appropriate systems of training, mentoring, and learning in place to maintain a continuous flow of new staff	0 -- No mechanisms exist; 1 -- Some mechanisms exist but unable to develop enough and unable to provide the full range of skills needed; 2 -- Mechanisms generally exist to develop skilled professionals, but either not enough of them or unable to cover the full range of skills required; 3 -- There are mechanisms for developing adequate numbers of the full range of highly skilled SLM professionals	1	Centralised staff development systems and high staff turnover are a problem
3. Capacity to engage and build consensus among all stakeholders					
	Systemic	SLM has the political commitment it	0 -- There is no political will at all, or worse, the prevailing political will runs counter to the interests of SLM; 1 -- Some political will exists, but is not strong enough to make a	1	The broader sectoral system of NR

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
		requires	difference; 2 -- Reasonable political will exists, but is not always strong enough to fully support SLM; 3 -- There are very high levels of political will to support SLM		governance makes it difficult to support SLM
	Systemic	SLM has the public support it requires	0 -- The public has little interest in SLM and there is no significant lobby for it; 1 -- There is limited support for SLM; 2 -- There is general public support for SLM and there are various lobby groups such as environmental NGO's strongly pushing them; 3 -- There is tremendous public support in the country for SLM	0	Due to lack of public participation in NR, SLM is not viewed as an option worth pursuing.
	Institutional	SLM institutions are mission oriented	0 -- Institutional mission not defined to cover SLM; 1 -- Institutional mission poorly defined to operationalise SLM and generally not known and internalized at all levels; 2 -- Institutional mission well defined and internalized but not fully embraced; 3 -- Institutional missions are fully internalized and embraced	1	For example DLUPU not implementing integrated planning mandate
	Institutional	Potential SLM institutions can establish the partnerships needed to achieve their objectives	0 -- SLM institutions operate in isolation; 1 -- Some partnerships in place but significant gaps and existing partnerships achieve little; 2 -- Many partnerships in place with a wide range of agencies, NGOs etc, but there are some gaps, partnerships are not always effective and do not always enable efficient achievement of objectives; 3 -- SLM institutions establish effective partnerships with other agencies and institutions, including provincial and local governments, NGO's and the private sector to enable achievement of objectives in an efficient and effective manner	1	Some key and primary stakeholders left out
	Individual	Individuals carry appropriate values, integrity and attitudes	0 -- Individuals carry negative attitude; 1 -- Some individuals have notion of appropriate attitudes and display integrity, but most don't; 2 -- Many individuals carry appropriate values and integrity, but not all; 3 -- Individuals carry appropriate values, integrity and attitudes	1	Primary stakeholders complain of inappropriate attitude by some NR managers
4. Capacity to mobilize information and knowledge					
	Systemic	Potential SLM	0 -- Information is virtually lacking;	1	Capacity and

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
		institutions have the information they need to develop and monitor strategies and action plans for the management of the land resources	1 -- Some information exists, but is of poor quality, is of limited usefulness, or is very difficult to access; 2 -- Much information is easily available and mostly of good quality, but there remain some gaps in quality, coverage and availability; 3 -- SLM institutions have the information they need to develop and monitor strategies and action plans for the management of the land resources		skills for this is very low at operational levels.
	Institutional	Potential SLM institutions have the information needed to do their work	0 -- Information is virtually lacking; 1 -- Some information exists, but is of poor quality and of limited usefulness and difficult to access; 2 -- Much information is readily available, mostly of good quality, but there remain some gaps both in quality and quantity; 3 -- Adequate quantities of high quality up to date information for SLM planning, management and monitoring is widely and easily available	1	No targeted research and monitoring for key areas
	Individual	Individuals working within SLM work effectively together as a team	0 -- Individuals work in isolation and don't interact; 1 -- Individuals interact in limited ways and sometimes in teams but this is rarely effective and functional; 2 -- Individuals interact regularly and form teams, but this is not always fully effective or functional; 3 -- Individuals interact effectively and form functional teams	1	The existing sectoral system lowers levels of integration and SLM
5. Capacity to monitor, evaluate, report and learn					
	Systemic	SLM relevant policy is continually reviewed and updated	0 -- There is no policy or it is old and not reviewed regularly; 1 -- Policy is only reviewed at irregular intervals; 2 -- Policy is reviewed regularly but not annually; 3 -- National SLM relevant policy is reviewed annually	1	Policies reviewed at irregular intervals
	Systemic	Society monitors the state of SLM	0 -- There is no dialogue at all; 1 -- There is some dialogue going on, but not in the wider public and restricted to specialized circles; 2 -- There is a reasonably open public dialogue going on but certain issues remain taboo; 3 -- There is an open and transparent public dialogue about the state of land resources	1	Limited public participation
	Institutional	Institutions are highly adaptive, responding effectively and immediately to	0 -- Institutions resist change; 1 -- Institutions do change but only very slowly; 2 -- Institutions tend to adapt in response to change but not always very effectively or with some delay; 3 -- Institutions are highly adaptive, responding effectively and immediately	1	Very slow change on the rare occasion when policy is reviewed

