United Nations Development Programme

Country: Zambia

PROJECT DOCUMENT[1]

Project Title: Strengthening Management Effectiveness and Generating Multiple Environmental Benefits within and around the Greater Kafue National Park and West Lunga National Park in Zambia

UNDAF Outcome(s): People's vulnerability reduced from the risk of climate change, natural and manmade disasters, and environmental degradation

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:

Outcome 4: is expected to contribute to the reduction of people's vulnerability from the risks of climate change, disasters and environmental Degradation

UNDP Strategic Plan Secondary Outcome: see Annex 2

Expected CPAP Outcome(s)

CPAP Outcome 1: Government promotes adaptation and provides mitigation measures to protect livelihoods from climate change

CPAP Outcome 2: Government implements policies and legal frameworks for sustainable community based natural resource management

Indicators:

% increase in the area brought under effective management of PA system

% reduction in annual average deforestation rate

Implementing Partner: Zambia Wildlife Authority (ZAWA)

County Programme Period:	2011-2015
Atlas Award ID:	00077150
Project ID:	00088132
PIMS #	4625
Start date:	April 2014
End Date	October 2018
Management Arrangements	NIM
PAC Meeting Date	25 Feb 2014

Total resources required	**US$ 60,085,641**
Total allocated resources:	US$ 16,188,864
• **Regular**	**US$ 16,188,864**
o GEF	US$ 13,148,864
o UNDP	US$ 3,040,000
• **Other:**	**US$ 43,896,777**
o Government	US$ 37,396,777
o Norway	US$ 5,000,000
o The Nature Conservancy	US$ 1,100,000
o WWF	US$ 400,000

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

Agreed by (Government):

Ministry of Finance Date/Month/Year

Agreed by (Leading Agency):

Ministry of Lands, Natural Resources and Environmental Protection (MLNREP) Date/Month/Year

Agreed by Implementing Agencies:

i. _____

MLENRP on behalf of Forestry Department Date /Month/Year

ii. _____

Ministry of Tourism and Art on behalf of ZAWA Date/Month/year

Agreed by (UNDP): Date/Month/Year

Brief Description

- *Problem statement*

The 78,1880km^2 project area, comprising Kafue NP (22,480km), West Lunga NP (1,684km^2) and 13 Game Management Areas (GMAs) (54,021km^2) is threated by wildlife poaching, deforestation and forest degradation, unsustainable land uses, extensive fire, and loss of a large, intact ecosystem that provides multiple benefits including forest protection, water and HEP, and biodiversity.

- *Underlying causes of the problem*

The underlying cause of these threats in GMAs is open-access exploitation of land and resources, exacerbated by centralised and uncoordinated resource management policies, poverty, land degradation and climate change. Kafue National Park (KNP) was ineffectively managed whilst and West Lunga National Park (WLNP) was neglected for many years. However both National Parks are in the process of being re-capitalized with new models of PA management, i.e. decentralised business centres and Public Private Partnerships (PPPs) respectively.

- *Normative situation/solution*

The project seeks to address these problems by supporting Zambia's policies of decentralised management, both of Protected Areas, and of communities living in buffer zone protected areas (GMAs). In Kafue National Park, it is a Protected Area (**PA)-strengthening project** with results including improved management effectiveness and financial viability, halving of fire incidence from the current level of 1.2m hectares annually, reduced poaching, and private sector investment in tourism. In the GMAs, the Project will take a Community Based Natural Resources (**CBNRM) approach** to sustainable community livelihoods focused on devolved Village-based management units (Village Action Groups) through strengthening property rights and micro-governance, developing management plans and enhanced capacity for forest protection, developing evidence-based management systems and stakeholder processes, and improving or developing sustainable markets for wildlife, forests, carbon and water (Payment for Ecosystems Services) including through PPPs. These initiatives are innovative, and will be supported by monitoring, research and capacity-building. The Project will develop the economic case for land use based on common pool wild resources (i.e. wildlife and forests) and ecosystem services (water, carbon stocks), as well as the case for inclusive pro-poor governance.

- *Barriers to overcome to achieve desired solution*

The Project will support and strengthen devolved models for effective governance, management and financing of PAs and community forest and wildlife management. The Project will address de-facto open access resource management in GMAs by strengthening village institutions legally, and with capacity for planning, protection, monitoring and benefit generation and sharing. The Project will address unsustainable forest use through CBNRM and Sustainable Forest Management/Reducing Emissions from Deforestation and Forest Degradation (SFM/REDD+) pilots. The Project will address weakness in system capacity by strengthening systems and training participants in skills that include sustainable natural resource economic and institutional management, PPPs and PES for sustainable pro-poor growth, decentralised governance and management, and adaptive management through evidence-based stakeholder processes.

- *Expected project outcomes/key results*

The project **Objective** is: Biodiversity and carbon sinks of Kafue / West Lunga Protected Area Systems in Zambia are better protected from threats and effectively managed by national and local institutions, communities, and economic actors using sustainable forestry and land management practices.

Component 1 is: Increased management effectiveness and financial sustainability of Kafue and West Lunga PA system

Component 2 is: Sustainable land and forest management by local institutions in GMA buffer areas through selected CBNRM practices

This contributes to the following GEF Strategic Objectives and Programs:

- BD-1: Improve Sustainability of Protected Areas systems
- CCM-5: Promote conservation of carbon stocks through sustainable management of land use, land-use change and forestry
- LD-3: Integrated Landscapes: Reduce pressures on natural resources from competing land uses in the wider landscape
- SFM REDD+1: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services
- Greater" refers to the wider ecological context of the Kafue and West Lunga National Parks and includes the surrounding game management areas (GMAs) as well as the "Open Area" corridor between the Kafue and West Lunga National Parks, including the Chizera GMA

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List of Acronyms

ADMADE	Administrative Management Design for Game Management Areas
APR	Annual Project Review
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBNRM	Community Based Natural Resource Management
CBU	Copperbelt University
CCB	Climate, Community Biodiversity (CCB) standards
CDM	Clean Development Mechanism
CE	Conversion Efficiency
CH4	Methane
C	Carbon
CO	Carbon Monoxide
CO2	Carbon dioxide
COMACO	Community Market for Conservation
CPAP	Country Programme Action Plan
CRB	Community Resource Board
DNREP	Department of Natural Resources and Environmental Protection
DRB	Demonstrably Renewable Biomass
FNDP	Fifth National Development Plan
GEF	Global Environmental Fund
GHG	Greenhouse gases
GMA	Game Management Area
GRZ	Government of the Republic of Zambia
GWP	Global Warming Potential
HH	Household
KAZA	Kavango Zambezi Kafue Business Centre
KNP	Kafue National Park
LE	Law Enforcement
LULUCF	Land Use Land Cover Change and Forestry
MDG	Millennium Development Goals
MCC	Millennium Challenge Corporation
METT	Management Effectiveness Tracking Tool
MLNREP	Ministry of Lands, Natural Resources & Environmental Protection
MTENR	Ministry of Tourism, Environment and Natural Resources
MOMS	Management Orientated Management Systems
NAPA	National Adaptation Programme of Action Against Climate Change
NBSAP	National Biodiversity Strategy and Action Plan
NCCRS	National Climate Change Response Strategy
NDP	National Decentralisation Policy
NGO	Non-Governmental Organization
NMOC	Non-methane organic compounds
NP	National Parks
NPE	National Policy on the Environment
NTFP	Non Timber Forest Products
PA	Protected Area
PES	Payment for Ecosystem Service
PIF	Project Identification Form
PIR	Project Implementation Reports
PIU	Project Implementation Unit

PM	Project Manager
PPCR	Pilot Programme on Climate Resilience
PPP	Public Private Partnership
RE	Renewable Energy
REDD+	Reducing Emissions from Deforestation and Forest Degradation
REMNPAS	Reclassification and Effective Management of the National Protected Areas System
SAB	South African Breweries
SAWC	Southern African Wildlife College
SEED	Support for Economic Expansion and Diversification
SFM	Sustainable Forest Management
SLAMU	South Luangwa Area Management Unit
SNDP	Sixth National Development Plan
SOC	Soil Organic Carbon
TBZ	Tobacco Board of Zambia Transfrontier Conservation Area
TNC	The Nature Conservancy
UNDAF	United Nations Development Assistance Framework
UNFCCC	United Nations Framework Convention on Climate Change
VAG	Village Action Group
VCS	Verified Carbon Standard
VER	Verifiable Emissions Reduction
WLNP	West Lunga National Park
ZAWA	Zambia Wildlife Authority
ZESCO	Zambia Electricity Supply Corporation
ZMK	Zambian Kwacha
ZFAP	Zambia Forestry Action Plan

List of Annexes

1. Situation analysis

1. Experience in Southern Africa shows that policy reform can reverse the replacement of economies based on domestic resources (cow and plough) with economies based on wild resources (forests, fisheries, ecosystem services, but especially wildlife). The massive economically-driven growth of the bio-experience economy in southern Africa follows institutional reform specifically designed to correct 'market failures'. At the centre of these reforms are two concepts – the devolution of property rights to ensure direct benefit at household level, and the development of inclusive markets for wild resources (and ecosystem services). The key to recovery of wildlife in southern Africa was not technical or ecological, but carefully designed legal / institutional measures that addressed market failure. Institutional reform, including devolved property rights and inclusive governance[2], is critical for building a bio-experience economy. The returns from land with sound institutions (especially property rights) can be tenfold that from ecological identical communal lands where open-access tenure regimes prevail[3] (Annex 4). Indeed, weak property rights and institutions in communal areas (what we might call '**de-institutionalization'**) are the primary cause of a "dual economy" in which rural communities remain impoverished and marginalised from the economic mainstream[4]. Wild resources, similarly, have been de-institutionalised, and globally there is increasing recognition that SFM is tightly linked with tenure reform, including community title[5]. Similarly, a comparative analysis of the impact of wildlife policy reform in southern Africa (bold reform) with Kenya (no reform) demonstrates that devolving proprietorship, developing markets, and sensitive regulation and license fees creates economic growth, employment growth and wildlife recovery (Table 1) (Annex 4).

Table 1: Results of wildlife policy reform in southern and East Africa

Country	Policy Reform	Result of Policy Experiment
South Africa	Yes	Wildlife increased from 575,000 (1964) to 18.6 million (2007) while goats (5-2m), sheep (40-28m) and cattle (12-8m) declined[6]
Zimbabwe	Yes	Wildlife populations available for hunting quadrupled (1984-2000)[7] while many cattle ranches went financially and environmentally bankrupt
Namibia	Yes	Wildlife populations doubled while cattle declined 55%[8]
Kenya	No	Lost 2/3 of its wildlife since 1975: lions 2,800 (2002) – 1,800 (2010), elephants 160,000 (1970) – 30,000 (2010),Grevy's Zebra 13,500 (1975) – 2,000 (2007),impala, warthog, giraffe, topi, hartebeeste declined 70% in Mara[9]

[2] Acemoglu, D. & Robinson, J. A. Why Nations Fail: The Origins of Power, Prosperity, and Poverty, 529p (Random House, 2012).

[3] Child, B., Musengezi, J., Parent, G. & Child, G. The economics and institutional economics of wildlife on private land in Africa. *Pastoralism Journal* **2** (2012).

[4] Acemogle & Robinson describe this in detail in a chapter thay tile "reversing development" (p245-273). In the South African context they show how the state intervened to stop the rapid evolution of institutions and a market economy in the Eastern Cape to create poverty and thus obtain cheap labour for mining. In other words, weak institutions in communal lands are in many ways human-imposed constraints to growth that maintain poverty and facilitate resource extraction by the 'modern' economy.

[5] Hatcher, J., L. Bailey, et al. (2011). Tropical Forest Tenure Assessment. Trends, Challenges and Opportunities. ITTO Technical Series #37. Yokohama, Japan, RRI (Rights and Resources Initiative)ITTO (International Tropical Timber Organization).

[6] du-Toit, J. G. (Wildlife Ranching South Africa, 2007).

[7] Booth, V. Analysis of wildlife markets (sport hunting and tourism). (WWF Southarn African regional Programme Office, Harare, 2002).

[8] Barnes, J. & Jones, B. in *Evolution and Innovation in Wildlife Conservation: From Parks and Game ranches to Transfrontier Conservation Areas* (eds Helen Suich & Brian Child) 113-126 (Earthscan, 2009).

[9] Ogutu, J. O., Owen-Smith, N., Piepho, H.-P. & Said, M. Y. Continuing wildlife population declines and range contraction in the Mara region of Kenya during 1977–2009. *Journal of Zoology* **283**, 99-109 (2011).

2. Policy reform has been particularly successful on private land, but it has also worked on communal land. In Zimbabwe, Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) slowed the rapid decline of wildlife in communal lands under similar conditions of in-migration to those in greater KNP[10]. However, even this reform was insufficiently bold; large areas of wilderness (e.g. in the Sebungwe and Zambezi Valley[11]) were converted to (unsustainable) agriculture in a period of less than ten years, which provides a warming of what is likely to happen in the Kafue GMAs without bold and immediate land governance reform. In Namibia, CBNRM benefits to the national economy have risen from almost zero to N$ 260 million in 2009 after some 15-20 years of investment in capacity-building (Annex 5). Wildlife populations in Namibia's communal lands have increased more than 10-fold between 1996 and 2009[12]. These changes can be traced to simple but fundamental policy reform that began to return rights to resources to rural people. Zambia has experimented with these policies in the past, and they proved especially successful in South Luangwa. Zambia's new governance is emphasising decentralised natural resource management as a mechanism for poverty reduction, and has initiated policy reform in both sectors.

3. Zambia is a repository of globally significant biodiversity and has very large tracts of wild areas with low human population densities. With sound management, these could provide important refugia for flora and fauna that are rapidly being extirpated elsewhere in the region. With institutional reform, further, the greater Kafue ecosystem could provide a pioneering example of an integrated bio-experience economy based on the comparative economic advantage of wildlife hunting and tourism, sustainable forest management, SFM/REDD+ carbon payments, and payments for ecosystem services including water. It is highly likely that if the economic potential of project area is unlocked through policy and institutional reform, the combination of wild resources (i.e. wildlife and forests) and ecosystem services (e.g. carbon payments and water PES) will provide a pioneering example of an integrated bio-experience ("green" economy) that exceeds the value of subsistence agriculture, and that the wildlife/tourism economy alone could be in the region of $50-100m in economic impact annually (Annex 4). The critical feature of the bio-experience economy is that it decouples economic growth from environmental impact, whereas in a commodity economy economic growth is directly linked to environmental impact

4. Zambia lies at the heart of the Miombo Ecoregion which is listed as a WWF Global 200 Ecoregion because of its high species richness. Also referred to as the Zambezian Regional Centre of Endemism, this area covers some 3,770 million km^2 extending from the Katanga (DRC) to the Vaal River (South Africa). The ecoregion supports important populations of fauna, particularly large mammals, and is also floristically diverse, harbouring some 8,500 plant species, of which approximately 54% are endemic (WWF-SARPO, 2002) (Annex 19). National Parks, Forest Reserves and Game Management Areas cover an exceptionally large area (+40%) of the country. Zambia has approximately 50 million hectares of forest remaining, covering 66% of the proportion of total land area. A map of protected areas in central Africa (sourced from Peace Parks Foundation) suggests the potential importance of the bio-diversity as an economic driver in the region, and the importance of developing the greater Kafue ecosystem as a bold models for a sustainable economy and CBNRM based on the bio-experience economy.-

[10] Child, B., Jones, B., Mazambani, D., Mlalazi, A. & Moinuddin, H. Final Evaluation Report: Zimbabwe Natural Resources Management Program - USAID/Zimbabwe Strategic Objective No. 1. CAMPFIRE Communal Areas Management Programme for Indigenous Resources. 153 (USAID, Harare, 2003); Taylor, R. Community based natural resource management in Zimbabwe: the experience of CAMPFIRE. *Biodiversity and Conservation* **18**, 2563-2583 (2009).

[11] Derman, W. (1990). The unsettling of the Zambezi Valley: an examination of the Mid-Zambezi Rural Development Project, Centre for Applied Social Studies, University of Zimbabwe Working Paper.

[12] NACSO. Namibia's commmunal conservancies. A review of progress and challenges in 2007. 120 (Nambian Association of CBNRM Support Organizations, Windhoek, 2008).

Figure 1. Map of Protected Areas in Zambia, KAZA TFCA and surrounds

5. However Zambia is among the 6 biggest global emitters of greenhouse gases from deforestation (Boucher, 2008) and according to the OSIRIS Global Reduce Emissions from Deforestation and Forest Degradation (REDD+) and Carbon Stock Enhancement economic model, can contribute 4.3 % of the global REDD+ abatement potential (Bush et al. 2009). The underlying reasons are open-access policy regimes that are leading to unsustainable land use in many 'pristine' lands (including formal protected areas like GMAs and Forest Reserves). Consequently, these areas are being rapidly degraded as slash-and-burn agricultural practices spread into new areas, while resources are over-utilized ecologically and under-sold economically in a tragedy of the commons economy.

Table 2. National Parks of Zambia

	National Park	Size (km²)	Year Gazetted	Status	Part of TFCA
1	Blue Lagoon	450	1973	Declining	
2	Kafue	22 400	1950	Recovering	KAZA
3	Kasanka	390	1972	Stabilisation	
4	Lavushimanda	1 500	1972	Degraded	
5	Liuwa Plain	3 660	1972	Stable	Liuwa-Mussuma

	National Park	Size (km²)	Year Gazetted	Status	Part of TFCA
6	Lochinvar	410	1972	Stable	
7	Lower Zambezi	4 092	1972	Recovering	Lower Zambezi-Mana Pools
8	Luambe	254	1983	Declining	
9	Lukusuzi	2 720	1938	Degraded	Malawi - Zambia
10	Lusenga Plain	880	1972	Degraded	
11	Mosi-Oa-Tunya	66	1972	Stable	KAZA
12	Mweru-Wantipa	3 134	1972	Degraded	
13	Isangano	840	1972	Degraded	
14	North Luangwa	4 636	1972	Recovering	
15	Nsumbu	2 063	1972	Declining	
16	Nyika	80	1972	Declining	Malawi-Zambia
17	Sioma ngwezi	5 276	1972	Declining	KAZA
18	South Luangwa	9 050	1972	Stable	
19	West Lunga	1 684	1972	Recovering	
20	Lusaka	6	2010		
	TOTAL	**63 591**			

6. A non updated map of Zambia's PA estate system (NPs and GMAs) is provided in Figure 1. The three main protected area categories in Zambia are:

a. National Parks – a non- consumptive model excluding human settlement except for management purposes,

b. Game Management Areas – a consumptive use model allowing local community settlement, and

c. Forest Reserves – a consumptive use model excluding human settlement.

7. At present in Zambia, only NPs, when properly managed, provide good assurance of biodiversity conservation. In the Game Management Area category, customary land is under control of the traditional authorities, but authority over land is attributed to several authorities (ZAWA, Forest Department, District Councils, and Traditional Leaders), causing duplication of efforts and unclear roles. The outcome is de facto open-access property regimes and weak controls on the conversion to (slash-and-burn) smallholder agriculture even in defined protected zones. The first signs of control are evident through a combination of land use planning and judicial enforcement of these land use plans, but this needs to be significantly reinforced as open-access is a major barrier to effective biodiversity conservation and the emergence of a viable bio-experience economy.

Figure 2. Map of National Parks (19) and Game Management Areas (36) in Zambia

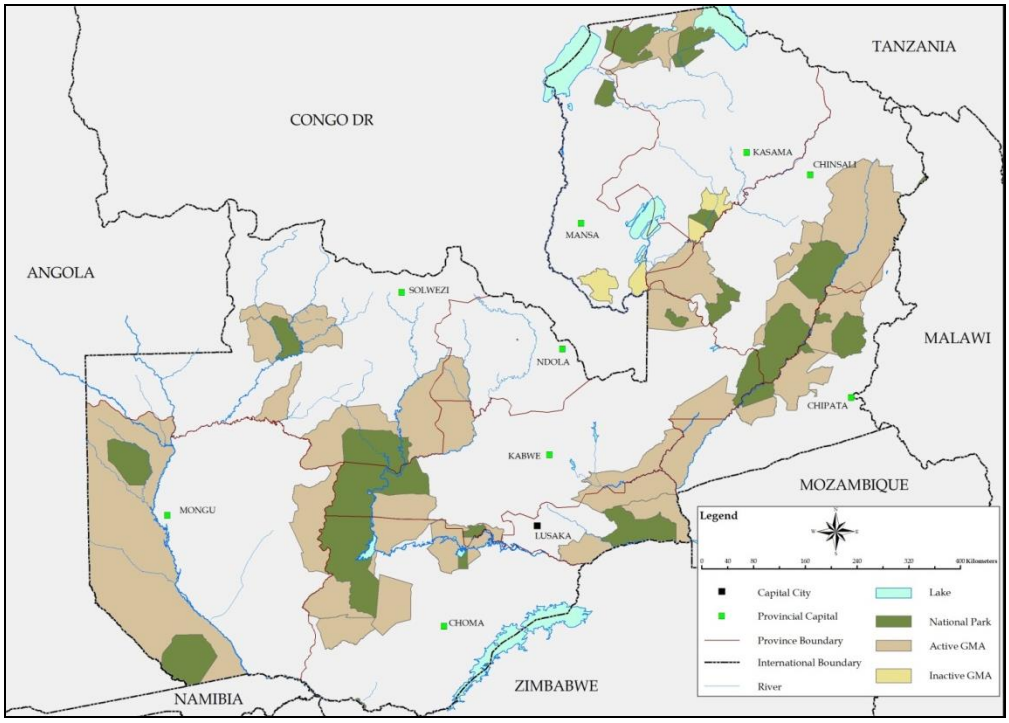
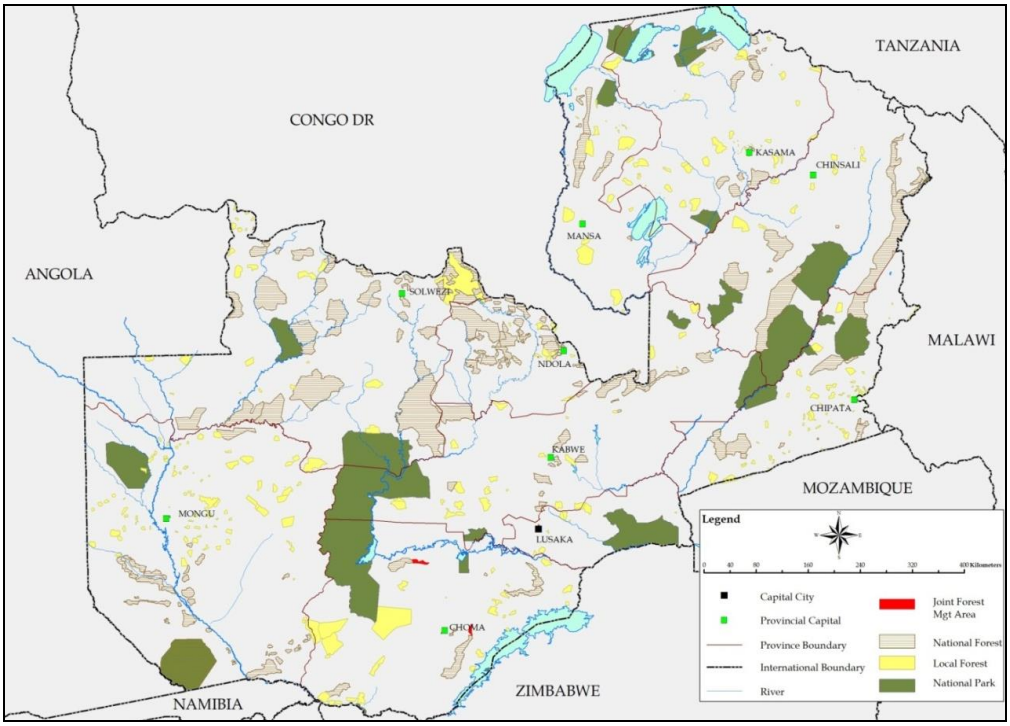


Figure 3 Map of Forest Management Areas in Zambia



8. A large percentage of forested land falls in GMAs. GMAs were created as buffer areas to NPs, on the basis that NPs protect nucleus breeding populations of wildlife, and that spill over populations can be utilized in GMAs by local communities for their own use and for trophy hunting to generate income. Wildlife resources in the GMAs are co-managed by the local communities together with the Zambia Wildlife Authority. Revenue is shared with the local communities from proceeds from wildlife hunting, thereby creating an incentive for local communities to conserve the wildlife in their areas. However, the inefficient generation and retention of wildlife revenues at a central level, coupled with weak and over-centralised local governance regimes under Community Resource Boards, is undermining the effectiveness of the community-based model (Annex 5, 16, 18). Annex 5 discusses the challenge of community governance in some detail. The key points are that (1) the communities require much strong rights over their resources, with village title being a sound goal;(2) the Village Action Groups need to conform to sound governance principles. These rights will place them in a much stronger position to valorize and manage their natural resources, including through PPPs, while sound micro-governance will ensure participation, benefit sharing and multi-dimensional poverty reduction.