Strategic Area of Support	Target for Capacity Development	Outcomes	Outcome Indicators (Scorecard)	Initial Evaluation	Evaluative Comments
		change	to change		
	Institutional	Institutions have effective internal mechanisms for monitoring, evaluation, reporting and learning	<p>0 -- There are no mechanisms for monitoring, evaluation, reporting or learning;</p> <p>1 -- There are some mechanisms for monitoring, evaluation, reporting and learning but they are limited and weak;</p> <p>2 -- Reasonable mechanisms for monitoring, evaluation, reporting and learning are in place but are not as strong or comprehensive as they could be;</p> <p>3 -- Institutions have effective internal mechanisms for monitoring, evaluation, reporting and learning</p>	1	Capacity for this is low. Is affected by shortage of personnel at operational levels
	Individual	Individuals are adaptive and continue to learn	<p>0 -- There is no measurement of performance or adaptive feedback;</p> <p>1 -- Performance is irregularly and poorly measured and there is little use of feedback;</p> <p>2 -- There is significant measurement of performance and some feedback but this is not as thorough or comprehensive as it might be;</p> <p>3 -- Performance is effectively measured and adaptive feedback utilized</p>	1	Most institutions measure performance every year but feedback is not used

ANNEX 5: RISK ANALYSIS

Risk	Rating	Mitigation measures
Lack of buy-in from planning institutions and Government. There is a possibility of conflicts arising from perceptions of interference and differences on approaches to how the issues could be addressed, especially between government institutions and civil society organizations.	M	The project requires collaboration and coordination by all key stakeholders. It will, therefore, set-up a multi-stakeholder forum that will ensure dialogue, joint planning, implementation and monitoring and evaluation in order to create ownership and accountability. Government institutions participating in the project will be directly driving their own mandates; they will have a direct interest in the successful implementation of the project. Participating government institutions (Departments of Animal Production; Forestry and Range Resources and Tawana Land Board) will benefit from the project intervention activities. Civil society organizations will be provided capacity development support.
The benefits generated by the project may be offset by the impacts of climate change, which might exacerbate the usual droughts; indeed, Botswana has encountered 12 dry episodes in the last 22 years with economic consequences for ranches and severe impacts on the poorest communities (Mafisa herders).	M	The project will address this risk by building a better understanding of the potential impacts of climate change on trends in rangeland condition, particularly the issue of bush encroachment and the apparent thriving of invasive species. The findings of this study will contribute to the land use plans, a key element for improving ecological integrity of the rangelands and improving ecosystem functionality and cover. This is expected to increase the resilience of ecosystems to climate change induced fire, drought and other perturbations. By reducing existing anthropogenic stressors to ecosystems, the project will enhance their capacity to recover following such perturbations. Building capacity for long-term monitoring of rangeland conditions will increase the possibility of adaptive management, including early detection (and addressing) of climate change impacts.
Weak enforcement of the TGLP has in the past encouraged overstocking in the communal lands since commercial farmers have retained the right to offload excess livestock to the communal areas. Increased access to livestock markets might become a perverse incentive and fuel higher stocking rates, if governance is not improved simultaneously.	M	Enforcement of the TGLP has been difficult in the past since it seemed to benefit the elite, who are commercial farmers. However, losses from the high rate of rangeland degradation in Ngamiland seem to be causing larger losses than gains from exploiting the weakness in the policy, even for commercial farmers. Combined with the current political support for national policy on beef markets from the President's Office and the highest management of the Botswana Meat Commission, this turn of events provides a conducive environment for change. The project will seek to improve governance at the local level by engaging and capacitating local natural resource management/ community-based management institutions such as community trusts, farmers' committees, village development committees, and Bogosi. These institutions will be empowered, through a clear mandate and financial and technical resources, to lead the design and implementation of range management principles envisioned in SLM at the local level (Output 2.2). The land use plans to be developed by the project for each pilot area will guide decisions on livestock management (including sales).