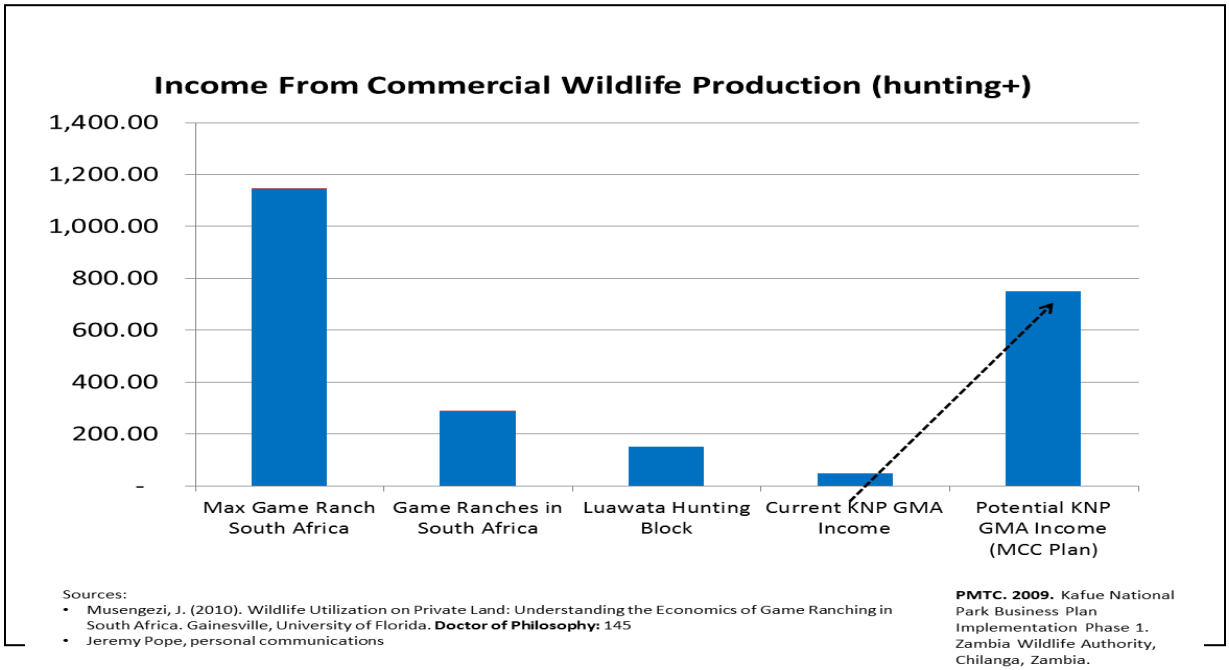
9. There is little enforcement of forest laws. Communities clear forests for cropland within gazetted Forests and GMAs. The management of Forests Reserves have proven to be relatively ineffective in Zambia in terms of ensuring biodiversity conservation (MTENR, 2005) due to outdated policy/legal framework and limited capacity for effective management (Annex 16, 18). It is reported that in gazetted forest areas, only half of the forest remains intact. A map of Zambia's forest management areas is provided in Figure 3.

10. In line with global experience, the absence of local (community) property rights is the core threat to the sustainability and valorization of wild natural resources[13]. It is increasingly understood that strong property rights are the key ingredient in sustainable resource management by collective communal units. Since rights are a prerequisite for developing local managerial capacity, a history of centralisation means that community, local and district administrative bodies generally lack the capacity to regulate land management in a comprehensive manner.

11. The natural resources in the project area are undervalued (figure 3 of Annex 4, MCC Reports). The average income from wildlife in the GMAs surrounding KNP is \$44/km^2, a tenth of potential as judged by detailed MCC analysis (\$750/ km^2), and an order of magnitude lower than similar areas such as Luawata hunting block in eastern Zambia (\$150/km^2) and game ranches in South Africa (\$250-1,150/km^2). This also has major implication for employment. In South Africa, wildlife on private land provides one job for every 25-250 hectares and wages varying from \$11-375/ha. Using even these lower limits, the GMAs around KNP (40,871km^2) would yield 16,000 jobs with an annual wage bill of \$47 million. Kruger NP (which continues to be heavily capitalised) supports 7,000 tourism beds (half inside the Park) and more than 15,000 jobs. Sabi Sands, a premier tourism destination in South Africa, provides one tourism bed per 150ha of quality wildlife land, approximately two jobs for each bed, and pays approximately USD60-120/ha/year for game viewing traversing rights.

[13] See ITTO (2009). International Conference on Forest Tenure, Governance and Enterprise: New Opportunities for Central and West Africa, Tropical Forest Update **19**(2).

Figure 4. Income from hunting in KNP GMAs relative to comparable areas in Zambia and the region (in USD/Km^2)



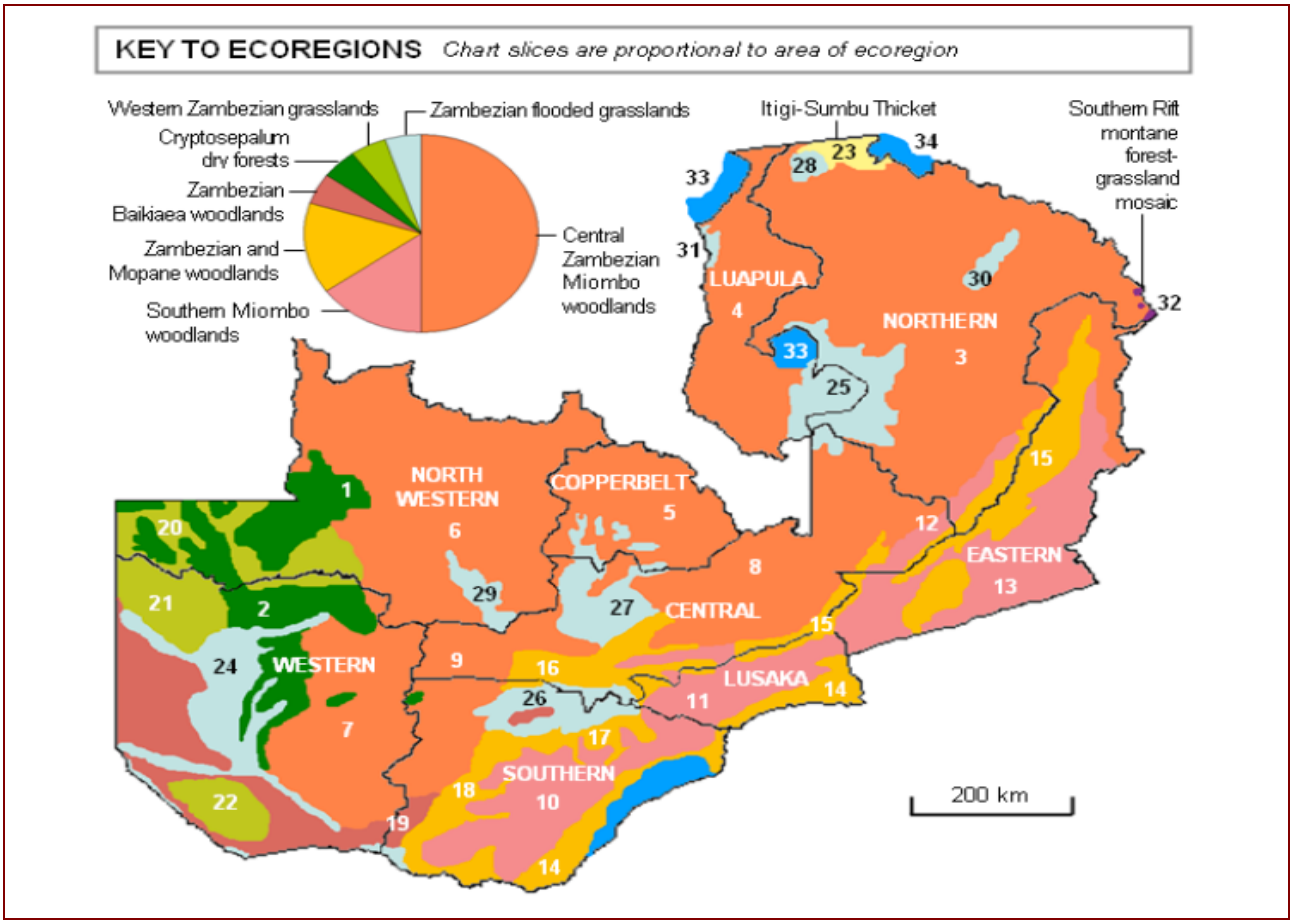
12. Forests have been identified as a valuable environmental and economic resource for supporting natural systems and improving sustainable livelihoods (GRZ, 2004). Zambia's forests are important for their specialized high timber species and fuel wood, and are important repositories of biodiversity and provide a wide range of environmental services to wildlife and wildlife-based tourism, agriculture, biomass energy, hydro-electricity generation and municipal water supply by regulating watercourses and flood regimes. The largest remaining block of forests in Zambia occurs in the North Western Province, including West Lunga NP, Northern Kafue NP and their associated GMAs, and is associated with important Zambezian *Cryptosepalum* Dry Forests to the north and Miombo woodland to the south.

13. The Dry Evergreen Forests are the least represented vegetation type in Zambia under National Park status. The Zambezian *Cryptosepalum* Dry Forests – an internationally recognized WWF Global 200 Ecoregion – is only found in North-western Zambia and Eastern Angola and constitutes the largest area of tropical dry evergreen forest in Africa outside the equatorial zone. Dry evergreen forest occurs in three main subtypes, one for each distinctive site: *Parinari* forest on the plateau, *Marquesia* forest in the lake basin and *Cryptosepalum* forest in the Kalahari basin. In West Lunga, the *Cryptosepalum* Forest Canopy dominants are restricted to *Cryptosepalum exfoliatum* spp. *pseudotaxus* and *Guibourtia coleosperma* in the lower rainfall areas of Zambezi, Kapompo and Kaoma districts but associated with *Marquesia acuminate, M. macroura, Parinari excelsa* and *Syzygium guineese spp. afromontanum* in the higher rainfall of Mwinilunga district.

14. Miombo woodland is the most widespread woodland type in Zambia, but it is under-represented in the national PA system according to the vegetation gap analysis conducted for the Reclassification and Effective Management of the National Protected Areas System (REMNPAS) project. Miombo is important for various uses including charcoal, timber, fruits, medicines, mushrooms, etc. As noted in Figure 4 below, Miombo woodland is the most extensive Zambian ecoregion covering about 65% of the Country. Miombo is further divided into Central Zambezian and Southern Miombo Woodlands. The central Miombo woodland which is predominantly of *Isoberlinia angolensis, Brachystegia* spp. and

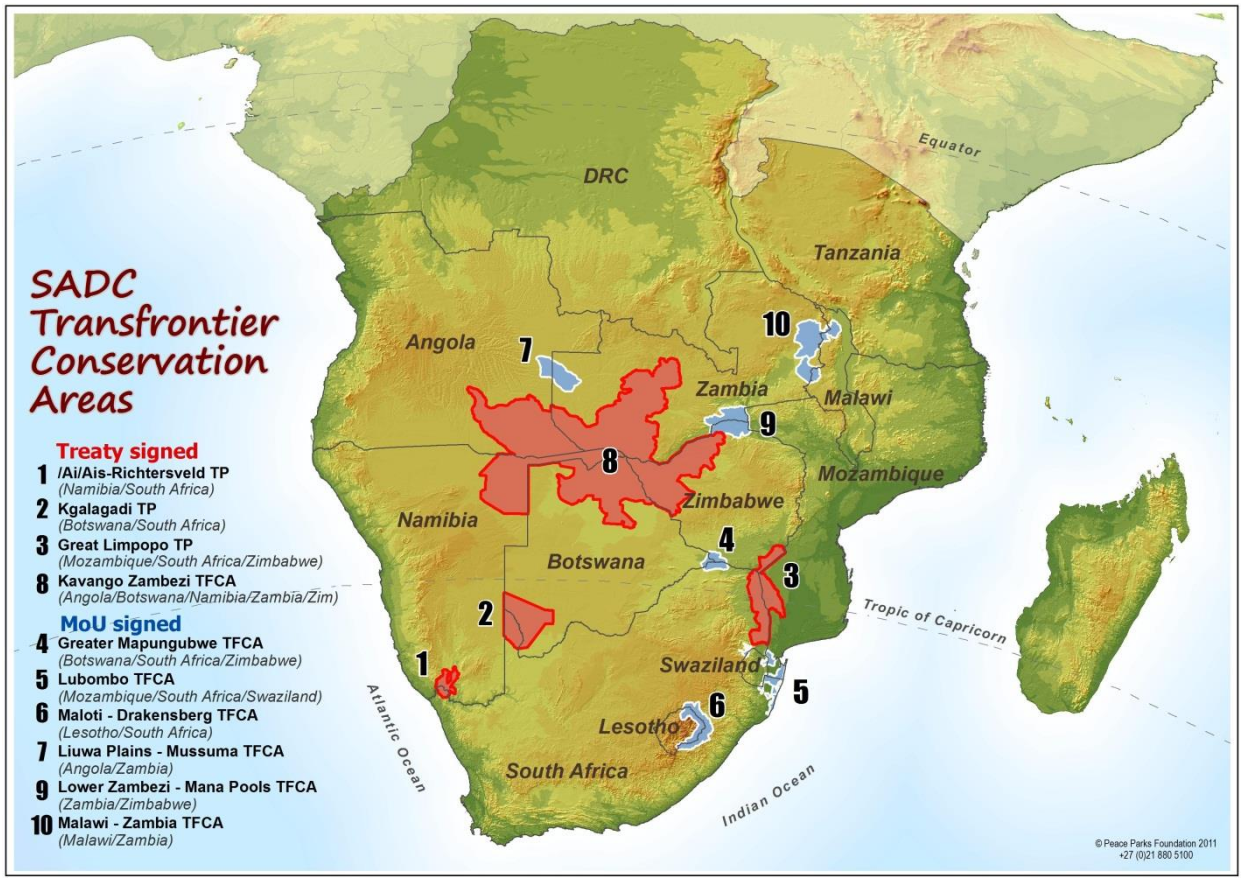
Julbernadia paniculata is the dominant vegetation types in Northern, Luapula, North-Western and the northern part of Central Province and part of Kafue National park. However, in the southern Miombo woodland, *Isoberlinia angolensis* is absent.

Figure 5 Ecoregions of Zambia



15. Zambia also makes an important contribution to the Kavango Zambezi Transfrontier Conservation Area, and needs to consolidate conservation and protection of the Miombo woodlands, which make up 50% of its forest landscape. This project is designed to consolidate and contribute to the development of biodiversity corridors between KNP, WLNP and related GMAs to the north of Kavango Zambezi (KAZA). Several actors and donors, including KfW/GTZ (Germany), Peace Parks Foundation, African Wildlife Foundation, WWF and The Nature Conservancy are currently working in GMAs to the south of KNP and towards Sioma Ngwezi NP in the south west of Zambia.

Figure 6. Transfrontier Conservation Areas in Southern Africa



16. A financial analysis (Table 3) suggests that park fees from KNP have already increased from $120,000 to $600,000 between 2005 and 2012 as a result of park rehabilitation through the Programme for the Development of Kafue National Park as a Model of Sustainable Economic Use and Biodiversity Conservation in a Management Extensive Environment (SEED) project (Annex 17). Kafue NP can easily support 1,200 tourism beds[14]. With effective lease agreements and PPPs this should increase park fees to $3.4 million (conservatively) or $9.5m (MCC estimate) within ten years. This compares to annual operating costs of approximately $2.0-2.5m[15]. It is clear that KNP (like South Luangwa NP and many large savannah PAs) can and should be financially sustainable.

Table 3. Tourism revenues and projections for KNP

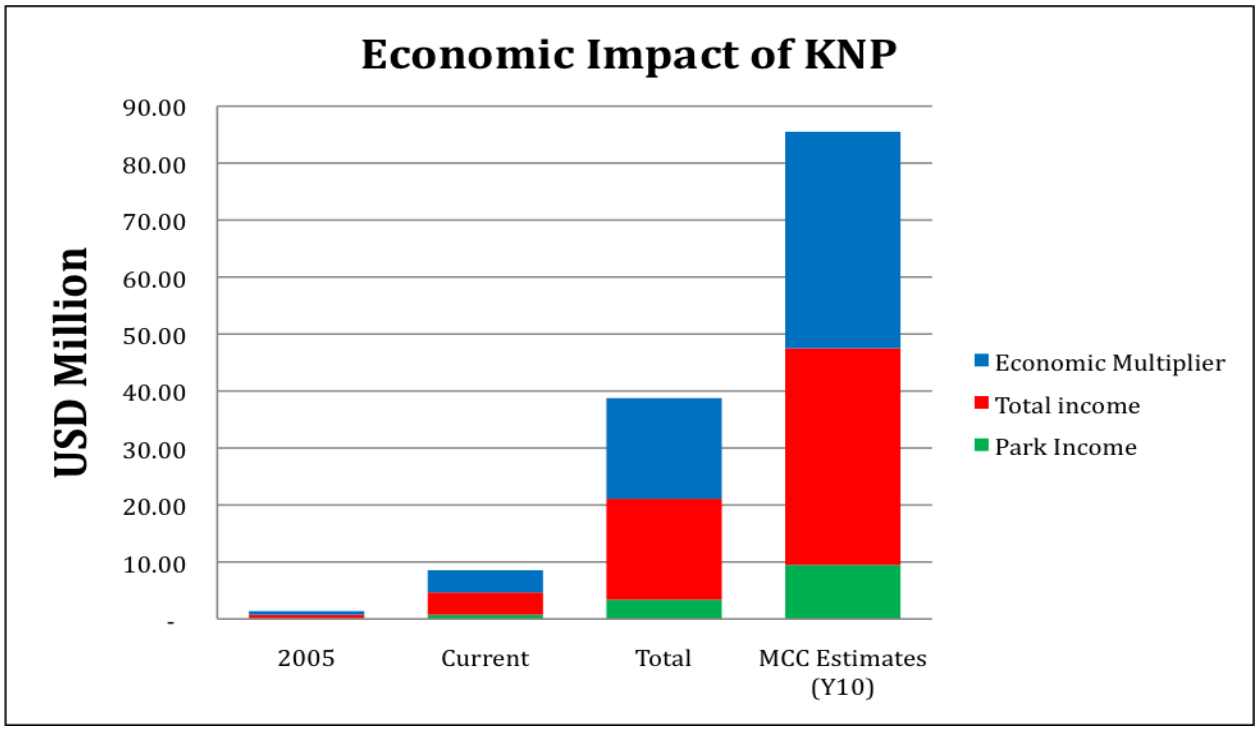
Tourism Income in Kafue National Park	2005	2012	Conservative Estimate	MCC Estimates (Y10)
Park Income (USD)	120,000	600,000	3,397,500	9,500,000
Total income (USD)	624,503	3,903,146	17,681,250	38,000,000

[14] Kruger NP, which is slightly smaller than Kafue NP, currently has 3,500 beds inside the park, is adding more including a hotel, and there are an equivalent number of day visitors accommodated outside the park.

[15] Detailed analysis by MCC suggests that increasing tourism may reduce the costs of managing KNP to $1.9m annually. As with South Luangwa NP, the presence of lodges like Mukambi results in higher wildlife populations while reducing the costs of anti-poaching. However, this may be an optimistic estimate, as increasing tourism also requires expenditure for road maintenance, etc.

17. However, Park fees are only a minor part of the economic story. Tourists pay $20-30 for park entry, but pay $200-300 in lodge fees and some 50% more for vehicle entry and other services. Direct economic impact is normally about six times[16] as high as park fees, and economic multipliers are roughly the same again. Indeed, a rule of thumb is that the total economic impact (including economic and employment multipliers) is ten times park fees (Figure 6). At full capacity[17], therefore, KNP will have an economic impact of $40-80 million annually (Annex 4). This suggests that a strong economic case can and must be made for the Government of Zambia to invest in recurrent ($1.5m) and capital ($10-20m) expenditures to bring KNP to the point at which it is financially self-sustaining.

Figure 7. Park fees (financial analysis) and total economic impact (economic analysis) from KNP



16 Total expenditure is normally about ten-times that of park fees, but approximately half the value added is used to purchase inputs from abroad (i.e. vehicles from Japan, food and wine from South Africa) so the value added to Zambia is estimated to be five times that of park fees.

17 Full capacity is assumed to be 1,200 beds. However, this is a medium term goal, and tourism can certainly be expanded to double this number (which is still a much lower density that Kruger), even without counting the potential of the surrounding GMAs

1.1. Threats to Biodiversity, Land and Forest Management

18. The greater[18] GKNP ecosystem comprises KNP and WLNP (24,164 km^2) and thirteen GMAs (54,012 km^2) supporting approximately 225,394 people. The Project will work directly in both NPs, in three GMAs around WLNP and in five GMAs around northern KNP (41,297km^2, 160,772 people). (Table 4)

Table 4. Proposed Project Area

National Parks	km2	Project Area	People
KNP	22,480	22,480	22,480
West Lunga	1,684	1,684	1,684
	24,164	24,164	24,164
West Lunga GMAs			
1. Lukwakwa GMA	2,540	2,540	2,540
2. Chibwika Ntambu GMA	1,550	1,550	1,550
3. Musele Matebo GMA	3,700	3,700	3,700
4. Chizera GMA	2,280		
Southern KNP GMAs			
5. Mulobezi	3,570		9,004
6. Sichifulo	3,600		13,000
7. Nkala	194		19,787
8. Bbilili GMA	3,080		22,831
Eastern KNP GMAs			
9. Mumbwa	3,370	3,370	33,526
10. Namwala	3,600	3,600	35,232
Western KNP GMAs			
11. Mufunta	5,417	5,417	40,021
Northern KNP GMAs			
12. Kasonso Busanga	7,780	7,780	12,890
13. Lunga Luswishi	13,340	13,340	7,149
GMAs	54,021	41,297	201,230
Total Area	**78,185**	**65,461**	**225,394**

19. In the past ten years, agricultural settlement has increased rapidly. This is driven primarily by people originating from line of rail between Lusaka and Livingstone where environmental degradation is a significant push factor. South western and southern Zambia has been significantly deforested[19], and agricultural degradation is exacerbated by low and erratic rainfall and, perhaps, climate change. In the south, Sichifulo and Bbilili GMAs have been greatly affected by agricultural expansion and loss of forests and wildlife in the past ten years. This problem has recently spilled northwards to Namwala and Mumbwa GMAs to the east of KNP, to Mufunta in the west, and pressures are building in Kasonso-Busanga and Lunga-Luswishi in the north. A significant number of new homesteads have been

[18] "Greater" refers to the wider ecological context of the Kafue and West Lunga National Parks and includes the surrounding game management areas (GMAs) as well as the "Open Area" corridor between the Kafue and West Lunga National Parks, including the Chizera GMA.

[19] Vinya, R., Syampungani, S., Kasumu, E.C., Monde, C. & Kasubika, R. (2012). Preliminary study on the drivers of deforestation & potential for REDD+ in Zambia. Lusaka, Zambia, A consultancy report prepared for Forestry Department and FAO under the national UN-REDD+ Programme Ministry of Lands & Natural Resources.

constructed along the Mumbwa Itezhi Tezhi road in the past year. Each settlement is associated with the clearing of new fields (2-10 ha) and the girdling and burning of many large Miombo trees. Some of these settlers are opportunistically producing charcoal from field clearing, and most charcoal is sold in the vicinity of new clearings. There is some evidence of limited and opportunistic small scale charcoal production independent of field clearing, and unless control measures are implemented soon this is likely to expand, trucked to Mumbwa and/or Lusaka and transported by bicycle to Itezhi-teshi. At the time of preparing the project document, charcoal production in these GMAs was at a very low level compared to other areas of Zambia. **Figure 8** below shows the extent of increase in settlements in Mumbwa GMA, which fall outside the development zone, while **Figure 9** is extracted for aerial surveys to illustrated settlement patterns around KNP. Through the SEED Project, most GMAs have recently been planned or zoned, and **Table 5** summarises data extracted from these reports. Very detailed GMA data is also available from the Millennium Challenge Corporation (MCC) studies on request.

Figure 8: Spread of Settlements in Mumbwa GMA

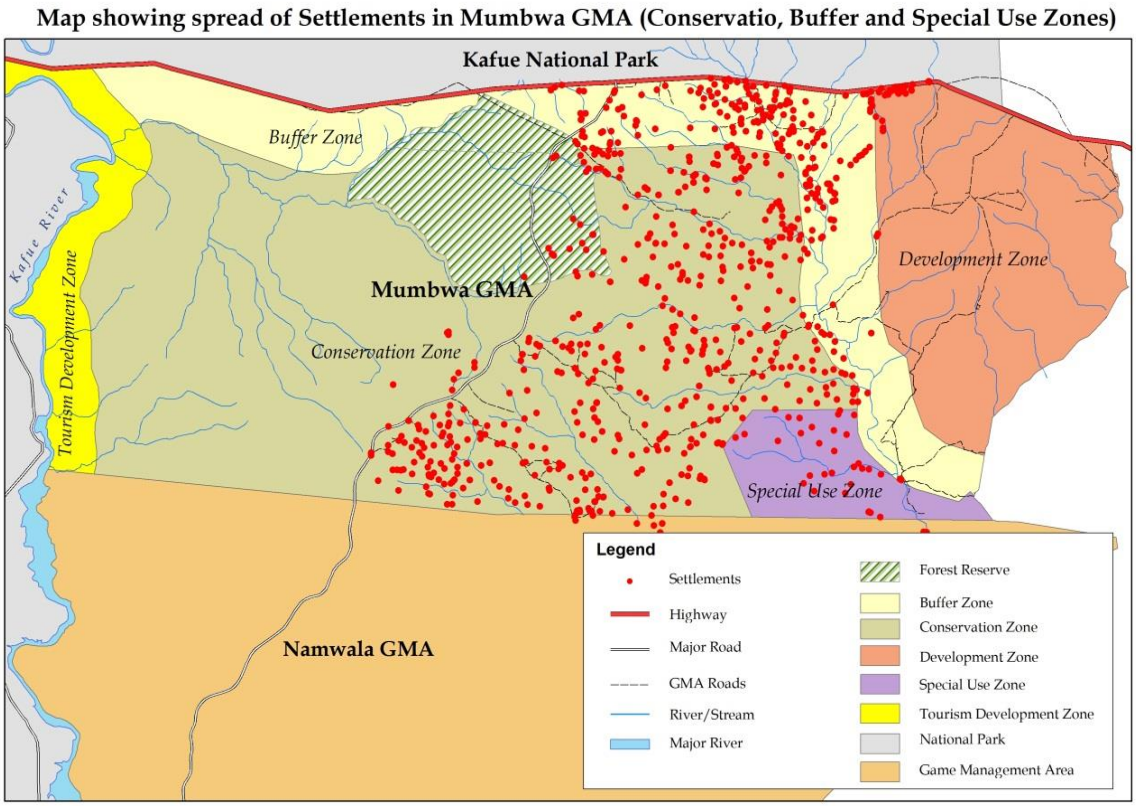


Figure 9: Settlement patterns around KNP

Source: Frederick, H (2009) "Aerial Survey of Kafue Ecosystem 2008", Zambia Wildlife Authority, Lusaka, Zambia

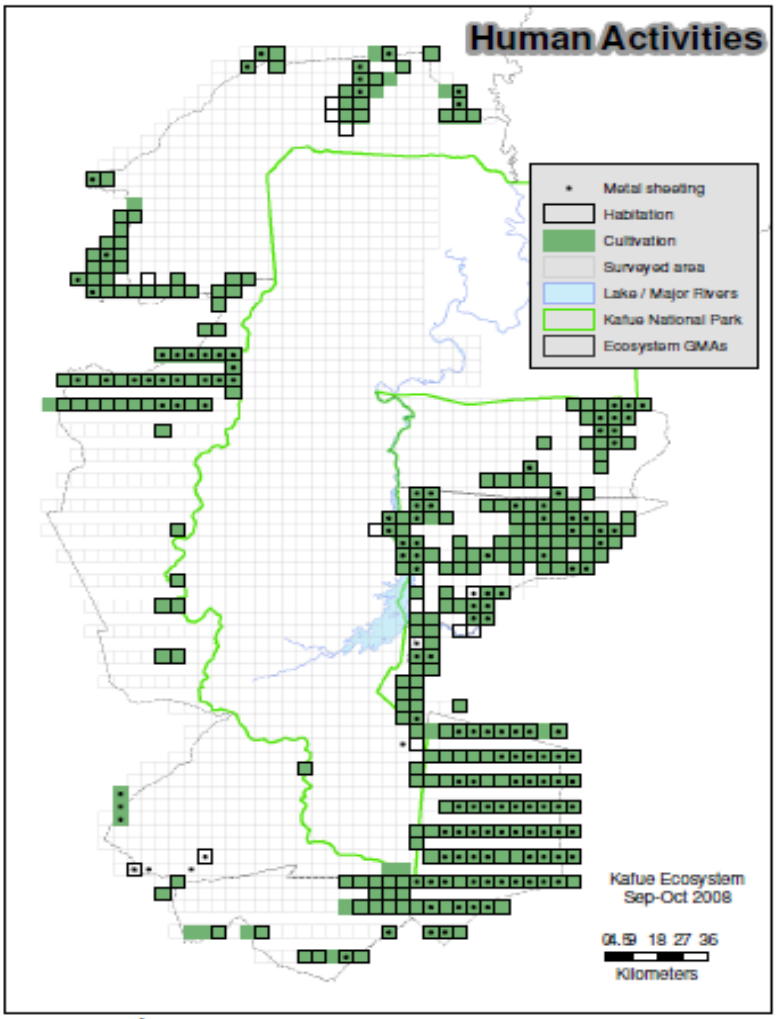


Figure 24: Distribution of houses, cultivation and metal sheeting in the su
area, 2008.

Table 5 GMA Size, Demography and Designated Development Zones

Source: GMA General Management Plans (ZAWA)

GAME MANAGEMENT AREA	GMA SIZE (km²)	POP	HOUSE-HOLDS	DEVELOPMENT ZONE SIZE (km²)	AGRIC LAND (km²)	VALIDITY
Mumbwa	3400	9311	1011	529	85	2012
Namwala	3600	35232	c8,146	1527	1,404	2008
Kasonso Busanga	7780	12600	2184	2412	256	2007
Lunga Luswishi	13340	1198	313	855	161	2007
Mufunta	5104	24237	5604	3156	1160	2007
Lukwakwa	2540	8265	1326	298	35	2007
Chibwika Ntambo	1550	2045	340	291	21	2007
Musele Matebo	3700	9000	1457		6	2007
Chizera	2280	11169	1738		58	2007

20. A random inspection of one new settlement showed the clearing of 10 hectares, the introduction of livestock into an area zoned for wildlife, and noticeable forest degradation in the vicinity of newly constructed houses through tree-cutting for building and firewood. The ecological and economic impact of these new settlements is greatly magnified by their fragmented pattern. This damages the ecological integrity of consolidated wildlife areas, is associated with an increase in poaching and burning, and is rapidly lowering the financial value and economic potential of these wildlife production zones and forests. Further, even though the absolute amount of forest settled is small/moderate, the fragmented pattern of settlement is expanding the 'agricultural frontier' some 20km beyond the boundary of established farming areas into the forest. Interviews suggest that these pioneer settlers will quickly be followed by further rapid settlement.

21. An important development is that ZAWA, working with Traditional Chiefs, controlled illegal settlement in areas zoned for protection by relocating new settlers to development zones. This was done on the basis of a Writ of Possession issued by the High Court for Zambia (2009/HP/1215) to enforce the legitimacy of zoning arrangements incorporated into Community Resource Board (CRB) General Management Plans, and provides critical legal precedent. Several interviewees stated that had ZAWA and the chiefs not intervened together to enforce the GMA General Management Plans, it is possible that the forest and wildlife areas (and economically important wildlife resources) in the entire Mumbwa and Namwala GMAs could have been lost, as happened to Bbilili GMA in the decade before.

22. As noted, the GMA General Management Plans and the zoning within them (i.e. Conservation, Special Use Zone, Tourism Development, Buffer and Development Zones) was upheld in a court challenge (Writ of Possession granted in favour of ZAWA and Chiefs, 2009/HP/1215, Namwala GMA) between settlers on the one hand and ZAWA and traditional authorities on the other. Most 'illegal' settlers were removed. One can see many newly cleared but abandoned fields and huts along the roads in Namwala especially, and there is little doubt that this action 'saved' Namwala. However, there are still active agriculture sites within the forest, and the control of random and destructive settlement needs to be intensified because of the low returns from the settlement relative to the high costs imposed on society and the bio-economic potential of the area.

23. Following removal, settlers are said to have relocated to Mufunta GMA, 150km away on the western boundary of KNP in the southern part of the GMA. This suggests that migration needs to be actively managed. The presence of new settlements on the western boundary of KNP was confirmed by a site visit and by interviews with the CRB Chair in Mufunta, who expressed additional concerns about both illegal settlement and illegal felling of high value timber in the southern part of the GMA. According to MCC: "A large resource of mukwa (*Pterocarpus angolensis*) is located to the southwest region of the GMA and… local licenses are being exploited by illegal harvesters who buy timber from the local communities at low prices and transport it to Lusaka to sell to the commercial timber industry".

24. TBZ, an agricultural settlement immediately adjacent to the western boundary of KNP, presents specific problems that need to be actively addressed, in partnership with the private sector (Annex 14).The settlement has recently expanded up to 20km north and south of the main Lusaka-Mongu road, and forest is being cut right up the Park boundary. The primary driver of this expansion is to open up new fields for tobacco (Zambia's tobacco industry is currently expanding at 25% annually), but a greater driver is the need to access fuelwood for curing Virginia tobacco (Annex 14). Observations of these new clearings showed that farmers were cutting and cording wood for tobacco curing. Curing is done in small hut-like (beehive) barns using firewood. .

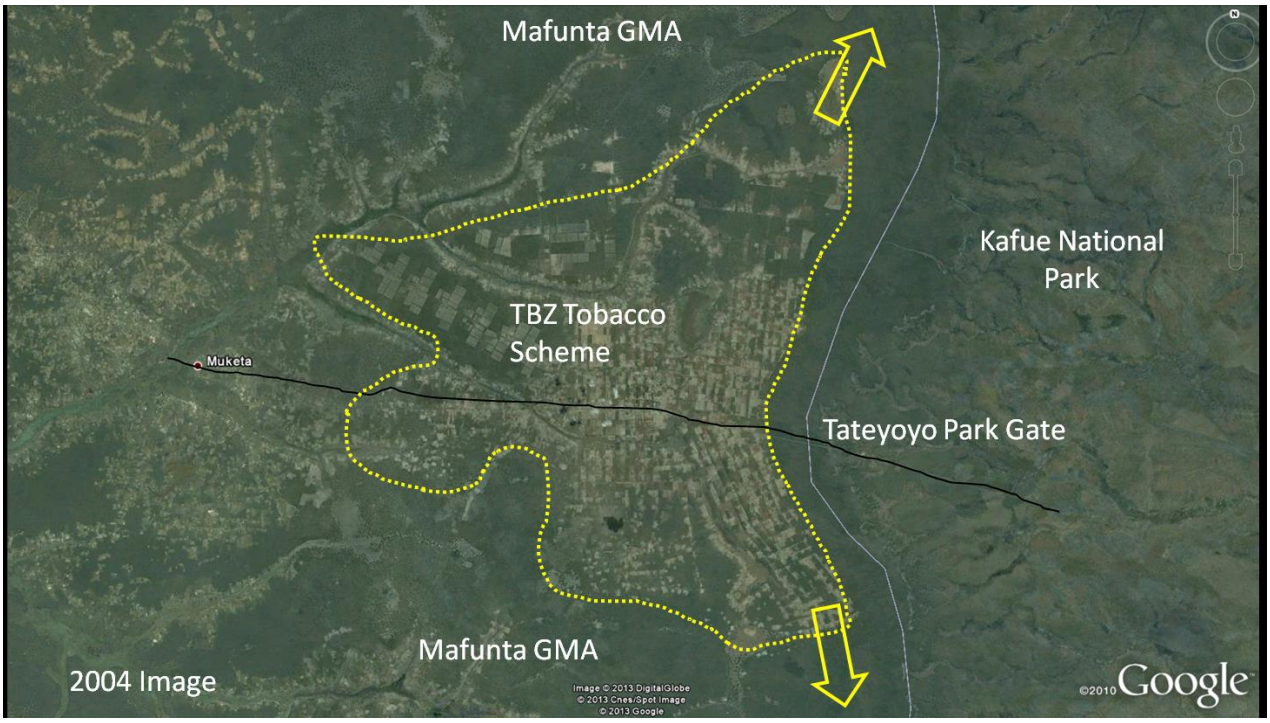
25. In addition to agricultural expansion and timber clearance, previously cut-over and degraded Miombo forest in the vicinity of the original tobacco-growing areas is managed sub-optimally. Woodland is trapped in a thicket phase because of the density of coppicing combined with extensive annual burning. Land is also being allocated to influential private individuals for farming in areas not zoned for settlement, and the influence of these people is said to be more likely to lock in inappropriate settlement

patterns. Interviews with tobacco companies indicated that they share concerns about deforestation, and that they are beginning to invest in technical solutions in the form of improved 'rocket' barns (which reduce fuelwood requirements substantially) and individual woodlots (see Annex 14).

26. TBZ is within the Kaoma district, where there are 30,000 registered farmers. The TBZ tobacco scheme was established in the 1970s. About 5,000 households are growing tobacco in the district on 4,500 hectares, of which about three-quarters are estimated to be in TBZ. These growers are supported by three large multi-national tobacco companies, and interviews suggest that they are intensely aware of their poor image problems and of the need to improve it through improved land use practices. One of these companies is currently investing $700,000 annually in reforestation. Tobacco companies are well organised and provide growers with high quality technical advice (extension services), inputs and financial services. Tobacco companies are knowledgeable about the technical aspects of woodlots, barns and curing and provided the following information. Most farmers use traditional pepperpot barns which require 20-24 cubic metres of wood to cure one hectare of tobacco, whereas new rocket barns need only 10 cubic metres. Average tobacco yields are 1,200kg/ha (but should get closer to 2,000kg/ha) and average income is $3,600-$6,000 per ha of tobacco. One hectare of woodlot can cater for 1.5ha of tobacco with pepperpot barns, and 3-4 ha with rocket barns. Eucalyptus trees yield about 90m3 of wood in their seventh year of growth but are not favoured by tobacco companies because they require management, and are susceptible to fires, termites, etc. Indigenous species are favoured, which yield 50m^3/ha wood in year 7. Tobacco companies estimate that they would need to plant 0.2-0.4ha/annum each year for seven years for a farmer using tobacco barns (1.5-2ha), after which trees coppice if cut carefully and replanting is not necessary. In most of Zambia, it costs farmers $1,500 to build a rocket barn, but costs in Western Zambia are currently $3,700 because of technical issues associated with soil and the need to import bricks. However, new technologies are being targeted for this area to reduce these costs.

27. TBZ is illustrated in **Figure 10**. This 2004 Google Earth image shows a large area of tobacco farms immediately on the western boundary of Kafue NP, and uses arrows to illustrate how the area is expanding along the park boundary. Approximately 2,000 individual fields are visible in 2004. Tobacco is farmed on a four-year rotation, so if 500 fields use 35 cubic meters of wood annually, this requires the clearing of approximately 250 hectare equivalent of Miombo woodland annually, or the planting of 400-500 ha of woodlot. However, a rough extrapolation from the previous paragraph suggest that tobacco farming has quadrupled (or more) since this 2004 image.

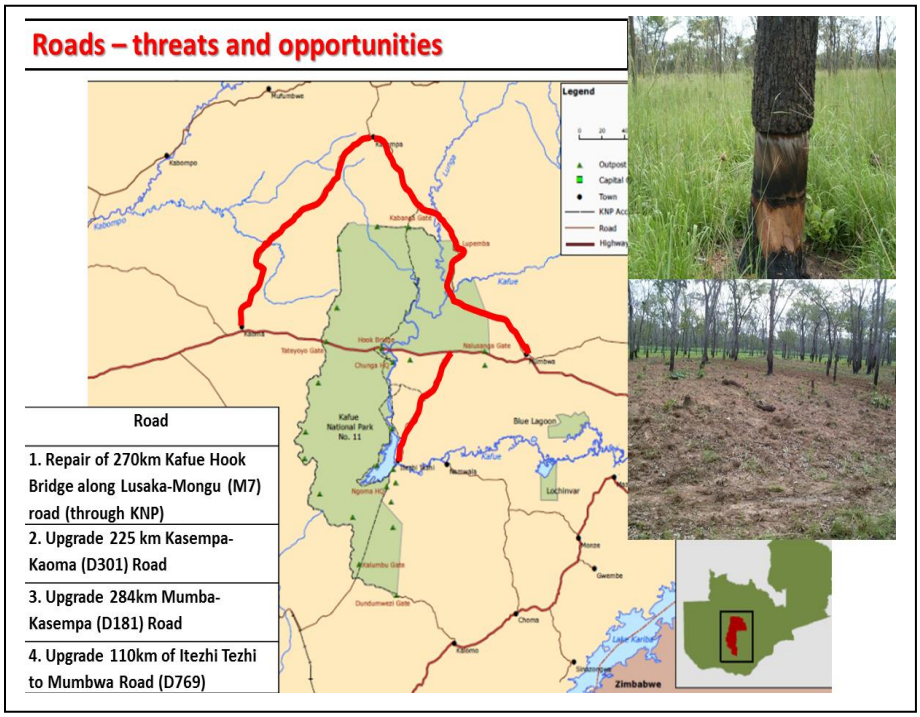
Figure 10: Settlement patterns in TBZ on the western boundary of KNP



28. To the north of KNP human population densities are low (less than 1 person/km2). All these GMAs have land use plans developed with ZAWA, which suggest that the area is largely intact. Fields cover 2- 5% of the total GMA, although 3,189km2 (15%) of the area is zoned for development. The major current threat is poaching from the Copperbelt, fire and mining (legal, illegal and prospecting). Mining is also associated with poaching, fire and degradation of water courses.

29. Roads are major drivers of land use land cover change. The Government of Zambia has announced plans to upgrade two roads from narrow tracks to accessible gravel road that are of vital importance to the greater Kafue ecosystem (**Figure 11**, Annex 21). This includes the road from Mumbwa to Kasempa (NE of KNP) and the road from Kasempa to Kaoma (NW of KNP). The Itezhi Tezhi road (SE of KNP), already a wide gravel road but poorly maintained, will also be upgraded, as will the main tar road from Lusaka. The northern roads, in particular, are likely to exacerbate the expansion of agriculture already occurring northwards from TBZ and westwards from Mumbwa into this area. However, some protection to the eastern border of KNP is provided by the private operators who manage Mushingashi Conservancy.

Figure 11. Map showing proposed upgrade of roads of consequence to greater Kafue NP



30. Extensive fires occur in Kafue NP and the surrounding GMA; 56% of Kafue NP burns each year, compared to 35% in the drier southern GMAs and about 18% in the wetter (Miombo) northern GMAs (See Annex 8). The annual loss of carbon from late season fires varies from 1.32 t/ha in Miombo to 1.52 t/ha in Cryptosepalum forest. This results in estimated CO2 emissions of 182,000 and 58,000 tons CO2e/year in the KNP and WLNP GMAs, respectively. Fire affects approximately 35% of drier southern GMAs each year, which is too frequent for woodland ecosystems with annual rainfall of < 700 mm. Approximately 20% of Mumbwa/Namwala and 17% of the GMAs to the west and north of KNP are affected by fires annually. While this is within the acceptable limits for Miombo woodlands with rainfall of 800-900mm, TNC suggests that reported fire frequency may be an under-estimate. Most seriously, an average of 56% of KNP is estimated to be burned annually. Anecdotal evidence confirms that these frequent fires cause widespread degradation of forests, grasslands and even peat beds (especially in the Busanga wetlands). In KNP, an average of 1,251,600 hectares burns annually. If standard assumptions are applied (detailed in Annex 8) and it is assumed that half of the reported fires occur in the late dry season, the corresponding loss of CO2 in Kafue NP is 839,209 tons per year. A summary of the estimated annual losses of CO2 as a result of late-season fires is provided below:

	Miombo woodland	***Cryptosepalum* forest**
Area burned in late season fires (ha):	55,833	24,333
X loss/ha of Carbon (t C)	18	21
÷ Assumed time it takes for total forest degradation (years)	50	50
= loss of Carbon (t)	20,099	10,219
Mass of CO_2 relative to C = 3.67		
= loss of CO2 (t / year)	73,766	37,137
= CO2 loss/ha late season burn (t / ha / year)	1.32	1.52

Table 6. Summary of fires in greater Kafue ecosystem[20]

		Area Burned				
	Area	**2000**	**2005**	**2011**	**Average**	**Percent**
Sichifulo	3,040	709	1,330	1,632	40%	35%
Mulobezi	3,597	1,027	1,604	1,439	38%	
Bbilili Springs	3,706	876	1,396	792	28%	
Nkala	246	51	109	123	38%	
Namwala	3,183	599	718	589	20%	19%
Mumbwa	3,410	760	1,585	580	29%	
Mufunta	6,404	876	1,230	1,360	18%	17%
Lunga-Luswishi	13,427	1,773	3,551	1,117	16%	
Kasonso Busanga	6,724	1,087	1,593	939	18%	
	43,737	7,758	13,116	8,571		
Sub Total		18%	30%	20%		
Kafue NP	22,396	9,884	15,272	12,392	56%	
		44%	68%	55%		

31. It is estimated that intact forests in northern Zambia contain between 68 t C/ha (Miombo) and 79 t C/ha (*Cryptosepalum*). If it is assumed that the emissions of CO_2 per hectare as a result of degradation are 131.4 t and 169 t in Miombo and *Cryptoseplalum*, respectively. For example, C stores in the medium-sized Mumbwa GMA are equivalent to 9.9 mt CO_2; in the larger Lukwakwa GMA C stocks are equivalent to 36 mt CO_2.

32. Annex 6 provides a detailed analysis of carbon stores in representative GMAs. Estimates are provided of the geographical extent and stored carbon stock of forested areas in five of the eight GMAs proposed for project interventions (i.e. the GMAs originally proposed in the PIF) through analysis of satellite-based land cover maps. These data are used to estimate the size of C pools, and CO_2 equivalents, that are potentially vulnerable to degradation and deforestation in GMAs. It also quantifies the C and CO_2 effects of deforestation from agriculture, firewood and fire. Finally it provides detailed technical guidance for REDD+ markets in the context of Zambian GMA communities.