Reluctant participation by local communities due to fear that the project will compromise their livelihoods by introducing strict management systems.	L	Noting that local communities bear the heaviest cost of rangeland degradation and limited access to markets for livestock products, the project will work closely with them to address the challenges in a participatory manner. The project strategy emphasizes the fact that local communities need to participate meaningfully in rangeland governance. The project will provide technical, institutional and financial support for engaging in improved livestock production and mixed livelihood systems. It will also recognize and build on the traditional knowledge and institutions of local communities and fully integrate this in designing management interventions. The project will also improve targeting and distribution of benefits among women.
There is a risk of resistance to the empowerment of poorer women from the more privileged sections of the community	M	The project will make deliberate interventions that raise awareness about the importance of participation and inclusion in implementing solutions and most importantly recognize that access to productive resources may be based on qualifications such as age, gender, ethnicity, religion, status, profession, place of birth or origin, common education and many other attributes that constitute social identity. The initial stakeholder consultation processes will engage the services of a sociologist or rural development specialist as part of a team that will conduct participatory rural appraisal as a component of the rangeland assessments. This will mobilize the whole community for participation in the project, build rapport between the outsider project

		implementers and local communities and make a case for full stakeholder participation and attendant partnerships
Effectiveness of the project in increasing off-take depends, in part, on the successful identification of, and engagement with new markets, and the farmers' quick adjustments to different livestock products. There is a small risk that it might be difficult to match new markets to new products, or that farmers fail to meet the quality specifications for new products and the new markets.	M	Participation of the Botswana Meat Commission is critical in overcoming this risk. Fortunately, the project has very high political support from both the country's leadership (President's office) and the BMC, which are both committed to finding new markets for the country's beef and other livestock products. The project will also involve the private sector (through the BMC for international and national players) and through the district chamber of commerce, to identify and address challenges related to successful engagement with markets.

ANNEX 6: TERMS OF REFERENCE

National SLM Project Coordinator (NPC)²²

165. The NPC will be responsible for ensuring the overall coordination and smooth implementation of the UNDP-GEF project: ‘**Mainstreaming SLM in rangeland areas of Ngamiland district productive landscapes for improved livelihoods**’. The NPC will specifically be technically responsible for coordinating technical assistance needed for the smooth and effective implementation of outputs 1.2 and 1.3. The NPC will work in close collaboration with the Implementing Partner and UNDP to ensure efficient and effective day-to-day management and monitoring of the project as well as its integration in the national planning and development processes.

Technical, managerial and financial responsibilities:

- Ensure full stakeholder consensus on the implementation of Project outcomes through structured workshops and meetings
- Work closely with relevant Government agencies and partner NGOs to ensure that project implementation contributes synergistically to the relevant projects in the District
- Coordinate technical input from the technical staff of line ministries, civil society, academic institutions and the private sector – and channel the assistance to the communities – in support of output 1.2 and 1.3
- Prepare annual work plans and budgets for the Project
- Prepare quarterly, annual, mid-term and terminal project progress reports including technical, financial and policy matters, for the consideration of the national PSC, UNDP-GEF, UNDP CO
- Evaluate the performance of the project staff
- Represent the Project in meetings and conferences to which the Project is invited to attend
- Ensure proper management of the properties of the project
- Provide overall professional guidance to partner institutions
- Ensure and maintain linkages between the district authorities and partner institutions through regular district meetings
- Ensure and maintain linkages between the implementation management structures
- Supervise the activities or inputs of short/ long-term consultants and ensure proper delivery of all outputs under implementation
- Provide technical advice and facilitation of the identification and implementation of project training needs assessment and the development of a training programme
- Secure provision of guidance to the project’s M&E procedure and making recommendations to national authorities and donors
- Ensure that district authorities (eg. Tawana Land Board) embrace the integration of SLM objectives into local planning processes and development