33. Rural households in Zambia – including those in GMAs – are overwhelmingly reliant on biomass, primarily firewood, as a domestic cooking fuel. In order to calculate annual demand for wood fuel in each GMA, the total population was multiplied by estimated rural wood fuel demand based on figures reported by Zambia's Forestry Department. Annex 7 assesses the C and CO2 implications of domestic use of fuel wood in selected GMAs, which is a prominent contributor to forest degradation in the GKNP. Annual per capita consumption of firewood is estimated to be 1.12 tons, equivalent to a loss of forest equivalent to 14,906 hectares in the five proposed GMAs during the period 2013 – 2017. To illustrate the threat in practical terms, in the Mumbwa GMA, total firewood demand in the period 2013 – 2017 was estimated to be 245,477 metric tons of wood. This would result in an estimated equivalent loss of 4,431 ha of forest over the five-year project period. Emissions from deforestation for firewood collection are estimated to be 450,028 tons CO2.

34. Annexes 7 and 10 provide detailed estimates of the extent of deforestation and equivalent loss of carbon and CO2 from forest clearance for agriculture, the primary cause of deforestation within GMAs in Zambia (it estimated the geographical extent and stored carbon stock of forested areas in the five GMAs originally proposed for project interventions through analysis of satellite-based land cover maps).

[20] Remote sensing analysis provided by TNC and USFS

Small-scale (primarily practiced in Zambia as 'slash-and-burn' cultivation) and commercial agriculture is widely acknowledged to be a major source of deforestation and degradation of woodlands and forest in GMAs and results in considerable emissions of CO2. Traditional 'slash-and-burn' subsistence agriculture is primarily practiced on converted woodland and results in a reduction of above- and below-ground biomass as well as a decrease in stored soil carbon. Traditional subsistence agriculture techniques in Zambia are typically inefficient and do not use inputs such as fertilizer, with yields barely exceeding 1 ton of grain per hectare. As a result of declining soil fertility and corresponding yields, new land must be cleared for cultivation every three to five years. Demand for agricultural land and corresponding rate of deforestation is expected to increase in proportion to population growth unless measures to intensify and increase the efficiency of agriculture are implemented. At present demand for arable land is estimated to be approximately 0.5 ha per person. It is estimated that an additional 0.118 ha per person is deforested annually for agriculture in GMAs as a result of annual population growth rate and the inefficient productivity of slash-and-burn agriculture

To cite one analysis conducted during the Project Preparation Grant (PPG) phase that highlights the gravity of the situation, in Mumbwa GMA with a population of 33,500 people they will require 16,750 ha of arable land and will clear an additional 3,937 ha of land each year under a business as usual scenario. Therefore, demand for agricultural expansion in Mumbwa is expected to result in the deforestation of approximately 19,921 ha of forest over the project implementation period of 2013 - 2017. Each hectare of Miombo woodland contains 55.4 tonnes of wood in aboveground biomass, and the degradation of Miombo or conversion to agriculture results in emissions of CO2 of 131.4 tonnes per hectare. This is equivalent to emission of 2.6 million tonnes CO2e over the period 2013 – 2017 in Mumbwa GMA alone.

The opportunity cost of clearing one hectare of Miombo in terms of CO_2 values is $813/ha. Over five years, a 1 hectare field produces a gross value of $1,430 from maize, assuming an average yield from shifting agriculture of 1.1 t/ha/year and using the maize floor price in Zambia which is currently fixed at $260/t (and is a subsidised price). This suggests that the value of carbon lost from shifting cultivation is of the same order of magnitude of the gross income from maize, and may exceed the net real income of maize if the costs of subsidies, inputs and labour are considered. However, given that the conservation of carbon is complementary to the production of wildlife, forestry products and water services, the net economic equation may well be in favour of ecosystem services provided that markets for them are developed to reflect their true values.

35. Mining is a key threat to forests; as noted in Annex 6 the sector is a critical contributor to Zambia's economy and provides a significant source of employment and revenue. However the development of this sector has necessitated considerable clearance of forest for the development of infrastructure to access, process and transport minerals (an estimated 7,000 ha of land must be cleared to support the development of Kalumbila Mining Concession). Furthermore, the development of mining infrastructure is accompanied by increased demand for housing and amenities as well as increased demand for construction materials such as timber and sand. Given proximity to the Copperbelt (where most of the mining operations are located), West Lunga NP is particularly threatened. In 2008, it was observed that West Lunga National Park was threatened by population growth, expansion of cultivation on the park boundary, ad-hoc charcoal manufacturing inside the park, uncontrolled hunting and fishing and subsidiary effects from copper mining (increased demand for poles, in-migration, expanding settlements) (WCLP 2007).

36. Unplanned in-migration is having a serious effect on the bio-economy in the southern GMAs. With new road construction, this is likely to spread to the northern GMAs. The cumulative long-term effect of various practices which cause degradation and deforestation of woodlands and forest **are largely dependent on population pressure.** As a result of the relatively low availability of baseline data from the proposed GMA project areas, many assumptions had to be made in order to obtain indicative estimates of the effect of population pressures on wooded areas. The cumulative effects of deforestation and degradation under various scenarios are considered in greater depth in Annexes 2 and 3.

Estimated populations of selected GMAs were derived from General Management Plans written for each GMA and recalculated to reflect likely 2012 population based on reported population growth rates[21], summarized below.

Estimated population growth of selected GMAs

GMA	Population (year of report)	2012 Population	Assumed population growth rate	Estimated 2017 population
Namwala	35,154 (2008)	38,052	2.00%	42,012
Mufunta	25,000 (2010)	26,729	3.40%	31,592
Mumbwa	/	33,500	0.40%	34,175
Chibwika Ntambu	2,045 (2008)	2,293	2.90%	2,645
Lukwakwa	8,265 (2008)	9,266	2.90%	10,690

Population growth exacerbates the other threats already mentioned in Annex 10, the increase in agricultural lands and firewood use due to population growth is estimated for three GMAs around KNP (Namwala, Mumbwa, Mufunta) and for two GMAs around West Lunga NP (Lukwakwa and Chibwika-Ntambu). These results are summarized in table 1 of Annex 10 using a sensitivity analysis with two assumptions – 5% and 10% growth in human populations. The estimated change in vegetation composition in the five GMAs in the period 2012 – 2017 due to agricultural expansion and firewood collection under scenarios of normal population growth, 5% population growth and 10% population growth is quantified in table 1. This suggests emissions of 2.4 to 3.9m tonnes in the three KNP GMAs, and 386,000 to 542,000 in the two GMAs near West Lunga from agricultural expansion and firewood collection, with agriculture being the major contributor.

37. **In summary the primary threats to the ecosystem integrity of Zambia's GMAs (not just around GKNP but nation-wide – see Annex 6) are as follows: 1) Poaching; 2) Human encroachment; 3) Fire; 4) Agriculture – subsistence; 5) Illegal fishing; 6) Agriculture – commercial; 7) Charcoal burning; 8) Mining; 9) Water pollution; 10) Invasive species; and 11) Wildlife diseases**.

38. According to the UN-REDD's assessment study of the potential for REDD+ in Zambia[22], secure tenure is lacking for most of the land under traditional administration. This is a major challenge for any REDD+ project because without clear and defensible rights to land or forest services, local communities cannot make a credible commitment to supply emission units. Project developers and investors tend to have little confidence in financing carbon projects where local communities do not have secure and equitable rights to land on which forestry activities are to take place. To date, most forest carbon projects which have successfully contracted credits are situated on private land. The only two REDD+ projects that were issued credits under the VCS in 2011 were both developed on private lands – in Kenya (private, group-owned ranches) and Belize (private landowner). This issue is elaborated in Annex 25.

39. Annex 6 (Section III) provides additional information on future REDD+ benefit sharing mechanisms, so that communities can make informed choices as to whether or not to participate before they commit themselves. Developing REDD+ community involvement requires extensive community engagement both prior to and throughout a project's lifetime. This should include the development of

[21] ZAWA General Management Plans; Zambia 2000 Census of Population and Housing; ZAWA, 2008, Technical report on the Resource Mapping of West Lunga Ecosystem

[22] Mwitwa and others.

community monitoring plans, benefit-sharing agreement consultations, grievance/dispute resolution mechanisms and a stakeholder communication plan. Involving communities in monitoring carbon stocks is one way in which community rights could be supported in a REDD+ mechanism, and communities that are trained to use standard forest inventory protocols for carbon stocks (i.e. measurements of all above-ground biomass indices –trees, shrubs and herb layers, and litter – but not soil carbon) can be as reliable as expert inventories and is cost-effective, provided an intermediary organization provides some technical support – designing monitoring plots, training and so on. Further details and suggestions are elaborated in Annexes 5 and 6, where the centrality of effective micro-governance and land use planning, including equitable benefit sharing (and past challenges to this in both wildlife and Joint Forest Management in Zambia), are emphasised.

40. GMA systems in Zambia pose both challenges and unique opportunities for combining rural economic growth with forest carbon conservation. Instead of altering only the behaviour of large-scale deforesters, the behaviour of millions of small-scale farmers and charcoal producers in communal village land must be changed. Rural communities need to be empowered and provided with sufficient incentives to sustainably manage their lands and forests. If the incentives are properly structured to avoid capture by small elite groups, REDD+ has the potential to greatly improve rural livelihoods and move communities toward a more sustainable development path. This, of course, depends on the evolution of carbon markets, an important external factor.

41. Sustainable Forest Management Indicators are detailed in Annex 9, which also describes Community Carbon Monitoring Protocols. Climate, Community Biodiversity (CCB) standards (Annex 6, Section III) are often used in combination with the Verified Carbon Standard (VCS) certification and have strict requirements for engaging with participating communities, including: i) proving information on community socio-economics, land use and property rights in the project zone; ii) conducting a social impact assessment comparing the baseline scenario with the project scenario; iii) monitoring the effects of the project by local communities; iv) adjusting project implementation based on stakeholder consultation; v) demonstrating that the project does not have negative impacts on communities outside of the project area; vi) demonstrating that relocation of communities out of the project area is voluntary; vii) developing a plan for communication between stakeholders from the planning phase of the project; and viii) training and capacity-building of stakeholders towards equal opportunity employment. REDD+ payments systems, further, need to disburse revenue from emissions reductions to forest owners in a way that is transparent and predictable, such that forest owners are equitably compensated for the emissions reductions that they achieve (see Annex 8)[23].

42. REDD+ payment systems are variable, complex and early in their development stages. An analysis of the Zambian situation (Annex 6) recommends the use of a hybrid approach known as the stock-flow accounting method[24]. To distribute funds, the stock-flow mechanism pays for avoided flow of emissions from deforestation and forest degradation (REDD), and provides dividends for maintaining existing forest stocks. However, key success factors invariably include clearly defined local tenure arrangements (so that communities can keep the benefits they earn) and dividend payments systems (so that individuals are incentivised to participate, and so that conservation of carbon becomes an integral part

[23] In October 2012, Cambodia's Oddar Meanchey Community Forestry REDD+ demonstration project (OM CF REDD+) achieved successful dual validation under the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity (CCB) standard. The project achieved a Gold standard rating for CCB, which signifies a recognition of the important co-benefits of the project. This also makes the project the first VCS REDD+ project in which the host-country government is the project proponent, marking an important and unique development in government-supported forest conservation.

[24] A Cattaneo, 'How to Distribute REDD Funds Across Countries? A Stock-Flow Mechanism.' (Woods Hole Research Centre, Falmouth, USA., 2008).

of the economy of households). The project is structured to use the experience of CBNRM in southern Africa to develop effective village-based SFM/REDD+ village pilots.

43. The GKNP protected area contains some 11 main vegetation types, namely extensive floodplain and dambo grassland, thicket, extensive Miombo woodlands, mopane woodland, Kalahari woodland, deciduous Teak forest and riparian thicket/woodland. It contains examples of 16 of the country's 24 natural habitats. It provides sanctuary for some 155 species of mammals; some 510 species of birds; some 70 species of reptiles; some 35 species of amphibians and about 60 species of fish. It is noted for having one of highest diversities of antelope species than any other protected area in Africa and it is also rated as one of Zambia's "Important Bird Areas".

44. Before 2003, wildlife populations in Kafue NP and GMAs were under threat by many years of under-protection and illegal activities. Aerial surveys suggest that populations in KNP are widespread (Figure 12) and are stable or recovering (Figure 13). Data from aerial surveys[25] suggests a stocking rate of 1.1 Large Stock Unit (450kg) km2, which is 8.6% of estimated carrying capacity[26] (Annex 20). An analysis of hunting quotas and revenues suggests that GMA wildlife populations are currently 5% or less of carrying capacity (Annex 4, 17). Nonetheless, this is a lot of wildlife. Aerial surveys recorded over 78,000 animals in 2008, with 30% outside the KNP. This is a significant number of wild animals (and an undercount), and certainly enough to provide the foundation for rapid recovery as has occurred around lodges like Mukambi and new bushcamps in the Park. Interviews with lodge owners confirm that wildlife populations around new lodges are recovering and are sufficient for tourism, with a pleasing number of predators to keep clients happy, especially lion, leopard and wild dogs.

45. The West Lunga ecosystem comprises the contiguous West Lunga National Park (1,684km^2), Lukwakwa (2,540km^2; 8,200 people), Chibwika (1,550km^2; 2045 people) and Musele Matebo (3,700km^2; 8,930 people) GMAs, plus the nearby Chizera GMA (2,280km^2; 11,169 people) in which hunting still takes place (Crocodile Safaris)[27]. The West Lunga GMA area of 600,000 ha is comprised of five major land cover classes: dry evergreen forest (*Cryptosepalum*) (388,020 ha), open forests with grasses (Miombo) (64,738ha), Kalahari woodlands (72,425 ha), Termitaria vegetation (bush) (26,668 ha) and grasslands (48,149 ha). Thus, West Lunga has important tall dry evergreen forests (*Crytosepalum psuedotaxus*) but wildlife remains depleted and there has been lack of investment thereafter, though the human population is generally low (some 30,000 people).

46. GKNP presently generates an estimated $600,000 in park fees, $6.8 million in direct tourism revenues and $2.4 million in hunting revenues per year, for an economic turnover yield of approximately $9.2 million, or $1.35/hectare. Approximately $1.84 million (20 percent) of this is estimated to return to nearby communities and the wider economy as labour payments, $3 million as payments for goods and services, and $1.5 million as corporate pay as you earn (PAYE) and value added tax (VAT) (Annex 17, and MCC reports). However, the potential for the greater park area to contribute to and grow the Zambian economy through ecotourism is largely untapped, and revenues could be increased rapidly by a factor of 5-10 (Annex 4). The 2011 Supply and Demand Surveys conducted by the MCC found that the principal reported challenges to tourism growth in the GKNP area are inadequate infrastructure, limited management capacity, limited tourism services, reduced game populations (relative to other parks) and lack of awareness of KNP within markets.

25 Aerial surveys invariably undercount most wildlife species (except elephants), probably by a factor of two.

[26] These calculations are made using a spreadsheet model developed by Dr DHM Cumming based on Coe MJ, Cumming DH, et al. (1976). "Biomass and production of large African herbivores in relation to rainfall and primary production." Oecologia 22: 341-354.

[27] ZAWA 2007 Technical report on the resource mapping of West Lunga Ecosystem

Figure 12: Wildlife distribution (2008 aerial survey results)

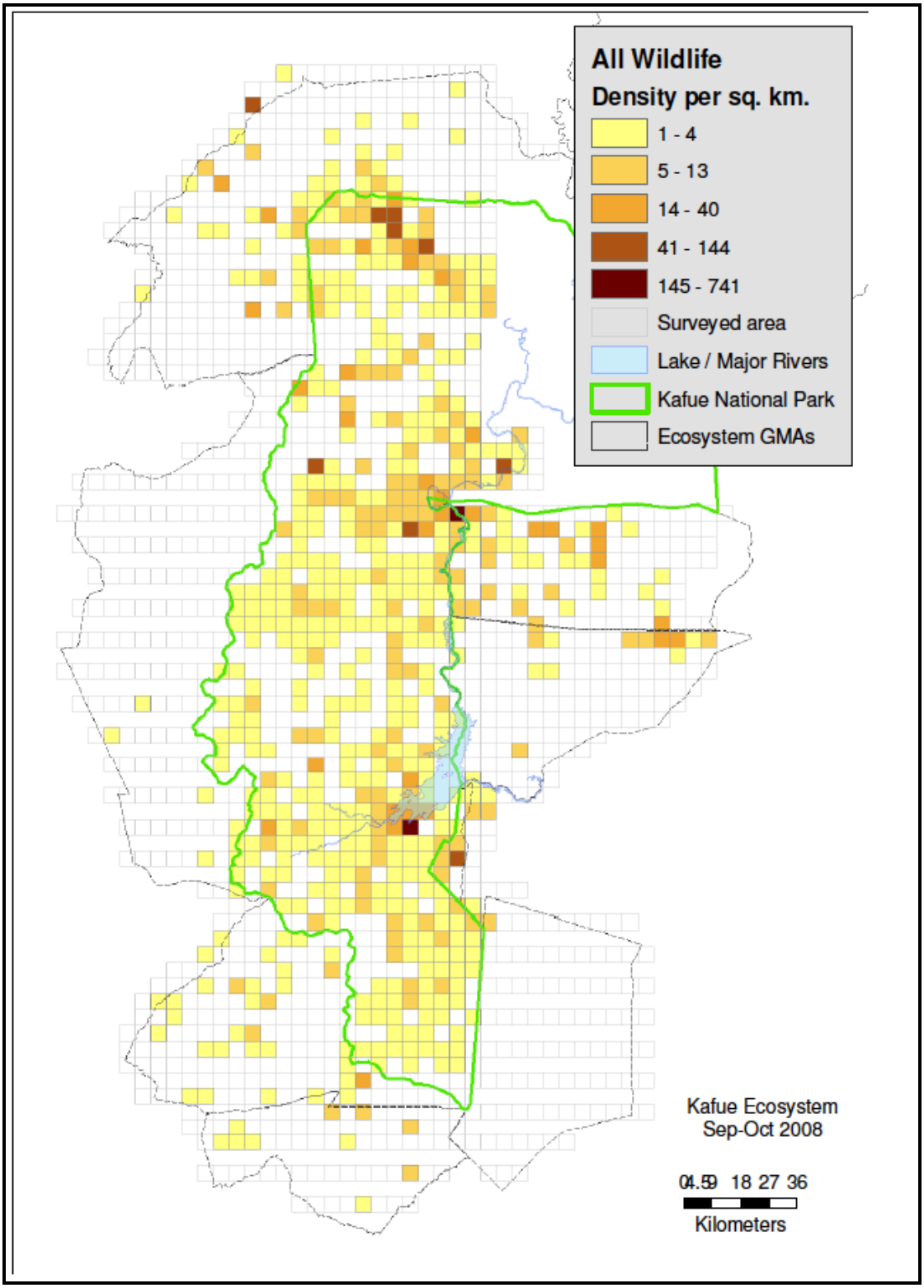
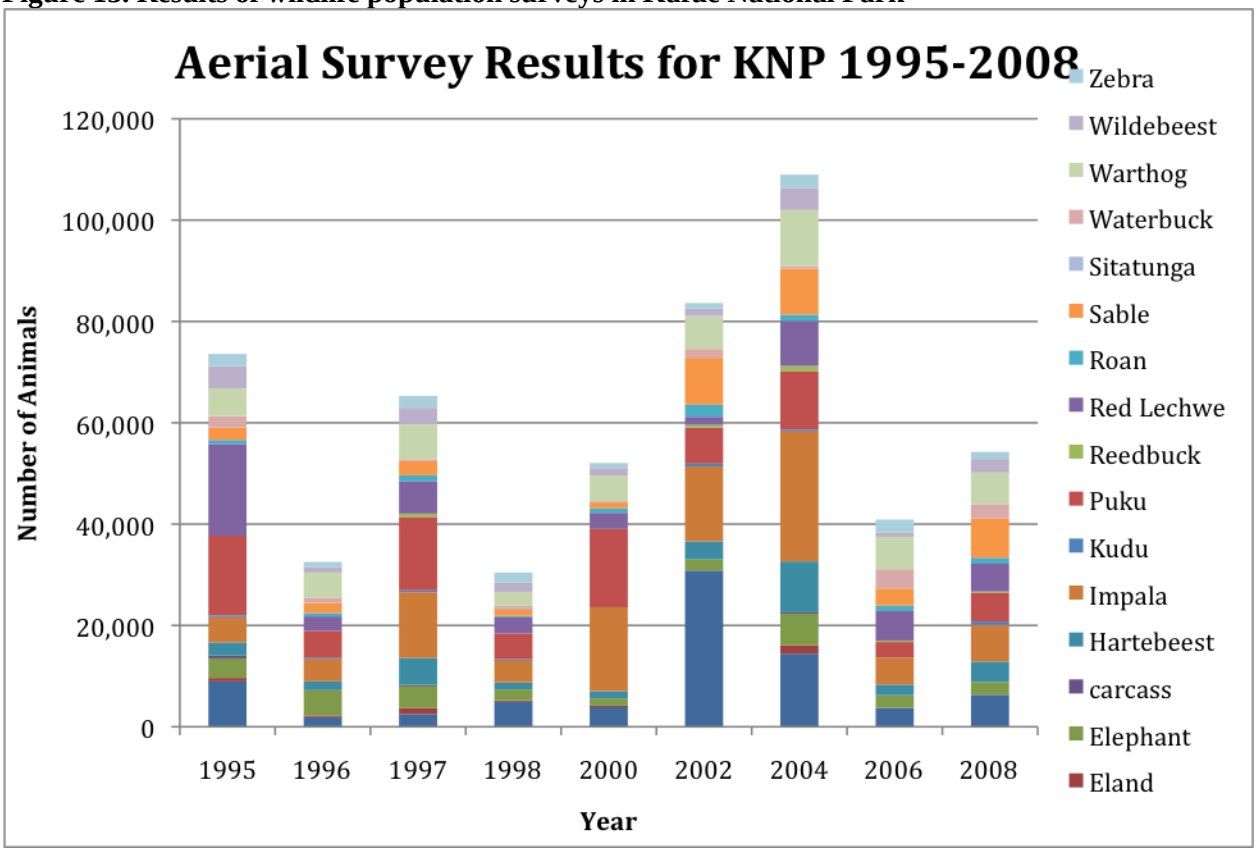


Figure 13. Results of wildlife population surveys in Kafue National Park



1.2. Underlying causes of threats to biodiversity, land and forest management

47. Deforestation and degradation in the Project area is a symptom of macro-level drivers including:

- **Human factors.** Poverty, demographic growth, in-migration, land degradation and climate change, marginalization and vulnerability are placing increasing pressures on the natural resource base, as evidenced by pressures for agricultural settlement.
- **Open access resource regimes**. Property regimes are to all intents and purposes open access. This "tragedy of the commons" results in unplanned and unsuitable land uses and settlement patterns, and opportunistic and uncontrolled use of natural resources. Consequently, land use practices are environmentally unsustainable and uneconomically inefficient (because resource use is not regulated and users pay little or nothing for using exploiting them). The corollary of these inefficiencies is that it is quite possible to produce much more (i.e. livelihoods, economic growth and development generally) from much less impact on natural resources so that conservation and development are synergistic (and not a trade-off).
- **Market failure.** The markets and marketing of wild resources like forests and wildlife are controlled by the state, with significant limitations on use and markets, high levels of transfer payments and fees ('taxes'), and high levels of bureaucratic constraints on market uses. This is exacerbated by international restrictions and norms, especially for wildlife. In addition, markets for ecosystem services like water and carbon have not yet developed. This net effect is the significant underpricing of wild resources and ecosystem services.

- **Policy weaknesses**. Zambia's communal lands are "de-institutionalized' as a hangover of the colonial centralization of control over wild resources, with sound tenure, governance and marketing systems being largely absent. In addition, the ability to control use of resources in GMAs is complicated by the overlapping and contradictory roles of resource management and regulatory authorities (e.g. Zambia Wildlife Authority, Forest Department, Traditional Authorities, District Councils). Progress in reforming top-down policy and regulatory approaches is slow. PAs in particular are under-funded relative to their economic value, and are under-performing (see Annex 5). In 2008, it was observed that West Lunga national park was threatened by population growth, expansion of cultivation on the park boundary, charcoal manufacturing inside the park, uncontrolled hunting and fishing, as well as subsidiary effects from copper mining (increased demand for poles, in-migration, expanding settlements) (WCLP 2007).
- **Underfunding and implementation constraints.** Agencies, including local level agencies, lack the resources and capacities to operationalize planning and protection measures. Operational funding is invariable inadequate, so people are employed without the resources to do work.
- **Insufficient data.** Weak data on forest cover, deforestation, degradation, settlement patterns, wildlife, livelihoods, governance, income and expenditure, etc. means that policy makers are insufficiently aware of the seriousness of threats to sustainability and poverty. For example, data like that provided in **Figure 8** is collected ad hoc and is not available on a consistent basis. These data weaknesses mean that problems are identified late, that evidence based (adaptive) management is not possible, and that effective action by stakeholders in much less likely. One of the hypotheses of this Project, therefore, is that the provision of data, such as that in **Figure 8**, will generate positive agency amongst stakeholders.

48. The net effect of weakness in tenure, institutions, markets, policies and data is significant market/policy failure, and the mismanagement and misallocation of forest resources and biodiversity. The combined effects of poverty, exploitation and open access are reflected in uncontrolled land use (e.g. **Figure 8**), and in highly inefficient but damaging use and misallocation of scarce forest and wildlife resources. Land and forests are over-utilized because in open access regimes they are treated as if they are free goods, resulting in systems of agriculture and charcoal burning that are fragmented, inefficient and generate low levels of return, but externalize costs in the form of reduced ecosystem services including GHGs, water and biodiversity on society.

49. Correcting market failure requires the devolution of property rights to communities, creating markets (e.g. REDD for carbon, PES for water, wildlife), and reducing differential taxation (e.g. fees) and regulations on wildlife and/or community resources – historically, 'wild' resources are taxed and heavily regulated, which is why they are often replaced by less efficient 'domestic' resources.

50. The conceptual objective of devolved community-based management, indeed, is a form of privatization designed to internalise the costs and benefits of forests, wildlife, carbon and ecosystem services at the level of a small, bounded community so that land and resources are allocated to the highest valued uses. Indicative calculations suggest that, in GKNP, the price of a combination of ecosystem services is quite likely to exceed net returns from unplanned subsistence agriculture, especially when the real costs of the latter are accounted for (Annex 4). Indeed, the biggest challenge of our generation will be to translate the value of wild resources into land use outcomes and poverty reduction, and the science and learning systems to support this change[28]. This project can also be interpreted as a co-learning experiment to test this hypothesis in ways that are adaptive.

[28] Ehrlich, P. R., P. M. Kareiva, et al. (2012). "Securing natural capital and expanding equity to rescale civilization." Nature **486**: 68-73.

51. In Zambia, the major opportunities to incentivize the sustainable conservation and management of ecosystem services depend on valorizing a combination of resources including forestry, Non Timber Forest Products (NTFPs) and REDD (Forest Department), wildlife (ZAWA) and ecosystem services (PES with major water users like ZESCO). There is a strong recognition that decentralised property rights and community-based management is needed to manage forest resources, and pilot initiatives are necessary to experientially strengthen and entrench these approaches.

52. **Forestry:** In Zambia, the use and protection of forest products is centralized, and local people have few rights to use, manage, benefit from and protect forest products except for low-value subsistence uses (Annex 16). Forestry in Zambia is still governed by the 1965 forest policy and the 1973 Forest Act which centralized the ownership and management of forestry in the Forest Department and concentrated on wood products. As a result, forest ecosystems have been impoverished due to population increase, economic decline, the escalating rate of deforestation and degradation, and inadequate policies, legislation and protection capacity[29]. Despite considerable investment over many years, and calls for Joint Forest Management, policy change has been insufficient.

53. Currently the Forestry Act of 1973 is still in force; the Forest Bill of 1999 never commenced. Although the Forest Act of 1973 vests the control and management of Local Forests in the Forestry Department, the Minister of Lands, Natural Resources and Environmental Protection has power to assign the control and management to any other person or authority on certain terms and conditions (Part IV section 22 - Control and Management of Local Forests). This provides an opportunity for any person to secure a long term lease for the control and management of any local forest pursuant to this provision[30]. The bottom line is that permitting of forests is centralised, as are revenues, while field planning and enforcement capacity it low. The net effect is that local communities have little or no incentive to protect forests, that illegal logging and forest use is rife, and that gazetted forest areas are in serious decline or have been settled.

54. **Wildlife in GMAs and communities**: The Zambia Wildlife Act No. 12 of 1998 frames the management of Protected Areas and provides a legal basis for CBNRM through legislated CRBs (Annex 16). The framework for CBNRM in the Act allows for well-organized bottom-up processes and equitable benefit sharing through the development of subsidiary legislation and guidelines. However, the Act was used to recentralize CBNRM both nationally and locally[31]. ZAWA retains most of the income from hunting concessions in GMAs, and income that is paid to CRBs is unreliable and is absorbed at this level. The net result is that little or no benefits reach local communities. This prevents equitable benefit sharing and incentivizing sustainable nature-based land uses (Annex 18). ZAWA retains 50% of trophy fees and 80% of concession fees generated in Game Management Areas, and given its budget constraints often fails to repay even these agree amounts back to communities, for which it has been heavily criticized[32]. ZAWA also established representational CRBs according to chiefdoms. [33]. Theoretically, this results in representational CRB governance (governance by committee) rather than participatory community-based Village Action Group (VAG) governance (Annex 5). Moreover, supportive governance systems including

[29] GRZ (2009) Draft National Forest Policy, Ministry of Tourism, Environment and Natural Resources

[30] Misael Kokwe (2007) Proposed Guidelines for Joint Forest Management in Zambia, Department for International Development Co-operation Ministry for Foreign Affairs, Government of Finland

[31] Lubilo, R. and B. Child (2010). The Rise and Fall of Community-Based natural Resource Management in Zambia's Luangwa Valley: An Illustration of Micro- and Macro-Governance Issues. Community Rights, Conservation & Contested Land. F. Nelson. London, Earthscan**:** 202-226.

[32] Details of the stakeholders meeting held at Sandy's Creations, Chilanga, Lusaka, 4-5 September 2012.

33 Despite experiences of the advantages of participatory democracy over representational governance structures, ZAWA has shown a preference for the latter. ZAWA institutionalized a system of Community Resource Boards across the country, effectively re-establishing the ineffective top-down approach associated with the first phase of first generation CBNRM programs." See MCC Reports and Lubilo & Child, 2010:218).

guidelines, statutory instruments and the auditing and monitoring of benefit flows remain weak. The combination of wrong-scaling community governance and weak over-sight, means that governance problems have predictably emerged[34,35,36]. Despite the evidence from Zambia and elsewhere that bottom-up democratic VAG governance can be highly effective (Annex 5), this has not yet been fully implemented in Zambia, and where it has progress has been reversed by a significant move towards representational forms of governance at the CRB level. This has created a space for elite members of the community to take control of power and benefits, and in most GMAs this has side-lined the VAGs, and reduced participatory process and prevented equitable benefit sharing. The return to genuinely devolved CBNRM is being advocated by the Natural Resources Consultative Forum and key NGOs (i.e. TNC and WWF, which are co-finances of this Project).

55. Income from GMAs, which are occupied by Zambia's poorest people, now provides 50% of ZAWA's present income (source: Stakeholder Meeting). The retention of most GMA revenues, the (well-intentioned) management of Village Scouts as pseudo-ZAWA staff, and the domination of most GMA decisions by ZAWA, including critical decisions like quota-setting and the scale of concessions, acts against the intention of converting rural people into wildlife and forestry proprietors and managers; without authority and benefit, responsible local management is unlikely to emerge. These problems are well-recognized in documents[37] and by almost all people interviewed, yet are held in place by strong forces that may resist change.

56. **ZAWA and KNP**: The centralization of GMA revenues is rooted in the way ZAWA was initiated, and the failure to make provisions for ZAWA to become financial viable. ZAWA inherited depleted and de-capitalized protected areas, highly centralized structures, dilapidated equipment and weak financial and commercial structures. Yet, when ZAWA was established as a semi-independent and self-financing parastatal, it was expected to pay its bills from the beginning[38] when in reality financial self-sufficiency required a 10-20 year re-capacitation, re-capitalization and sustainable financing plan. Consequently, ZAWA staff have periodically gone for several months without being paid. This has created an in-ward looking management culture focused on short-term survival, rather than a management culture focused on long-term growth of Zambian bio-diversity economy. An important consequence is that ZAWA has retained the majority of income from GMAs, rather than ensuring that communities retain the benefits necessary to incentivize sustainable land management[39]. A survival culture also acts against

[34] Sicholongo, Mulozi, Mbewe, Machala and Pavy 2012 Zambia Wildlife Sector Policy: Situation Analysis and Recommendations for a Future Policy

[35] Data from southern Africa demonstrates an 80:20 rule: in small communities that meet face-to-face, 80% of wildlife revenues benefit ordinary people; in larger structures, revenues are used on central functions and less than 20% benefits people.

[36] These problems are well recognised. The MCC notes that CRBs do not have well defined membership and governance guidelines, lack electoral supervision or regulatory, have very poor record keeping in almost all the CRBs visited both at CRB and VAG, that policy documents like CRB elections guidelines, financial guidelines, and Wildlife Act are not availed to CRBs/VAGs, and most CRBs/VAGs are not trained in them. In almost all CRBs and VAGs, obligatory meetings are not being held: "We have not been meeting because there is no money from ZAWA". Quota setting is largely done by ZAWA, and the process has many last minute changes with reference to communities or science.

[38] The policy decision to develop ZAWA as a semi-independent agency follows regional and global trends; the current problems that ZAWA faces are not because this is a bad strategy but because it has not been implemented well

[39] Similarly, interviews suggest that ZAWA imposes large fees on game ranches, including trophy fees and fees on live animal sales, whereas in the rest of southern Africa wildlife is privately owned and landholders are not required to pay such fees to government. In other words, wildlife on private land in Zambia is heavily and differentially

ZAWA's role promoting growth of the wildlife sector to contribute to GDP growth in the Zambian economy and poverty reduction at household level. This problem is exacerbated because ZAWA is both the principal implementation agency and the primary regulating agency of the wildlife sector – it is a monopoly power that regulates itself.

57. These problems play themselves out in the greater GKNP. Forests and wildlife should provide significant income to communities. However, without clearly defined rights to manage, sell or protect forest and wildlife, without demarcated local boundaries and the rights and responsibilities of protecting them (including tenure), and with few or no direct legal benefits, deforestation and poaching emerge as serious problems. In much of southern Africa the inequitable political economy of wildlife was identified as the central cause of such problems[40]. The people who lived with wildlife were bearing its costs, whereas benefits were focused primarily at the national and international level. These problems have been solved by boldly modifying colonial era wildlife approach (Annex 5) and 'privatizing' wildlife to both private landholders and communities (e.g. Conservancies in Namibia, game ranching in South Africa). This has led to significant improvement in local income, national economic impact and wildlife populations (Annex 4). **Figure 4** of Annex 4 illustrates the opportunity costs of policy failure (i.e. failure to devolve rights to communities, and over-centralised marketing and management) compared to regional performance in wildlife production.

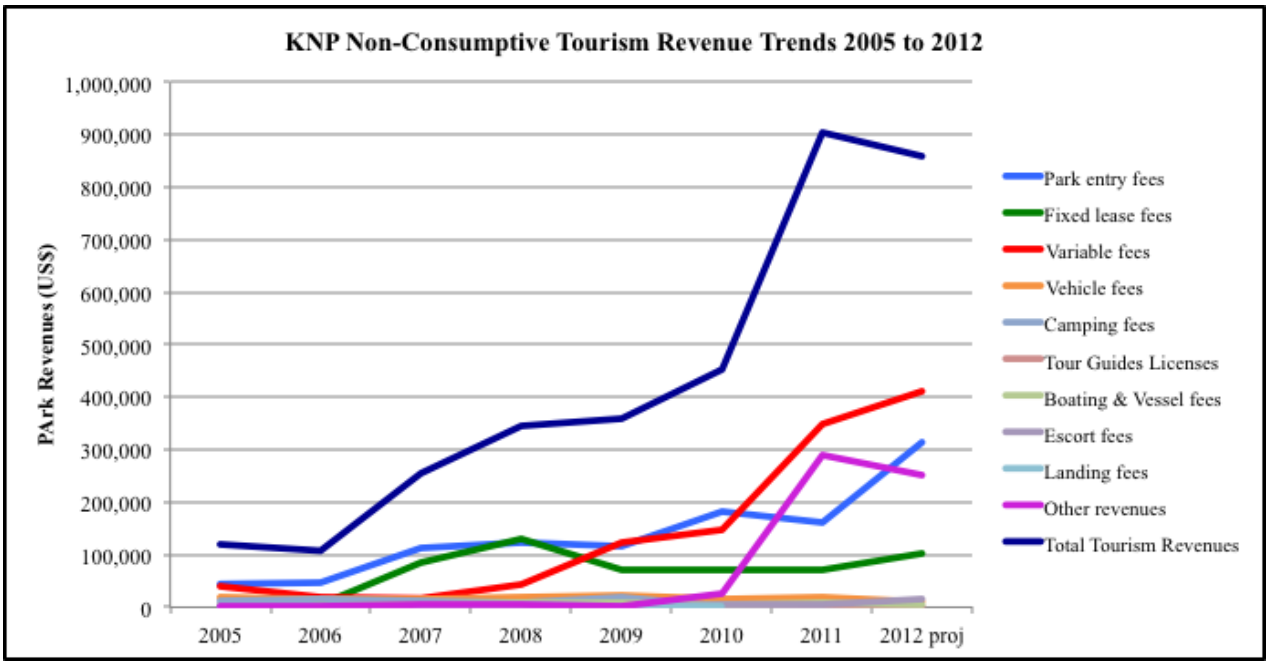
58. KNP is a microcosm of the problems faced by ZAWA. In 2000, Norway funded an Emergency Protection Programme to control high levels of poaching. This funding was based on tight monitoring of patrolling effort and results, and on paying for results. The effectiveness of this programme, and of Norway's investment in developing South Luangwa National Park as a devolved business centre that retained its own revenues[41], led Norway and the World Bank to develop the SEED Project. SEED investment in staff development, anti-poaching systems, the growth of tourism (income has increased by 7-9% annually, **Figure 14**, Annex 17), and the development of infrastructure has placed KNP on a growth trajectory; wildlife and revenues are growing, and staff are better trained. Moreover, KNP has been developed as an autonomous business unit headquartered at Mumbwa; establishing South Luangwa Area Management Unit (SLAMU) as a cost centre was one of the keys to its success, so this represents an important opportunity. However, it has been noted that financial constraints associated with the ending of Norwegian and World Bank support have reduced ZAWA's ability to pay patrol incentives, and this is weakening patrol effectiveness (Annex 17).

taxed because similar fees are not charged for domestic livestock.

[40] Suich, H. and B. Child, Eds. (2009). Evolution & Innovation in Wildlife Conservation. Parks and Game Ranches to Transfrontier Conservation Areas. London, Earthscan.

[41] Between 1983 and 2011, Norway brought SLAMU to sustainability. This was based on promoting tourism through infrastructure and sound commercial management, and on controlling costs and ensuring performance through activity based management with regular external consultation and evaluation. When the CBNRM program was devolved to VAG level it performance extremely well, with cash benefits getting to 21,000 people, over 200 projects, reduced poaching and 99% of money being accounted for. However, recentralization by ZAWA reversed this success. See SLAMU (2012) *Walking Tall. A Wildlife Conservation Success Story*; Dalal-Clayton, B. and B. Child (2003*). Lessons from Luangwa. The story of the Luangwa Integrated Resource Development Project, Zambia*. London, International Institute for Environment and Development.

Figure 14. Growth in tourism in KNP



59. Although income is rising rapidly, it amounts to only about $600-750,000 out of a recurrent budget of $2-3 million (i.e. 28% financial self-sufficiency). The average recurrent budget for KNP from 2005 to 2012 was USD2.5m, with an additional USD1.8m for capital development the provision of which was highly variable **Figure 15**. The SEED Project was intended to lay the ground for further investments, including a major investment by Millennium Challenge Corporation but the latter never happened. For KNP to become viable it requires external support including:

a. Support of recurrent expenditure of about $2.5m annually on a declining basis for ten years (note that GRZ, through ZAWA, has made a commitment to providing this – see co-financing letter from Director General ZAWA),

b. the completion of key infrastructure to enable tourism development and park access for anti-poaching and fire management activities[42]. Much of the park is inaccessible during the rains, with Busanga Plains especially being seasonally inundated,

c. further strengthening of resource protection and monitoring,

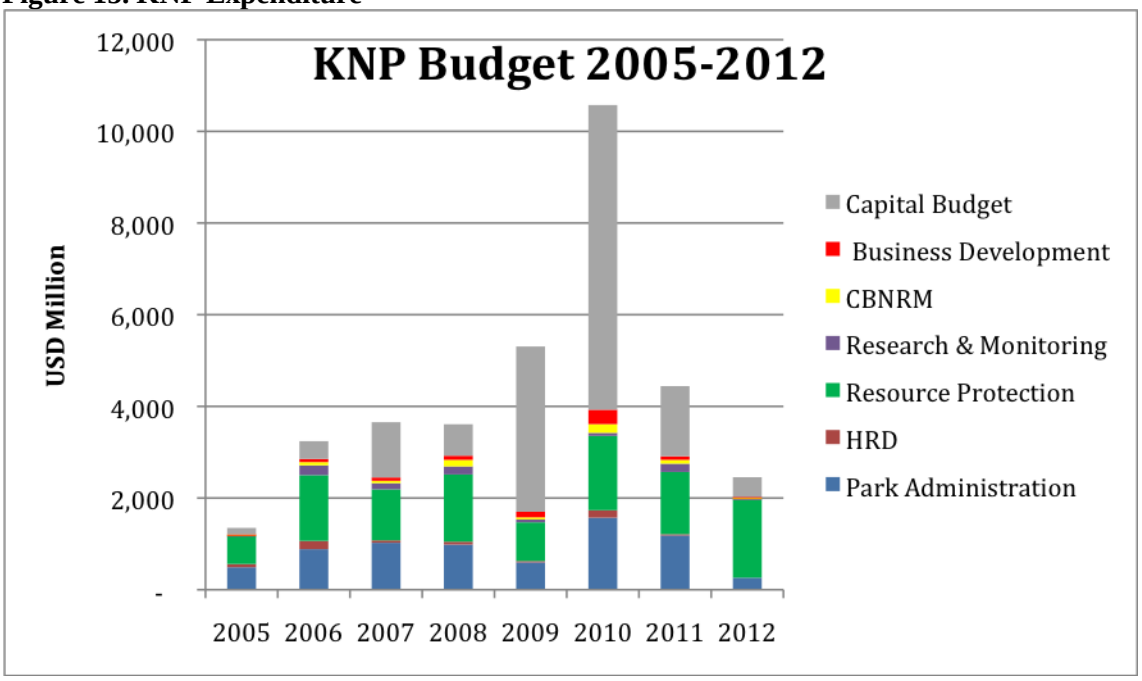
d. a vigorous strategy to attract new tourism investors, including flagship investments (i.e. two or three 200-400 bed hotels at key locations like Hook Bridge/Chunga and Lake Itezhi-tezhi) to bring economies of scale to the Chunga and Ngoma area

60. Developing KNP as a financial and technical self-sustaining PA can ensure biodiversity protection, significant economic impact (annex 4), and GHG emissions reduction from fires (annex 8) in the long term. Economic and biodiversity benefits will be even greater if KNP provides a solid foundation for supporting well-designed strengthening of VAGs, wildlife protection, REDD and PES management in the GMA buffer zones, and to fire management and wildlife protection in the PAs. As

[42] World Bank funding of infrastructure was less effective than anticipated with several road contractors being paid but not delivering. However, KNP has a fleet of road building equipment that is virtually new and can be used to construct appropriate access roads with funding of fuel and maintenance.

with SLAMU, commercial development and viability is likely to ensure wildlife and biodiversity conservation within the PA[43]. Financial self-sustainability will also enable KNP to release GMA revenues back to GMAs.

Figure 15. KNP Expenditure



ZAWA and WLNP

61. West Lunga National Park was significantly more depleted of wildlife, infrastructure and human capacity than KNP as reflected in Management Effectiveness Tracking Tool (METT) scores. With investment from the UNDP REMNPAS Project, including an additional $2m in support from the German Government, WLNP has been partly re-capitalized and is also recovering, yet it remains depleted and is unlikely to pay for itself within 20 years. Its best chance of protection and viability lies in a well-conceived PPP, and this process has been initiated by ZAWA under the REMNPAS Project (see below). As noted, the situation was stabilized by the UNDP REMNPAS Project, with a €1.873,367 contribution from the Government of Germany for two years (2009-2010). The area is slowly opening up to photographic tourism with regular visits by campers and sport fishing parties. There are currently no tourist facilities in the park. Therefore, in the short and medium term, there is little possibility that either West Lunga NP or the surrounding GMAs will be viable. ZAWA has determined that the main route for long-term sustainability therefore lies not in self-financing, but in a PPP to provide recreational opportunities for the considerable influx of employees in the expanding urban areas in Zambia's western Copperbelt. Indeed, the sustainability and exit strategy of the REMPAS project revolved around securing private sector partnerships that would focus on park management, tourism development and community interactions[44]. A detailed assessment of REDD+ alternatives for the West Lunga ecosystem[45] suggests that there will be approximately 1.36 million tCO2 emissions for the area over a period of 20 years, with

[43] Sichilongo ibid

[44] Zeidler J. And Ng'andwe C. 2011 Sustainability of the Miombo Ecoregion through the Enlargement and Improved Management of Protected Areas, West Lunga Component, Final Evaluation

[45] Munich Advisors Group (2010) Consultancy for Carbon Study for the West Lunga National Park and Surrounding Areas, UNDP/GEF, Zambia

an average of 67,900 tradable tCO2 annually. A REDD-type project was concluded to be not financially viable at a carbon price of US$10/tCO2, but this may be seen as the only tradable item in the short term: net revenues of US$ 3.9 million over a period of 20 years would yield an Internal Rate of Return (IRR) of 4.7 % over 20 years, with a Net Present Value (NPV) of US$ -1.6 million using a (very high) 10 % discount rate. Making this project viable would require an upfront investment in the first five years of US$ 3.83 million to cover the costs for the project implementation, reduce emissions, and verify the generated emission reductions, and US$ 5.35 million in the first ten years in the light of calculated net cash-flows. A significant risk was the uncertainty associated with REDD+ payment methodologies. This report recommended the engagement of a private project implementer to establish a REDD+ project[46].

62. **Public Private Partnerships:** ZAWA has initiated a number of Public Private Partnerships with respect to PA management (Annex 15). The extent to which the 'partnership' approach is successful is demonstrated by the fact that of all the 20 National Parks in Zambia only eight meet the minimum requirements for management effectiveness of which three are under a partnership arrangement[47].

63. **Game Ranching:** The evidence that devolving full use rights to private landholders results in significant improvements in economic contributions, employment, habitat recovery and wildlife populations in southern Africa is strong (annex 4, see also the considerable literature on this subject). Progress on game ranching is dependent on three factors – devolved use rights, inclusive and freed-up markets for wildlife and its products including trophy hunting, and a reduction of differential fees and regulations.