Leadership Skills:

166. The NPC will be a leader who will bring to the position status and credibility that is recognized by partner institutions/ implementers. She/ he will have the ability to think strategically and laterally and maintain a broad perspective. The NPC will have the ability to work effectively under pressure and manage work and resources within tight deadlines. The NPC will possess excellent communication skills including the ability to write lucidly and succinctly. She/ he will have the ability to work with and command respect of an international staff.

²² Specific Terms of Reference for supporting staff will be agreed to during the project Inception Workshop.

Qualifications and Experience:

- A minimum of 10 years of technical and managerial experience dealing with applied natural resources management issues in southern Africa
- Must have at minimum a MSC degree in Environmental or Biological Sciences (e.g. rangeland ecology and management, natural resources management, conservation ecology) or any other related disciplines
- Post-graduate experience in a research and/or training environment
- Demonstrable experience in project coordination in the environment field including prior experience of coordinating GEF projects, with particular experience in developing and implementing UNDP-GEF or World Bank projects
- Demonstrable land management and planning experience in rural Botswana will be an added advantage
- Proven ability to lead and motivate a multi-disciplinary team to produce the required outputs in a timely manner
- Familiarity with institutional, planning and regulatory structures, and rural livelihoods in Botswana would be an added advantage
- Good command of English and Setswana
- Knowledgeable about GEF and UNDP procedures

Project Board

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks and agree on possible countermeasures and management actions to address specific risks;
- Review the project progress and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Review combined delivery reports prior to certification by the implementing partner;
- Appraise the project annual review report, make recommendations for the next annual work plan, and inform the outcome group about the results of the review;
- Assess and decide to proceed on project changes through appropriate revisions.

UNDP Project Assurance

- Ensure that funds are made available to the project;
- Ensure the project is making progress towards intended outputs;
- Perform regular monitoring activities, such as periodic monitoring visits and “spot checks”;
- Ensure that resources entrusted to UNDP are utilized appropriately;
- Ensure that critical project information is monitored and updated in Atlas;
- Ensure that financial reports are submitted to UNDP on time, and that combined delivery reports are prepared and submitted to the Project Board;
- Ensure that risks are properly managed, and that the risk log in Atlas is regularly updated.

Project Support

- Set up and maintain project files;
- Collect project related information/ data;
- Assist the project manager in updating project plans;
- Administer Project Board meetings;
- Administer project revision control;
- Establish document control procedures;

- Compile, copy and distribute all project reports;
- Assist in the financial management tasks under the responsibility of the project manager;
- Provide support in the use of Atlas for monitoring and reporting;
- Review technical reports;
- Monitor technical activities carried out by responsible parties.

UNDP Programme Manager (UNDP Resident Representative or delegated authority)

- Ensure that resources entrusted to UNDP are utilized appropriately;
- Ensure that the project is making progress towards intended outputs;
- Ensure national ownership, ongoing stakeholder engagement and sustainability;
- Ensure that the project's outputs contribute to intended country programme outcomes;
- Ensure that key results and issues pertaining to project performance are fed into the outcome and programme level monitoring;
- Approve budget for the first year in Atlas;
- Approve and sign the annual work plan for the following year.

Implementing Partner (authorized personnel with delegated authority):

- Approve and sign the annual work plan for the following year;
- Approve and sign the Combined Delivery Report (CDR) at the end of the year;
- Sign the Financial Report or the Funding Authorization and Certificate of Expenditures (FACE).

ANNEX 7: TRACKING TOOL FOR LAND DEGRADATION (LD-PMAT)

167. Attached separately.

ANNEX 8. UNDP ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

168. Attached separately.

ANNEX 9. LETTERS OF CO-FINANCING

169. All letters are attached in a separate file.