64. The 1998 Policy for National Parks and Wildlife in Zambia provides for the development of private game ranches. It recognises that wildlife has inherent economic advantages over other uses of the land particularly in agriculturally marginal regions of the country, and that the combination of incentives and proprietary rights result is sustainable land management. The emergence of game ranching in Zambia has been much slower than the regional average for reasons that are easily predicted - the reluctance to entrust landholders with the proprietary rights to manage wildlife as they do livestock, policy, regulatory and administrative constraints, and the tendency to reduce the profitability of wildlife production through permits, licenses and fees (Annex 16). Interviews suggested that fees were unpredictable but excessive, and a case was cited where the landholder had to pay ZAWA half the gross value of live animal sales. This implicit tax greatly tilts the economic playing against wildlife, and with a 50% tax on gross earnings wildlife ranching is surviving and growing. If we consider wildlife to be Africa's newest agricultural revolution[48] and contrast this with the agricultural sector, it is highly unlikely that the Ministry of Agriculture would ever be allowed to extract such fees from the livestock or crop economies, or that these enterprises would survive this level of taxation. Despite these constrains, by 2006 there were slightly more than 100 private wildlife establishments in all the nine provinces of Zambia (compared to about a thousand in Namibia and Zimbabwe pre land invasions, and 10-14,000 in South Africa,) covering a total of 112,769 hectares with a variety of 43 different species of large mammals and a total population of 21,546 animals. Again, despite regulatory uncertainties and constraints, the industry grew by 267 percent over a five-year period. As in South Africa, the Southern Province with some of the harshest microclimates characterized by low rainfall and high temperatures, and agriculturally marginal land, has the highest number of game farms.

[46] In the opinion of this consultant, the viability of this investment in WLNP has been under-estimated because the assumptions used for management costs are on the high side as is the use of a 10% interest rate.

[47] Sichilongo, M., P. Mulozi, et al. (2012). Zambia Wildlife Sector Policy: Situation Analysis and Recommendations for a Future Policy.

[48] Carruthers, J. (2008). "'Wilding the farm or farming the wild'? The evolution of scientific game ranching in South Africa from the 1960s to the present." Transactions of the Royal Society of South Africa **63**(2): 160-181.

65. **Payments for Ecosystem Services:** The Kafue is Zambia's most important river, supplying Hydropower (Itezhi Tezhi 120MW by 2014, Kafue Gorge 750MW), irrigated sugar production in Mazabuka, and water for Lusaka and industry including SAB and Zambia Bottlers. The use of this water is approaching capacity, yet no measures are taken to secure the catchment and investments in dams, HEP, etc. This important catchment is being affected by deforestation and land degradation in the 65,000 km^2 project area, which happens to lie in the heart of the Kafue catchment. This suggests considerable merit in investigating the viability and operationalization of PES programmes in the Kafue catchment area (Annex 13).

1.3. Long-term solution and barriers to achieving the solution

66. Zambia's PA system was neglected and de-capitalised for many years, with the 1970s and 1980s especially seeing the extinction of rhino, loss of some 100,000 elephants, disinvestment in tourism, dilapidation of PA infrastructure and loss of capacity of the PA agency generally. In the late 1980s, this situation began to be slowly reversed with significant donor funding over many years, new legislative efforts that transformed National Parks and Wildlife Service into ZAWA, experimentation with CBNRM through Administrative Management Design for Game Management Areas (ADMADE) and Luangwa Integrated Resource Development Project (LIRDP). Despite a unique natural resource base, and significant economic potential, efforts, Zambia's core PA estate and the important GMA buffer zones still face many problems. There are significant barriers to effective conservation of biodiversity through the PA estate, and sustainable land and forest management in the GMAs, including effective climate change mitigation and adaptation as outlined in Table 7.

Table 7. Barriers to effective PA management, SFM, SLM and CCM

Barriers to effective conservation of biodiversity through the PA estate	Barriers to optimal management effectiveness and sustainability include weaknesses in the overall framework of the PA system. Administrative, financial and enforcement capacity need to be strengthened at Head Office level in ZAWA, and a sustainable financing plan is needed for the system as a whole, including innovative revenue-generating activities, marketing and communication strategies, systems to collect Park user fees and manage tourism concessions, and a government funded PA reinvestment and recovery plan. Achieving this at the level of a devolved cost centre through a project, will provide a working model that will strengthen ZAWA to support the entire PA Estate. A related barrier is the relevant actors' inadequate knowledge and information base with regard to carbon finance opportunities (REDD, Land Use Land Cover Change and Forestry (LULUCF), voluntary carbon markets) and procedures, and uncertainties about the reality of REDD+ financing mechanisms, leading to unfulfilled potential to generate revenue for the PA system. At site level in Kafue and West Lunga core NPs there are also barriers to management effectiveness and financial sustainability, with a need for staff training, strengthened enforcement and business planning. Both these NPs were estimated in 2007 as only likely to be financially viable within 15 years and their full tourism potential has not been exploited, especially in West Lunga. There is a need to enhance partnerships with tourism operators and other private sector actors, to support certain aspects of PA management. Finally, a barrier to effective conservation of biodiversity is the under-representation of five vegetation classes in the core NPs, including Miombo Woodlands and Dry Evergreen Forest. There is a need for new PAs ('community conserved areas') to be demarcated and gazetted in the current GMA territory around these Parks to increase the areas of these threatened ecosystems under effective conservation, using the new legal categories for government and community co-managed Game Reserves and Partnership Parks. This involves expanding enforcement operations and putting in place the management capabilities and financial structures to manage them efficiently and sustainably.
Barriers to sustainable land and forest	Barriers to sustainable land and forest management in GMAs arise from the absence of effective land tenure, planning and governance. *de facto* open access to resources means

management	there means there are no restrictions on conversion of forests through unplanned and marginal agriculture. There is also a lack of institutional capacity amongst GMA role-players such as ZAWA, the Forestry Department and traditional authorities for sustainable land and forest management. A major issue is incomplete and overlapping regulation and roles, which is exacerbated by under-funding and terms of employment that do not attract or motivate high performance. There is a need both for pilot projects that convincingly demonstrated SFM and SLM practices such as sustainable harvesting of forest resources and sustainable agriculture, and for extension and training that builds stakeholders' capacity to promote such practices with communities and to undertake enforcement. A third barrier to effective management of resources in the GMAs is a perception by communities that wildlife PAs generates few benefits but impose high costs, and that community interests are insufficiently catered for, with 70-80% of trophy hunting license fees being retained outside the GMAs. Significant toll fees are collected for charcoal by district councils and Forest Department, and as with timber there is need to return greater amounts to producer communities. There is a need for state and private sector resources to be invested in these areas through public-private-community partnerships, fiscal retention, stimulating jobs and livelihoods relating to enforcement, tourism, reforestation and energy. Revenue generation should also be maximized through collecting fees for the use of forests, by accessing REDD+ funding through management structures of new PAs, and developing PES for water/hydropower. The revenue potential of Miombo is small, but timber revenues are not returned. Mushrooms and other NTFPs generate significant benefits to collectors, but this use is not well understood.
Barriers to effective climate change mitigation and adaption	Barriers to successful widespread adoption of low-carbon technologies, especially firewood use, include the absence of sound local tenure institutions and appropriate technology. Another barrier is the complexity and difficulty of accessing finance to scale up the adoption of such new technologies, including finance internationally through voluntary carbon markets. Access to carbon markets is impeded by a further barrier – the absence of agreed national tools to measure emissions and robust MRV systems, as well as the absence of an integrated and comprehensive national data system. Finally, large gaps in data on livelihoods, economics, status and trends of forests, land degradation and wildlife, governance, poverty, gender and so on make both planning and adaptive management difficult.

67. Institutional and economic reforms, especially the devolution of property rights and associated VAG-governance systems, are required to address poverty and incentivize wildlife/forest conservation. In southern Africa, CBNRM was developed in the 1980s to transfer the successful economic model developed through private wildlife conservation (i.e. game ranching) to rural communities. When applied properly CBNRM has been highly successful. In southern Africa, CBNRM is largely associated with wildlife, but in this project will be developed as the governance mechanism for integrated resource planning, management and use including sustainable forest management, REDD+, land management and wildlife by communities. CBNRM implementation (discussed in detail in Annex 5) requires four steps:

a. The first step is to devolve rights to manage, benefit from, use, and exclude other users[49] to micro-communities, including the devolution of all benefits from wildlife/forestry to the community. The aim is to treat communities exactly like private landholders, and to treat wildlife

[49] See Schlager, E. and E. Ostrom (1992). "Property-Rights Regimes and Natural Resources: A Conceptual Analysis." Land Economics **68**(3): 249-262 and Murphree, M. (1994). "Communities As Resource Management Institutions." International Institute for Environment and Development, GATEKEEPER SERIES(No 36): 14p.

just like livestock (with the same high levels of proprietorship, and low levels of regulation and license fees).

b. The second step is to increase the value of wild resources (wildlife, forests, carbon, water, etc.) by developing markets and also by removing the burden of differential (compared to domestic resources) regulation and license fees[50].

c. The third challenge is that of micro-governance within the community itself. Poor conceptualization and operationalization of micro-governance leads to elite capture, and prevents participation and equitable benefit sharing.

d. Building local capacity through experiential processes once communities have rights and benefits.

68. The under-performance of CBNRM can inevitably be traced to (a) inadequate devolution of rights and excessive retention of benefits by higher levels (b) undeveloped or restricted markets for wildlife and forest products and (c) elite capture and lack of participation and equitable benefit sharing at local level. The latter is usually associated with local institutions that are developed at the wrong scale and rely on representational governance (i.e. management by committee) rather than the participatory governance (face-to-face management by community) that is possible in disaggregated communities. All three weaknesses are true in Zambia. There is very limited devolution of the rights to manage wildlife and even more limited devolution of the rights to manage forests. The majority of income from both forests and wildlife is retained centrally. For both forests and wildlife, product and market development is extremely limited. Finally, as noted above, wildlife-based CBNRM in Zambia has been established at a scale (i.e. at CRB rather than VAG level) that is highly prone to financial mismanagement and elite capture, and invariably associated with low levels of equitable benefit sharing and participation. These failures have affected the performance of CRBs in negative ways. However, they are predictable and therefore avoidable.

69. The key lessons guiding the effective implementation of CBNRM are that:

a) rights to manage, exclude, benefit from and sell wild resources need to be strongly devolved to the level at which participatory democracy can be practiced, preferably with sound local tenure arrangements including trust title deeds (as in *ejidos* in Mexico, and Indigenous Reserve in the Amazon).

b) that communities should retain all revenues from the sale of forest and wildlife products, just as farmers retain all revenues from the sale of livestock and crops.

c) That product development and markets for forest and wildlife products need to be actively encouraged to maximise the value of these land uses, rather than smothered in restrictions.

d) That effective communities are constituted at the level of face-to-face interaction (i.e. single Villages or VAGs), so that decisions about financial and technical issues and equitable benefit sharing can be made face-to-face. Indeed, the difference between representational and participatory systems of CBNRM governance are described by an 80:20 rule. Where there is participatory governance 80% of benefits get to people in single villages (through cash and projects) compared to less than 20% in

[50] The differential taxation and regulation of wildlife and forestry is a historical consequence of the centralization of these resources by the colonial and post-colonial state. It serves no positive economic of environmental function, and its main purpose was extractive. By under-pricing wildlife relative to domestic resources, however, such policies are economically hazardous. There is no economic logic for placing a large number of regulatory restrictions on wildlife, and extracting license fees, and these have especially negative economic consequences when they are not also applied evenly to crops and livestock. Indeed, theoretically, taxes should be applied to people's income, and not differentially to resources as happens with wild resources, because taxing wildlife (i.e. retention of hunting income) and forests (retention of stumpage fees and high fees for charcoal) distort pricing and the economic allocation of goods and services in ways that have proved extremely harmful to wildlife and forestry.

larger multi-village CBOs that rely on representational governance (Annex 5). Conceptually, collective action in CBNRM provides four sets of public goods. Empirical evidence suggests that multi-village CBOs like CRBs can provide public goods including (1) ecologies of scale and natural resource management and (2) economies of scale and improved revenues, partly because this is in the interests of the small elites that benefit from them. However, they seldom provide the critical public goods of (3) participation and inclusive governance and (4) equitable benefit sharing. However, these sets of public goods are central to social sustainability, implying that participatory (face-to-face) governance is a much more powerful CBNRM strategy that representational governance (i.e. where people elect representatives to manage on their behalf). Therefore, reflecting best knowledge, this Project is been designed to build governance systems at the VAG-level and to promote fiscal devolution, participatory/inclusive governance and equitable benefit sharing including benefits at household level. Note that this is directly in line with systems thinking, where the purpose of a hierarchy is defined by (and in the service of) the smallest units within that hierarchy[51].

70. Two key factors increase the likelihood of Project success. First, Zambia is currently encouraging decentralised approaches for natural resource management and poverty reduction (Annex 16). Decentralization is important for the success of both PA and GMA management, Thus:

a. KNP has adopted a model of decentralized PA management and business centres. This follows the pioneering example of South Luangwa, the success of which has strongly informed project design. With Norwegian support, SLAMU was established as a decentralized business unit. It retained its own revenues. Expenditure was matched to clearly defined objectives and indicators using activity-based budgeting, through a log-frame process that incorporated input from stakeholders, technical specialists and donors. Revenues were increased by expanding tourism in a carefully planned way, and developing commercial agreements with lodges[52] that incorporated a minimum level of fees but was careful to ensure that the fees were not excessive and to allow serious private sector investors to be successful[53]. Likewise, through SEED KNP established the KNP Business Centre, which is already taking the PA towards technical and financial sustainability in ways not achieved through other PA models (except PPPs). The Project will therefore strengthen systems that are already in place including anti-poaching systems, revenue retention, activity-based budgeting, staff capacity-building and the upgrade of infrastructure facilitated by the SEED project. As noted, bringing KNP to financial and technical sustainability will have positive biodiversity and economic consequences, and will also allow GMA revenues to be retained in full by producer communities in GMAs.

b. A second form of decentralization is PPPs, and in this realm ZAWA has been innovative with several PAs including Liuwa Plains and Kasanka being brought back from the brink of failure and decline to become relatively well-performing PAs[54].

c. Likewise, the GMA SFM/REDD+/LD strategy is based on the devolution of rights, benefits and governance to the lowest appropriate local level, namely VAGs that are small enough for all

[51] Meadows, D. H. (2008). Thinking in Systems. A Primer. London, Earthscan.

[52] These agreements set out clear performance targets for lodges and provide a sound financial basis for the park. However, they can be strengthened by the inclusion of clear performance targets for the Park, especially relating to wildlife protection and monitoring and the maintenance of roads. Such 'balanced' agreements will accelerate tourism growth by establishing performance criteria for both partners.

[53] Dalal-Clayton, B. & Child, B. *Lessons from Luangwa. The story of the Luangwa Integrated Resource Development Project, Zambia*. (International Institute for Environment and Development, 2003); SLAMU. *Walking tall. A wildlife conservation success story*. (New Horizon, 2012).

[54] Sichilongo, M., Mulozi, P., Mbewe, B., Machala, C. & Pavy, J.-M. Zambia Wildlife Sector Policy: Situation Analysis and Recommendations for a Future Policy. (2012).

members to meet regularly face-to-face. Indeed, a precondition for SFM/CBNRM/REDD model to work in communities supported by the Project is the devolution of rights and benefits to VAGs, together with decentralised support systems at the Kafue Business Centre. This is a challenging project, and provision is therefore made to purchase quality expertise in CBNRM governance and resource management to be placed at the KBC either directly under ZAWA or by ZAWA making an agreement with NGOs.

71. Second, ZAWA has shown demonstrated success in controlling land use in the Project area. ZAWA developed land use plans with eight GMAs around KNP, and begun to use these to control haphazard land use. Working with the local chiefs, a "Writ of Possession" from the High Court for Zambia (on 10 November 2009) supported the legality of natural resource protection zones. This enabled ZAWA and communities to relocate fragmented, unplanned and illegal settlement out of protected wildlife zones and into development zones in Namwala GMA. Namwala GMA was suffering even worse pressures than those illustrated for Mumbwa GMA **Figure 8** and this prevented Namwala GMA from being 'lost'.

72. The long-term solution to the problems and opportunities of a biodiversity economy in GKNP lie in institutional reform and continued commitment both at policy level within government and at senior management level within ZAWA and Forestry Department. Staff in decentralized management units in ZAWA, such as the Kafue Business Centre, and also civil society, are acutely aware of the serious threat that open-access and centralised control place on Zambia's natural resources. Support – both policy and operational – can empower these managers and citizens to move forward towards innovative long term solutions.

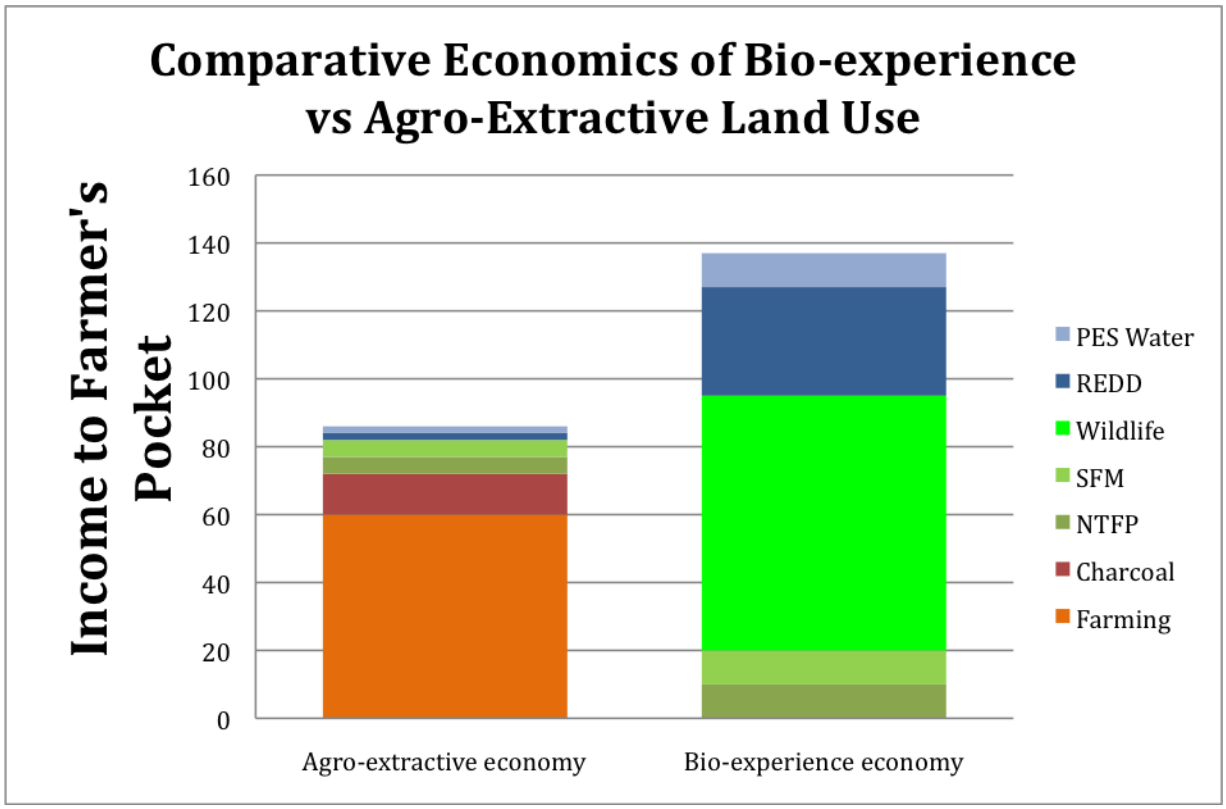
2. Strategy

73. The Project will contribute towards developing a "green economy" by assisting KNP and WLNP on a path to financial sustainability, and through institutional and managerial capacity-building and reform in support of decentralised management of community natural resources in GMAs. Regional data and land use trends suggest that the bio-experience economy can out-perform the agro-extractive economy in the greater KNP (**Figure 16**, Annex 4). The Project will promote a sustainable (green, climate change-friendly, pro-poor) economy following the sustainability principles of more from less for more, i.e.:

- more [economic impact, household benefits, PA income]
- from less [environmental impact]
- for more [equitable benefit sharing and participation through fiscal devolution]".

74. The Project will promote decentralised institutional and managerial reform and capacity in both PAs and GMAs in line with Zambian policy, with the goal of strengthening property rights, fiscal retention and resource management at village (VAG) and PA level. Investment in planning for and protecting the resource base will promote environmental and financial sustainability, while revenue retention at PA level will enhance PA self-sustainability and devolved benefits in community conserved areas will directly address multi-dimensional poverty at household level. The project will build the capacity of local systems for resource governance, benefit and management (VAGs, PAs) and of the people who work in and support these systems. The project will pilot a set of expanded measures (with the VAGs as the chosen platform for implementation) to establish effective CBNRM and generate multiple (GEBs) across the targeted GMA buffer zones.

Figure 16. Indicative comparison of an agro-extractive and bio-experience economy in the greater Kafue PA system



2.1. Project rationale and policy conformity

75. The greater Kafue Ecosystem is an important area for biodiversity (especially large mammals), protects large amounts of intact forest (approx. 65,000 km^2) and is an important source of water for Zambia. The true economic value of biodiversity and ecosystem services is high. However, open access property regimes and other market/policy failures prevent true economic values from being translated into economic impact, employment and land use decisions. The project strategy is to develop the decentralised management effectiveness of KNP, WLNP and VAGs in the GMAs. It will improve PA/GMA viability through individual and systems capacity-building to improve revenue generation and expenditure effectiveness, including to protect wildlife and forest resources. The Project will facilitate the implementation of new devolved institutional models for PAs, GMAs, PPPs and land use in open areas. The status call is unsustainable, providing few benefits but resulting in high levels of resource extraction, degradation and poverty.

76. KNP has been established as a self-sustaining business unit, and is on a path to emulating South Luangwa National Park which is now financially sustainable. According to the business plan developed by MCC, with recapitalization and re-capacitation KNP can support at least 1,200[55] tourism beds (see Annex 4) and generate park fees of $3.4-17 million (against costs of $1.5-3.5m), with a total direct income to Zambia of $9.5-$38 million[56] (**Table 8**). Direct employment will be (conservatively) approximately 1,800 jobs, and indirect employment a further 1,800 jobs.

Table 8. Projected Tourism Income in Kafue National Park

Income from	High end, remote	Middle range lodges	Flagship hotels	Total	MCC Estimates (Y10)
Beds	300	300	600		
Season	150	150	365		
Occupancy	60%	50%	50%		
Bed rates	$500	$200	$125		
Zambian Value Added	40%	60%	70%		
Park Fees	$40	$30	$15		
Park Income	$1,080,000	$675,000	$1,642,500	$3,397,500	$9,500,000
Total income	$5,400,000	$2,700,000	$9,581,250	$17,681,250	$38,000,000

77. This project will maintain the momentum of KNP towards management effectiveness, financial sustainability and resource protection as measured by the UNDP/REMNPAS Financial Scorecard (**Table 9,** Annex 25). Management effectiveness of KNP will be strengthened by:

a. strategic financing for fire and resource protection including improving wet season road access,

[55] Kruger National Park, which is of similar size to KNP, has approximately 3,500 beds in the PA and a further 3,500 beds outside the PA. Nonetheless, the number of beds in Kruger can still be increased with zoning, and significant areas are 'under-utilised'.

[56] Tourism has an economic multiplier of about 2.0, so the direct economic impact on Zambia will be double this figure.

b. technical support and training in performance review, financial planning and management[57], tourism development, sustainable financing, contract planning and negotiations, and biodiversity conservation,

c. support to data collection (patrol statistics, fire tracking, wildlife monitoring, tourism data, finances, infrastructure maintenance tracking, CBNRM support and monitoring).

d. formal training, including protected area economics, business management, CBNRM, etc.

Table 9. Financial Scorecard[58]

Scorecard section	***Baseline 2012***		***Target 2017***	
Component 1 – Institutional framework	WL	KNP	WL	KNP
	0%	37%	35%	65
Component 2 – Business planning and tools for cost-effective management	WL	KNP	WL	KNP
	28%	41%	65%	65
Component 3 – Tools for revenue generation	WL	KNP	WL	KNP
	10%	41%	40%	65

78. Weaknesses in law enforcement stemming from the termination of bonuses (Annex 14) and identified by the METT will be addressed using incentive payments and by strengthening the patrol performance monitoring system (and wildlife monitoring) in PAs and GMAs. Patrol monitoring systems will be upgraded adaptively using Management Oriented Management Systems (MOMS)[59], TA and training of supervisors.

79. Fire management objectives and strategies will be clarified to reduce the incidence of fire in KNP[60]. This will be achieved through a combination of firebreaks and access roads, controlled burns, education (of patrol staff and local inhabitants including fishermen with a traditional right to fish inside the PA in certain seasons), monitoring and problem-orientated research. Expenses for operational costs and minor materials purchase (culverts, drifts), will enable KNP to mobilize road building equipment (already provided through the SEED project, Annex 14) to strategically upgrade key sections of roads/firebreaks to all weather condition in support of fire control, patrol deployment and tourism development.

80. Bringing viability to KNP will enable hunting revenues to be released to GMAs. Returning revenues from wildlife and forests to 'producer communities' provides the economic incentives essential to build a community-based management approach. Hunting around KNP generated approximately $1.5m[61] in 2010 (Annex 14) compared to an estimated potential of US$ 25 million with sound contracting and full wildlife carrying capacity (see MCC report, also Annex 4).

[57] This emulates the strategy used to improve the performance of SLAMU and to achieve technical and financial sustainability.

[58] Detailed scorecards provided in Annex 20

[59] Management Orientated Monitoring Systems, see Stuart-Hill, G., R. Diggle, et al. (2005). "The Event Book System: a community-based natural resource monitoring system from Namibia." Biodiversity and Conservation **14**: 2611-2631 and WWF (2011). Manual for the introduction & implementation of the Management Orientated Monitoring System (MOMS). Lusaka, WWF Regional CBNRM programme.

[60] This will be done by ZAWA and FD in partnership with TNC Zambia, Arkansas (fire expertise) and Montana (satellite monitoring).

[61] Safari Hunting revenues from Zambia's GMAs currently make up approximately 56% of ZAWA's national income accruing to the HQ office

81. The project will provide basic operational support to West Lunga NP and GMAs for two years, phasing this out in Y3 and Y4. This supports ZAWA's intentions and the recommendations of the related REDD Study that the West Lunga ecosystem should be managed as a PPP (p38, paras 59-61).

82. The Project will support establishment of some 60 inclusive community institutions at VAG level with clearly delineated resource rights and sound micro-governance. This will shift GMA management from an open access extractive mode of production (i.e. business-as-usual) to a sustainable approach based on community tenure, equitable benefit sharing, participation in financial and resource decisions, and investment in the resource base by communities. This will be achieved by:

a. establishing, delineating and **securing land use and benefit rights** for resources at VAG level through appropriate legal arrangements (e.g. Trusts) and (where possible) community tenure/ title. Note that the ultimate prize is to establish Village title deeds and to associate these with sound micro-governance systems. Rights include benefits, management, sale, and protection (exclusion) of wildlife[62] and forests. VAGs will be formally constituted following CBNRM principles[63] and further strengthened through legal means (e.g. Trusts, Conservancies, Village Companies village title deeds).

b. developing sound **micro-governance** at VAG-level to manage these rights, benefits and responsibilities, i.e. establishing effective participatory governance and financial management at VAG level[64].

c. developing and enforcing participatory VAG **land use plans** which include wildlife management and SFM/REDD+ gold standard criteria.

d. recovery of wildlife and forests by using - Village Scouts to improve the **implementation, protection, enforcement and monitoring** (MOMS) of VAG land use plans (including formal Community Conserved PAs[65])

e. the establishment of **REDD pilots** whereby VAGs are compensated for achieving sustainable forest management targets and for carbon 'sales'

f. valorizing these resources through improve concession design, quota-setting and **competitive selling** of wildlife and other products (including PPPS) including carbon credits[66].

83. These interventions will be monitored, providing the evidence base for adaptive programme management and policy reform in the wildlife and forestry sectors linked to Zambia's decentralization policy.

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[62] The importance of these rights is described by Ostrom, E. (1990). Governing the Commons: The Evolution of Institutions for Collective Action, Cambridge University Press, Schlager, E. and E. Ostrom (1992). "Property-rights regimes and natural resources: a conceptual analysis." Land Economics **68**(3): 249-162.

[63] A manual and constitution were developed for participatory governance in Botswana and Namibia. These can be obtained from Kalahari Conservation Society, Botswana, also bchild@ufl.edu and Legal Assistance Centre, Namibia (see rlubilo288@gmail.com).

[64] See Child, B. and D. Wojcik (in press). Micro-Governance in Community-Based Natural Resource Management in Southern Africa: Enhancing Capacity at the Local Level. Bloomington, Indiana, AuthorHouse.

[65] Community Conserved Areas is the term used by IUCN for PAs managed by communities, and can be applied to IUCN Categories I-VI.

[66] The technical basis for this is well established. Leading examples of such 'participatory technology development' include the Namibian MOMS (Management Orientated Monitoring System) for resource monitoring, quota-setting and management systems (see WWF-SARPO Wildlife Management Manual Series), and systems for effective community-led and expert facilitated negotiation of community-private concessions and business partnerships (see also WWF-SARPO Wildlife Management Series)

84. In addition:

a. Improved farming through **conservation agriculture** will focus on reducing soil disturbance, improving yields, reducing shifting cultivation, and intensifying agriculture to reduce forest conversion. Note that the effectiveness of conservation agriculture will be monitored by tracking 50 farmers that use it and 50 that do not to further inform project implementation.

b. **Participatory, evidence based management** will be facilitated by combining stakeholder process and data. Stakeholder groups will be developed at local, meso and macro levels. Three forms of data will be developed: community monitoring (for fires, wildlife, settlement, charcoal production and illegal activities, etc.); surveys (e.g. household livelihoods, governance, wildlife and forest health by experts); and remote sensing (and ground truthing) to track changes in land use and land cover change (e.g. illegal settlement, forest degradation, Normalized Difference Vegetation Index (NDVI), etc.). This data will be stored in integrated databases and converted into visualized formats (maps, graphs) to facilitate multi- stakeholder decision processes[67].

c. **Charcoal** production will be discouraged in GMAs through land use planning, law enforcement and financial incentives through REDD[68][69]; charcoal is a recent phenomenon in these GMAs and quick action will be used to control it (Annex 17). Note, considerable effort was made in both the PIF and PPG to assess the technical and institutional viability of charcoal kiln technology (annex 11) but in the final analysis was rejected because of the risks of applying improved technology to open access resource regimes[70]), the opportunity to stop this nascent and ecologically damaging industry, and low viability because of distance and scale economies.

d. **Household wood demand** is primarily for firewood and cooking and, in key locations, for curing tobacco. Improved *renewable energy technology* development was considered through improved cook stoves, but it was decided not to take the lead on this pending the implementation of a USAID Project in Eastern Province specifically designed to implement and test such technology. Instead, this project will focus on improved management of forests through land use planning and harvesting methods linked to REDD+ pilots in at least 50 VAGs.

e. Improved tobacco burns: Similarly, serious consideration was given to a combination of improved **tobacco** barns, woodlots and SFM in TBZ in Mufunta GMA in partnership with farmers and private sector tobacco companies (see Annex 17). Ultimately, this option was rejected because of reputational risk to GEF through association with the tobacco industry.

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[67] There is growing recognition of the power of visual data when combined with face-to-face participatory process for solving complex problems. Visual/quantitative data encourages cognitive engagement of the frontal cortex and rational decision-making processes, and 'distances' participants from more emotion and limbic-centred cognitive processes, as for example in policy discussion that are not backed by real data.

[68] Charcoal is a major threat to forests in Zambia, though less so in the target GMAs, although nascent charcoal production needs to be nipped in the bud to prevent it becoming a serious long term threat once closer sources of wood are exhausted. This threat is driven by high urban demand, energy policies that do not encourage the use of renewables through reliable and affordable household electricity, and open-access to forests – charcoal producers are not paying the opportunity costs of charcoal production which renders any site-level sustainable charcoal production programme (e.g. improve kilns and plantation forestry) financially non-viable.

[69] RE technology in the form of improved kilns offers a high reduction in the ecological footprint of charcoal production. However, this is not viable in the present project area because of (1) weak property rights, (2) distance from markets, (3) a strategic choice to control rather than encourage charcoal production in these GMAs while it is at low levels and can still be controlled, and (4) the lack of economies of scale.

70 The combination on increased viability in the absence of property rights are the classic symptoms of a "frontier economy" like that in which the American Bison was all but extirpated.

PES: Zambia is heavily dependent on the Kafue River for hydropower[71] major irrigation schemes at Mazabuka, Lusaka's urban water supplies, and industry (Annex 13). During the Project, a case will be built for PES legislation and to protect this investment against upstream land use land cover change, fire, illegal fishing, water pollution and climate change. Initial interviews with ZESCO suggested that such an approach was feasible. **Financial viability:** Improving the financial viability of KNP and VAGs by enhancing the management and marketing of tourism, wildlife, forests and ecosystem services within a framework of empowered local institutions will create *more from less for more*: a many-fold increase in revenue generation and employment, achieved through the more efficient use of less wildlife and forests.

2.2 Policy Conformity

85. The Zambia Government has completed a comprehensive prioritization exercise to develop a GEF V pipeline. Several multi-agency steering committee meetings were held to review various project proposals. This project was prioritised following a lengthy consultative process including a Country GEF Portfolio Review workshop held in April 2010 and GEF National Steering Committee meetings held in late 2010. UNDP undertook extensive consultations and field visits in October 2010 and February 2011 as part of the development of the PIF.

86. Zambia ratified the Convention on Biological Diversity in 1993 and United Nations Convention to Combat Desertification in 1996. Following the IPCC reports confirming the anthropogenic origin of climate change, the Government ratified the UNFCCC and its Kyoto Protocol (KP) in 1997 and commenced activities to respond to the challenge of climate change.

87. The project is consistent with the following national policies, strategies, legislation, and programmatic interventions.

88. The Project is consistent with the ***Policy Statement of the Ministry of Lands, Natural Resources and Environmental Protection concerning current reforms in the sector*** delivered to the National Assembly in October 2012. In particular, the ministerial policy statement refers to "Security of Tenure", "Decentralisation", "Sustainable Environmental Management", and addressing "Climate Change more comprehensively and in an effective manner". Environmental degradation was recognized by the Government as a major development challenge in the Fifth National Development Plan (FNDP). The ***Sixth National Development Plan (SNDP, 2011 – 2015)*** underscores in Part V, Section 19 on Natural Resources the objectives of (i) reducing the rate of wildlife depletion through sustainable management of wildlife and habitat in protected wildlife and forest areas; and (ii) promoting sustainable forest and land management practices. One of the strategies of achieving these objections is through implementing the relevant sections of the National Climate change Response Strategy. Zambia records one of the highest annual rates of deforestation globally at 250,000 to 300,000 ha of the country's forest area (Integrated Land Use Assessment Report ILUA 2005-2008). Commercial activities responsible for land degradation are mining in the Copperbelt and North Western Provinces, charcoal burning, land clearance for agriculture, illegal logging, and unsustainable land management practices in the production of cash crops such as tobacco and maize. This project directly addresses SNDP priorities as regards to Natural Resources (wildlife and forestry).

89. **Second National Communication on Climate Change to UNFCCC.** With the assistance of UNDP/GEG, GRZ has prepared this document, which has not yet been submitted to UNFCC. It identifies the main threat to deforestation and forest degradation in Zambia as shifting agriculture (53.6%), semi-permanent agriculture (23.7%), timber (16.8%), charcoal (4.5%) and firewood (1.4%), and

[71] 750MW at Kafue Gorge and 120MW coming on stream at Itezhi Tezhi in 2016

notes further concerns about loss of wildlife and impacts on the tourism sector. This project is directly responsive to these threats.

90. The project also supports the principle goals of the **National Policy on the Environment - NPE** (2005) *promoting protection and management of Zambia's environment and natural resources in their entirety while balancing the needs for social and economic development as well linking together the activities, interests and perspectives of all groups, including the people, non-governmental organizations and government at both the central* ***and decentralized local levels.*** A number of environment and natural resources management initiatives subsequently designed to respond to the environmental concerns in the FNDP, the Policy on Environment, and the National Action Plan (NAP, 2002), included the Community-Based Natural Resources Management (CBNRM) program to enhance community participation in the management of forests, fisheries, and water resources, and the sustainable development of agriculture and tourism. This **project is directly in line with CBNRM principles**.

91. **National Biodiversity Strategy and Action Plan (NBSAP):** In response to threats to biodiversity, Government in 1999 developed the NBSAP - a policy framework that promotes the conservation, management and sustainable use of Zambia's biological resources and the equitable sharing of benefits from these resources by all sectors of the population.

92. **The National Climate Change Strategy:** With support from UNDP and the Government of Norway, the government is drafting a National Climate Change Response Strategy (NCCRS). The National Climate Change Response Strategy (NCCRS)[72] is aligned with the National Long Term Vision 2030 and the Sixth National Development Plan (SNDP). The Strategy's vision is "a prosperous, climate change resilient economy" for Zambia with a mission to ensure that the most vulnerable sectors of the economy are climate proofed and that sustainable development is achieved through the promotion of low carbon development pathways. The NCCRS targets in particular the agriculture sector, but also the infrastructure, tourism, manufacturing, mining and energy sectors, because of their greenhouse gas (GHG)-intensive natures. The Strategy also incorporates the objectives and projects of the National Adaptation Programme of Action Against Climate Change (NAPA). Its specific adaptation and mitigation interventions include conservation agriculture, afforestation and reforestation, agroforestry, apiculture, developing an economic value for water, and promoting alternative, renewable energy systems and energy-efficient cooking and heating technologies. The MLNREP is presently the main ministry with responsibility for climate change.

93. **Zambia's NAPA**[73] has prioritized ten immediate adaptation interventions through a ranking process. These sectors include: agriculture and food security (livestock, fisheries and crops), energy and water, human health, natural resources and wildlife and have relevance in relation to agro-ecological zones (much of the project area falls within zones IIa and IIb that are climate-change vulnerable). South-western Zambia has been identified as the most vulnerable part of the country to rising average annual temperatures, reducing overall mean annual rainfall and the increasing frequency and intensity of extreme climatic events and features and a key area in the NAPA and the NCCRS. Furthermore, the Kafue Basin[74] has been identified as a focal area under the NCCRS and actions being developed under the Strategy are now being formulated and applied there.

94. **Pilot Programme on Climate Resilience (PPCR):** Zambia is a pilot country for PPCR and the Zambia PPCR Project seeks to promote private sector investment in climate change adaptation in a range of economic sectors (agriculture, water and energy) within the Barotse and Kafue sub-basins. Private sector investments that build climate resilience will be promoted in these sub-basins, including (i) micro-

[72] Ministry of Tourism, Environment and Natural Resources, 2010: National Climate Change Response Strategy.

[73] Ministry of Tourism, Environment and Natural Resources, 2007: National Adaptation Programme of Action Against Climate Change.

[74] Together with the Barotse Basin in the upper Zambezi River catchment.

finance initiatives, (ii) weather index-based insurance products (iii) information dissemination systems and (iv) **strengthening capacity to build climate resilience in agri-business, water supply, energy production and natural capital.** Currently, studies under component (**iv**) above seek to pilot strengthening the capacity of the private sector capacity to build climate resilience in agri-business, water supply, energy production and natural capital in the Barotse and Kafue sub-basins. Focus of this study is on interventions, such as, access to finance, access to market (Soya), agro processing - particularly climate resilient or indigenous crop, energy efficient cooking stoves, tourism /wildlife, and integrated landscape activities. This offers an excellent opportunity of collaboration between the proposed project and the PPCR as small holder farmers operating in the outlying GMAs around Greater Kafue National Park can participate as private sector enterprises in promoting green agriculture with climate smart interventions to increase yields and improve soil quality, and explore wildlife land use looking at private-community joint venture models and tourism investments.

95. The first phase of **UNREDD+** under implementation in Zambia at national level includes establishment of the appropriate institutional arrangements for a national REDD mechanism. The key areas in UNREDD+ approach are to decrease deforestation and to increase forest resources through more effective conservation as well as regeneration. The need for practical experiences in use of REDD mechanism by piloting projects has been identified as an urgent issue in UNREDD+ implementation. A recent UN-REDD report on Forest Management Practices with Potential for REDD+ in Zambia considered the "theoretical potential for REDD+ high for most protected areas in Zambia" citing their potential to maintain a significant portion of Zambia's land area under natural forest as carbon sinks and provide new and alternative economic opportunities to surrounding communities without a significant opportunity cost. That same report goes on to mention that "the (Zambian) national parks estate may provide an immediate opportunity for piloting REDD+." A similar study identified Community Based Natural Resource Management (CBNRM) as being one of the most optimal land use practices for REDD+. Whereas at the PIF stage REDD+ was just launching a REDD Strategy and national accounting mechanisms supported by the UN REDD programme, there are now opportunities to implement REDD+ pilot activities. Initiatives related to carbon offsets and REDD are currently at a critical development stage in Zambia. There are no known forestry offset projects up and running, despite a high number of organizations approaching the UN-REDD secretariat at the Forest Department, almost on a weekly basis, and a several feasibility studies undertaken. At present there is only one project being developed in Zambia, aiming at REDD+ compliance, namely the Lower Zambezi REDD+ Project managed by Bio Carbon Partners in Rufunsa District.

96. The ***Zambia Wildlife Policy*** (see Annex 15) is currently undergoing revision and it is apparently considering a more flexible approach to wildlife management, accepting that governments face major limitations in their ability to provide adequate and appropriate field management in protected areas. The ***Zambia Wildlife Act*** also dates from 1998 and cascades from the conceptual base of the Wildlife Policy. Subsequent amendments implemented through statutory instruments provided for changes only in Board composition and user fees. The Act introduce two important changes: it established ZAWA as a statutory body and it introduced provisions for Community Resource Boards (CRBs) to be involved in the management of wildlife in GMAs. Nearly 15 years later a central concern with the legislation is that communities in GMAs and "Open Areas" have little incentive to utilise their wildlife resources and supporting landscapes in a sustainable way. Inefficiencies and delays in the transfer of established community shares of hunting revenues from ZAWA to CRBs exacerbate the problem. Inflexible approaches to the use and regulation of GMAs and private sector game ranches has also limited the development of initiatives that will generate competitive land rents from these areas.

97. This Draft ***National Forestry Policy*** is based on the National Forestry Policy of 1998 that was itself based on the Zambia Forestry Action Plan (ZFAP) and stakeholder views. The major objective of ZFAP was to develop a national strategic framework for the forestry sector of Zambia. It has moved forward from the 1998 Forest Policy with a Vision to: "provide a framework for sustainable forest

management to enhance economic development, contributing to mitigation and adaptation to climate and improve the livelihoods of the people though participatory forest management." The draft Policy thus addresses new challenges and issues including strategies related to the contribution of the forestry sector to poverty reduction and Zambia's national economy anchored on sustainable development criteria, sustainable forest management, REDD and REDD+ issues and carbon trading opportunities. The ***Forest Act of 1973*** remains in force pending a new act based on the new Forest Policy. The new Forests Bill is currently in formulation. What will be of interest is how a new act regulates access to and use of national and local forests and forest products, and how it empowers local communities with rights and benefits. It is also likely to incorporate new developments on timber exports, the honey sector and climate change mitigation and adaptation based on sub-sector policies in these areas.

98. The ***Energy Policy 2008*** recognises the importance of energy in driving economic growth and reducing poverty. It also appreciates the non-sustainable nature of the woodfuel and charcoal demand trends. The Policy highlights the need for non-traditional, renewable approaches to energy production through biofuels, biogas, gel fuels, and briquettes, but also emphasises the importance of renewable solar, wind, geothermal and small-scale and micro-hydro energy developments.

99. The ***National Decentralisation Policy (NDP) of 2010*** has four core objectives: (i) empowering local communities by devolving decision making, functions and resources away from the centre;(ii) implementing a system of "bottom up" planning and budgeting from the district level; (iii) promoting accountability and transparency in the management and use of resources; (iv) improving public sector service delivery in all areas including the maintenance of infrastructure. Implementation of the NDP is at the national, provincial, district and sub-district levels and through the vehicle of a national Decentralisation Implementation Plan.

100. The ***Public-Private Partnership Act No. 14 of 2009*** promotes and facilitates the development of privately financed infrastructure projects and facilities and social services through partnerships under the umbrella of regulating umbrella organisations. The Act excludes partnerships between any government entity, any agency and government ministry or department; or projects moved to the private sector though government disinvestment or privatization; projects that are expressly excluded from the Act. The Act provides for government's support in the acquisition of land for approved public-private partnership (PPP) projects and for the concessionaire to levy charges on infrastructure and social services provided.

101. The Project is consistent with **GEF Policies on Environmental and Social Safeguards and Gender Mainstreaming**. The project aims to improve the livelihoods of rural people through sustainable environmental management and institutional empowerment, and strengthened capacity and institutions for controlling access to their resources. Monitoring of gender, empowerment and ability to control their own resources will be built into livelihoods, wood/forest use and governance surveys and tracking, and is included in the log-frame to ensure that performance is reported annually.

2.3. Country ownership: country eligibility and country drivenness

102. The Government is committed to the implementation of the Paris Declaration principles of national ownership and leadership as well as mutual accountability. In this regard Government has embraced fully the national execution modality and takes the lead in executing the projects. Further, the Government with Cooperating Partners (CP) has developed the Joint Assistance Strategy for Zambia (JASZ) II 2011- 2015 to coordinate CPs support towards the implementation of the Six National Development Plan (SNDP). Within the JASZ arrangements, each sector is supported by a group of CPs; the environment and natural resources management CP group also covers climate change and is supported by six CPs. The troika: Finland, World Bank and UNDP are the lead of this group. Thus the project will be one of the initiatives of the JASZ II and will be coordinated and leverage from other projects within this CP group.

103. Within the United Nations System in Zambia, the United Nations Development Assistance Framework (UNDAF) 2011-2015 is the chapeau for providing support to the Government and also contributing to the implementation of the JASZ and the SNDP.

104. The project fits into UNDAF, which has five outcomes covering: (1) HIV and AIDS; (2) Sustainable Livelihoods and Food Security; (3) Human Development; (4); Climate Change, Environment and Disaster Risk Reduction and Response; and, (5) Good Governance and Gender Equality. This project relates to Outcome 4, which aims to achieve the development of institutional capacities to effectively sustain, manage and protect livelihoods from the risks of climate change, disasters and environmental degradation, and will be pursued through the realization of three Country Programme Outcomes around disaster mitigation, adaptation and sustainable community-based natural resource management. This project also relates to Outcome 2 – achieving more sustained levels of development, employment and food security.

105. The Country Programme Action Plan is a five-year framework defining mutual cooperation between the Government of Zambia and UNDP prepared in line with the UNDAF. It will contribute towards Zambia's goals of reducing poverty, eradicating hunger, becoming a middle-income country by 2030, and achieving the Millennium Development Goals (MDGs) by 2015. The CPAP sets out the challenge to increase productivity and reduce deforestation and land degradation, and to increase capacity for enforcement and management of programmes for the sustainable utilization of natural resources. The CPAP aims to implement policies and legal frameworks for sustainable community based natural resources management. It involves working to establish functional Community Resource Boards with by-laws for addressing deforestation and wildlife management. It involves scaling up gender-sensitive livelihood partnerships to promote community participation in natural resource management. It also involves working to reduce the annual average deforestation rate in the period from 2011-2015, and the establishment of public-private and community partnerships for natural wildlife and forestry management.

106. Following the recent restructuring, the Ministery of Lands, Natural Resources and Environmental Protection (MLNREP) is the GEF Focal Point in Zambia, which also houses Department of Forestry while the Ministry of Tourism and Art houses ZAWA. The MLNREP takes lead for coordinating policy and project interventions at national level related to forest and wetland management while the wildlife management is a responsibility of the the Ministry of Tourism and Art. Climate change issues are coordinated by the Interim Climate Change Secretariat under the Ministry of Finance.. The REDD+ strategy formulation and subsequent implementation is within the Forestry Department under MLNREP. ZAWA's primary role as lead implementation agency is at a decentralized level in the Greater Kafue National Park and West Lunga National Park systems; the Kafue Business Center under ZAWA can become the pivot for implementing the project in collaboration with public and private sector agencies, Chiefs, districts, community resource boards, and village action groups (see section 2.8 on Stakeholder Involvement).

2.4. Design principles and strategic considerations

107. Protected Areas is one of UNDP's signature programmes and the agency has a large portfolio of PA projects across Africa dealing with PA expansion and using strategies attuned to the African reality. The proposed project falls clearly within the comparative advantage of UNDP as stated in the GEF Council Paper C31.5.rev.1 (Intervention type: capacity building/technical assistance). UNDP was selected by the Government of Zambia and has a comparative advantage in addressing the primary challenge of this project – i.e. environmental conservation in protected landscapes. Furthermore, UNDP has a large global portfolio and extensive experience in developing the enabling environment (policy, governance, institutional capacity and management know-how) at the systems level to improve PA management effectiveness. The proposed project will benefit as well from UNDP's experience as implementing agency

for several other related GEF-funded projects in Zambia, which will complement and create synergies with the proposed project.

108. UNDP is a founding member of the Nairobi Framework which aims to increase carbon markets participation and build capacity in Sub-Saharan Africa and elsewhere. Moreover, Zambia is one of six participating countries in the UNDP/UNEP CDM Capacity Development Project for sub-Saharan Africa. The project will also work in close collaboration with UNDP's MDG Carbon Facility (MDG-CF), a unique public-private partnership facility that offers emission reduction projects a comprehensive package of project development services, and is developing several biomass energy projects in Africa as part of its current portfolio[75]. Finally, Zambia is currently one of nine developing countries in the world that will be piloting the UN-REDD Programme, which aims to prepare countries for future REDD+ implementation. The first phase in the UN-REDD Programme is the UN-REDD Quick Start initiative. The National Joint Programme (NJP) will develop a National REDD+ strategy and thereby assist in attracting financing for National REDD+ implementation.

109. Zambia has made noticeable progress in developing natural resource management skills and commitment to the principles and practices of protected area management and devolved community-based management. Progress is particularly noticeable within the middle and upper-middle levels of management in state agencies, in civil society, in academia, and through innovative PPPs for managing PAs. By contrast, hanging the success of projects in the wildlife and forest sector on senior champions in the past was not as effective as hoped. Moreover, interviews, field visits and the stakeholder workshop suggested a strong desire for decentralised natural resource management that is alignment with the decentralization policy of the new government, but conversely no single high level champion emerged to lead the process. Project design therefore needs to account for, and build on, these strengths and weaknesses. It does so in the following ways:

a. It situates the Project in the Kafue National Park Business Centre, close to the action. It is designed to entrust and empower field officers in government agencies and communities to develop concrete progress in VAGs and PAs within a set of mutually agreed performance management criteria. This strategy has been successful in the past,

b. It provides the resources, including financial support of meetings and technical assistance, to undertake annual performance reviews and to develop annual workplans and budgets using a log-frame process with the long-term goals of cost effectiveness, revenue generation and financial self-sustainability. Review and planning processes are designed so the project is managed adaptively and accountably using performance targets and metrics and evidence based management,

c. The Project provides significant resources for the training of field staff in line with their emerging responsibilities, including short course, certificates and degrees,

d. The Project will collaborate with and strengthen the capacity of Copperbelt University e.g. in collecting and analysing a range of data so that scientific evidence feeds into the adaptive management process. Strengthening the capacity academia provides an additional leg to the natural resource sector. In this regard, the activities tagged to Copperbelt University will be packaged to enable CBU to address these strategically and not in an ad-hoc manner. Note also that CBU has recently been awarded (with partners in Norway and South Africa) a $3.4m

[75] Note also that UNDP is implementing a number of biomass and bio-energy projects across Africa. Promoting more efficient resource use through, for example, energy-efficient cook stoves has been demonstrated successfully in a range of UNDP projects, most recently in Kenya, Pakistan and Bhutan. Other projects in UNDP's biomass energy portfolio range from community-run biogas digesters (e.g. Bhutan, Tanzania, Egypt) to gasifiers for turbine-driven on-grid electricity generation (e.g. in India, Malaysia and Brazil).

NORHED grant to develop research and training skills in CBNRM and SFM/REDD+ that were intended to be directly integrated to this project,

e. Finally, the Project provides strategic technical assistance to develop monitoring, management and information systems (both at KBC and in CBU), as well as financial sustainability plans and skills in marketing resources and developing PPPs.

110. The proposed project adds value to a number of related initiatives:

a. The GEF-funded REMNPAS project was funded through UNDP from 2006-2012, aiming to pilot public-private-community partnerships in and around GMAs. Lessons learned from pilot projects in Bangweulu and Lower Zambezi and their broad-based stakeholder interactions are to be applied to future management of PAs, and to assist with the integration of successful conservation management across larger areas. The main aim of the project was to lay the groundwork for the revision of the Wildlife, Tourism and Hospitality and the National Heritage Acts to include new PA categories and provide a framework for partnerships. Note that the PIF emphasised that targets to protect key habitats will be developed through formal gazettement of new categories of PAs arising out of the REMNPAS project; this PPG specifically broadens this approach to include "community conserved areas" through CBNRM noting, for instance, the success of CBNRM in protected black rhinos, desert elephants and other species in Namibia. The proposed GEF project adds value to this by strengthening the PA system at a regional level and addressing multiple global benefits, taking a multifocal approach to which comprises a highly catalytic GEF programme on PAs in the country.

b. A project funded by the International Climate Initiative (ICI) in West Lunga National Park (and catalysed by REMNPAS) acted as an additional demonstration project in terms of the REMNPAS work and developed infrastructure for enforcement and monitoring in the Park. It also laid the groundwork for reclassification of neighbouring GMAs and Forest Reserves. The proposed GEF project goes beyond the ICI project to work inside GMAs on sustainable land and forest management including REDD+ pilots. The project also takes a systemic approach, targeting two Parks but doing this within the framework of a system-wide intervention.

c. As regards CCM interventions the project has strong synergies with the new GEF V LDCF project *Promoting climate resilient community-based regeneration of indigenous forests in Zambia's Central Province* (as of September 2013 the PIF for that project which was technically cleared by GEF).

d. Over the last two years UNDP has also launched UNDP-implemented Low Emission Capacity Building Project (LECB) in Zambia, the objective of which is to develop the capacities (institutional, financial, human, research) required for articulation of a low carbon, climate resilient development pathway in Zambia. The LECB project is in response to the need for capacity development on low-carbon planning tools and actions at the country level, and also offers an opportunity to engage public and private sector support and participation in addressing the issue of climate change in the country.

e. The World Bank-funded Programme for the Development of Kafue National Park as a Model of Sustainable Economic Use and Biodiversity Conservation in a Management Extensive Environment, also known as the "SEED Project" was funded by the Norwegian Government ($12 million), the Global Environment Facility ($4 million) and International Development Agency ($7.5 million). It started implementation in 2005 and phased out in 2011. The focus of SEED was to develop the Park to generate revenue and help develop communities bordering the park or living in the adjacent GMAs. The proposed GEF project works in the broader landscape, including the GMAs as buffers to the Park. It also goes beyond a focus on biodiversity and

wildlife to address sustainable land management, sustainable forest management and climate change mitigation.

f. In 2011, the Millennium Challenge Corporation undertook several major studies in preparation for a project aimed at the financial viability of GKNP and its economic impacts on Zambia. This project did significant planning, but was not funded in favour of the Lusaka Water Project.

g. NGO support of communities in the Kavango Zambezi Transfrontier Conservation Area including The Nature Conservancy (Mulobezi, Sichifulo), WWF (Mufunta), Peace Parks Foundation (KAZA generally) and African Wildlife Foundation (several communities in south western Zambia).

h. An important development since the PIF is that GTZ has initiated an assessment of potential investment to strengthen ZAWA at an institutional level. KfW is also in the process of planning how to allocate $15m support to regional TFCAs, with a specific focus on the KAZA TFCA and on staff capacity-building.

111. Several GEF-funded projects are providing support to Zambia's Protected Area system, often in innovative ways:

a. The GEF-funded *MSP Extension of Kasanka Management System to Lavushi Manda National Park (LMNP)* is a USD $1.8 million (total with co-financing) project implemented by the World Bank that aims to improve the sustainable conservation management of the Lavushi Manda National Park and the Kasanka National Park to uplift their ecological value as part of the greater Bangweulu ecosystem. It consists of three thematic components: 1) Conservation systems; 2) Stakeholder involvement; and 3) Management capacity building. The project, which started last year, will develop and implement an effective PA management system based on the existing and successful Public-Private Partnership approach (PPP) in Kasanka NP. This PPP was introduced and administered over the past 20 years by the non-governmental Kasanka Trust (KTL), under a special PPP agreement with ZAWA.

b. The GEF-funded regional *Sustainable Management of the Nyika Transfrontier Conservation Area Project* is a USD $11 million (total with co-financing) project implemented by the World Bank that aims to establish more effective transfrontier management of biodiversity in the Nyika Transfrontier Conservation Area, which straddles Zambia and Malawi. The Project supports transboundary biodiversity conservation through planning, institution building, fundraising and capacity building for protected area management within three blocks belonging to the Nyika TFCA. The project is coordinated through ZAWA for all Zambia-related activities. It started in early 2011 year and is planned to run through 2016.

c. The GEF-funded *MSP Open Africa North South Tourism Corridor (OANSTC)* is a USD 1.2 million (total with co-financing) project that has the objective of contributing to mainstreaming biodiversity into pro-poor tourism by communities along the OANSTC routes (Zambia and Namibia) through barrier removal. The project has an incentive-based and unique "partnership tourism route" approach, aimed at enhanced awareness, training and capacity-building for current and future local business operators The key actors on the Zambian side were the Ministry of Tourism, Environment and Natural Resources and the Zambian Tourism Board. The project started in 2008 and came to an end in 2011.

112. Additional projects that have some, but lesser, influence on the project area include:

a. The *Lusaka Sustainable Energy Project* is a registered CDM project which aims to provide up to 30,000 households of Lusaka City with highly efficient and durable Save80 Cooking Systems to replace the consumption of charcoal from non-renewable biomass by the use of small sticks from renewable sources of biomass. The project reduces greenhouse gas emission through the switch

from non-renewably logged trees for charcoal fuel to the sustainable and renewable biomass from brittle sticks of renewably harvested fuelwood through the use of the highly efficient Save80 Cooking Systems.

b. WCS and COMACO (Community Markets for Conservation) are doing a range of rural livelihood, SLM and charcoal-related interventions as part of their broader mandate to protect biodiversity conservation and reverse environmental degradation across the Zambia's Luangwa Valley. They are using GPS to monitor charcoal stacks along main roads in COMACO target areas and control areas and Nyimba. CTC maintains on-going monitoring of families who sell charcoal along the Great east Highway. The focus of their charcoal work is Mwasemphangwe, where COMACO is working with the Forestry Department and Luangwa Valley Natural Resource Management Partnership to confiscate illegal charcoal and provide alternative livelihoods for charcoal producers.

c. A WWF-Zambia CBNRM project in Mufunta GMA, supported by the Royal Government of Norway, aimed to establish efficient, equitable and sustainable participatory natural resource management systems. The WWF project was successful in combating poaching by appointing village scouts and promoting alternative livelihoods such as horticulture, poultry, piggery, honey and wax production, fish farming, carpentry, tailoring and handicrafts, with 10 village action groups. 154 enterprise and commodity groups have been established. The Mufunta Land-use and Natural Resource Management Plan was used to zone the GMA and allocate land in consultation with the CRB. This project come to an end, but since the first PPG submission WWF have notified UNDP that they have obtained additional funding to extend this project (see co-financing letter). The GEF project will build on WWF's work and add value to it through the consolidation of land use plans and community based management, the promotion of tourism partnerships, and renewable energy technologies to reduce the impact of farming (especially tobacco) on indigenous forests.

113. Focus on economic growth through the bio-experience economy. Southern Africa is predicted to become several degrees warmer and drier with significant disruptions to conventional crop seasons. Subsistence agriculture has not provided a reliable foundation for people to climb out of poverty, or for economic growth. As noted above, the purpose of the project is therefore to develop mechanisms for pro-poor growth based on developing improved local use rights and markets for wild resources, forests and ecosystem services.

114. Focus on decentralised growth and protection strategies. In Zambia's forest and wildlife sector, decades of centralised control are associated with resource depletion and economic stagnation/poverty. By contrast, progress has been made where control over protected areas has been decentralised within ZAWA (e.g. South Luangwa, Kafue) or to PPPs (e.g. North Luangwa, Kasanka). Progress in community conservation is also associated with decentralization in Zambia and regionally. This fact is recognised in draft policy documents (e.g. 1998 Forest Policy) while Zambia has officially adopted the Revised National Decentralisation Policy (NDP) of 2013.

115. Focus on poverty reduction: In contrast to the national parks, where officially no human settlement is tolerated, the buffer zones GMAs are areas with human habitation and their resources support various livelihood activities and provide safety nets in times of need. The households in the GMAs depend on forest and woodland resources to meet their energy needs, construction and roofing materials, fodder for livestock, wild foods that support a healthy diet, and medicines. The United Nations estimates that 78% of Zambia's rural population lives below the national poverty line (UN Statistics 2007). Modal income for the rural areas of the country, representing 26% of the country, was ZMK 150,000 – 300,000 (US$31-62) per month (Central Statistics Office: 2010). The GMAs selected for targeting are in some of the poorest areas of the country. North Western province – the location of West

Lunga NP – is the second poorest province in the country[76]. A socio-economic survey carried out in the Chibwika-Ntambu GMA by the Reclassification Project estimated that 90% of the respondents were classified as poor or very poor. Their estimated earnings from agriculture for 2012 ranged from ZMK100,000-ZMK600,000 (USD20-120). Supplementary activities include fishing, beekeeping, vegetable gardening, beer brewing and informal cross-border trading, free-range livestock production, carpentry, and small-scale artisanal mining (West Lunga Trust 2007).

116. GMA Selection: The PIF recommended a focus of four GMAs, two of the three GMAs around WLNP and two of the nine GMAs around KNP (i.e. Mufunta and Namwala). For reasons of leakage (i.e. settlement and deforestation that is controlled in one GMA springs up in another) and threats (illegal settlement, roads), the PPG expands GMA selection to the five northern KNP GMAs plus the two GMAs initially proposed for WLNP. This decision is based on a number of factors: the need to control leakage (see above); the very large areas of natural forest in Lunga-Luswishi and Kasonso-Busanga; the even greater potential for these northern GMAs to develop financially viable natural resource economies based on trophy hunting and SFM/REDD+; generally higher levels of governance as assessed in the PPG; and economies of scale in implementation with the incremental gains of supporting these GMAs being high and the incremental costs low. There are economies of scale in management and over-sight is managing all five northern KNP GMAs together. The omission of the southern KNP GMAs builds on the fact that TNC is supporting the two critical GMAs while BBbilili is largely overrun by settlement. However, the provision of support to three WLNP GMAs, still leaves gaps to which support should be extended should additional support be forthcoming, especially Chizera GMA and the corridor between West Lunga and Kafue . Establishing new categories and practice of PA for community management of wildlife and other resources will be a major step in strengthening community control of land and resources and in maximizing the revenue they receive from natural resource management

117. Health: Improved livelihoods and employment creation will result from wildlife production, tourism, and REDD carbon sales (though local forest protection) which will in turn contribute to improved social status including health care.

118. Renewable Energy Technologies: While the PIF focused on charcoal production, this emphasis has been changed. Although charcoal production is acknowledged to be a significant driver of deforestation and degradation in Zambia, during the PPG phase detailed on-the-ground field studies revealed that at present the production of charcoal seems to be occurring at relatively low levels in Mumbwa, Namwala and Mufunta GMAs compared to open, communal areas nearer to Lusaka. Unplanned agriculture and in-migration – while marginally viably – is having a more serious effect on the bio-economy in the southern GMAs than charcoal (which is often a by-product of agricultural clearing). As noted in a recent USAID-funded study of charcoal consumption and production in Eastern and Lusaka Provinces, annual charcoal consumption for the Copperbelt, Eastern and Lusaka Provinces was estimated at a total of 1,423,400 tons leading to the loss of 14,234 ha of forests annually. That same study estimated that charcoal supply to Lusaka mainly comes from source areas in Central and Eastern Provinces and peri-urban areas of Lusaka, with the bulk of the charcoal transported into Lusaka Province coming from Central Province. Recently, government has made pronouncements to commence the development of a statutory instrument to regulate charcoal production. It is now clear that unless a sound CBNRM system with strong property rights, revenue retention and governance is established soon in the GMAs, options for a high value bio-economy will be lost across the Greater Kafue ecosystem. Moreover as regards preventing forest degradation in Kafue GMAs, the focus of government has now turned towards sustainable land use planning; promotion of conservation agriculture to decrease land clearing; law enforcement and control on in-migration; and financial incentives through REDD pilots as alternatives to stop deforestation.

[76] State of Environment Report, Solwezi District, Government of Zambia, February 2008

119. In light of these developments, it was decided that introducing improved charcoal technologies in GMAs via the GEF project would entrench or "legitimize" charcoal production as a 'viable' alternative livelihood with potential negative social and ecological costs in GMAs and contradict the new government policy of discouraging charcoal production of any sort in Zambia's protected area estate.

120. Global environmental benefits arising from the project include reducing threats to the PA system and strengthening it to enable the continued provision of multiple benefits on large scale – globally significant biodiversity, carbon stocks and watershed services. The benefits are: i) consolidation of core PAs through increased protection of forest ecosystems; ii) increased PA coverage of Miombo woodlands; and iii) recovery in populations of important wildlife species, including elephant, buffalo, sable, roan, puku, lions, leopards and so on, As regards CCM funds, this project focuses on the conservation and enhancement of carbon in forests across a target GMA buffer area of 41,297 km2 and pilots a suite of site-specific interventions across 100,000 ha spread across 8 GMAs. Carbon emission reductions from CCM activities will be achieved via: i) Introduction of conservation farming practices; ii) establishment of designated zones for improved fuel wood collection; iii) reduced late season fires via improved fire management monitoring and practices in all targeted GMA zones; and iv) SFM practices established in at least 25 VAGs as REDD+ pilots protecting 25,000 ha and leveraging an additional 75,000 ha (intact forest) through protecting VAG-designated forest zones.

2.5. Project Objective, Components and Outputs/activities

121. The project objective is:

> **"Biodiversity and carbon sinks of Greater Kafue / West Lunga Protected Areas in Zambia are better protected from threats and effectively managed by local institutions, communities, and economic actors using sustainable forestry and land management practices".**

122. Ecosystem services, including those associated with wildlife and SFM, are worth several times global GDP[1]. Yet wild resources are being rapidly replaced by domestic resources[2]. The underlying cause is that wild resources are treated differently from domestic resources, so that their true value is not reflected at the local level nor therefore in land use outcomes. Policy and market failures include weak or centralized tenure systems, market restrictions, differential taxation and regulation, and under-developed collective action and monitoring systems. The greatest challenge of our generation is to convert the value of common pool wild resources (wildlife, forests, water, carbon) into land use outcomes. This will require new institutional configurations and new ways of learning that combine science, institutional experimentation (i.e. new forms of community property rights and markets for natural resources) and action[3]. Preliminary calculations suggest that the value of the bio-experience economy in the greater Kafue PA exceeds that of agro-extractive sector, especially as the latter is unplanned, undisciplined and unsustainably extractive as a result of open-access resource regimes. Compared to regional best practice, Zambia is currently realizing a fraction of the potential value of wildlife and forests (discussed in detail in Annex 4), and sustainable natural resource management also suffers from weaknesses in community-based approaches (discussed in detail in Annex 5). To maximise the real value of wild resources, and to ensure that these influence management at ground level requires supporting legal framework and practice to devolve benefits and management to PA and VAG-level (including the devolution of tenure and use rights), as well as the removal of market restrictions and bureaucratic transaction costs that lower the value of natural resources. It is widely acknowledged that support of policy reform in both forestry and wildlife in Zambia has had uneven results[4].

123. The Protect strategy, therefore, is to provide a working example of devolved and integrated land management (to VAG and Business Centre levels) that **makes the economic case for wildlife and forestry management at the VAG level** as a basis for policy reform. This builds on the success of decentralized management in Zambia, especially PA Business Centres like SLAMU and the Kafue

Business Centre itself. It also builds on the potential shown by CBNRM in Zambia and southern Africa generally, provided it is effectively devolved and supported. The Kafue Business Centre will be strengthened to strengthen management of the core protected area and to support CBNRM initiatives in the GMAs. The latter builds on regional and global CBNRM best practice (see annex 5). Its objective therefore is to establish effective micro-level governance at VAG level for the purpose of achieving sustainable land management and to generate incentives from sound forest and wildlife management to address multi-dimensional poverty reduction. This will require the devolution of rights and benefits to VAG level, coupled with participatory technology development for forest, carbon/REDD+, and wildlife management and governance. The project strategy is one of adaptive co-learning, and therefore places a strong emphasis on monitoring, including participatory monitoring of key variables including governance, livelihoods, gender, carbon, wildlife, SFM, conservation agriculture, LULCC).

124. This project has been designed based on extensive consultations with local stakeholders with the express intention of responding to GEF's overall strategic vision under GEF V of helping countries meet their sustainable development needs and achieve multiple environmental benefits through an integrated approach. The proposed project satisfies the requirements for GEF financing under multiple focal area strategies. Its decentralised design allows integrated resource management to enable Zambia's PA system to reach its potential for delivering high value multiple benefits on a large scale – protecting globally significant biodiversity, forest carbon stocks and critical ecosystem services such as watershed protection. This project works across the landscape in core and buffer zones. It improves the management effectiveness and financial sustainability of core areas of the PA system. It uses a decentralised governance approach to achieve multiple goals in the buffer zone GMAs: integrated land use and a reduction in conflicting land uses, reduced deforestation forest degradation and carbon emissions through REDD+ pilots, wildlife and biodiversity conservation, and sustainable agriculture. In order to achieve this objective, two components have been identified that are relevant and necessary to achieve the objective.

125. **The project area** includes West Lunga National Park and its neighbouring GMAs, and KNP and the five GMAs around the centre and north of the PA. Clear evidence of 'leakage' (i.e. illegal settlers displaced from Namwala move to Mumbwa, Mufunta of Kasonso-Basanga) suggests that a focus on only the four GMAs identified in the PIF will simply displace deforestation elsewhere. Therefore GMA selection includes areas currently under threat (i.e. Namwala, Mumbwa and Mufunta) and areas to which threats may be leaked or where threat levels are rapidly increasing (i.e. Lunga-Luswishi, Kasonso-Busanga and the West Lunga GMAs). This strategy encompasses the key buffer zones of West Lunga NP (i.e. three GMAs) and Kafue NP because Sichifulo and Mulobezi GMAs in the south are currently supported by TNC[77], while Bbilili GMA is already heavily and irreversibly encroached. The project will support policy reform by developing working models for PAs (KNP and WLNP) and for devolved community conserved areas through VAGs.

126. ***Component 1*** aims to achieve:

> ***"Increased management effectiveness and financial sustainability of Greater Kafue and West Lunga PA system".***

127. The component 1 strategy aims to strengthen the decentralised KNP cost centre, drawing on the success of the South Luangwa model and best practice in southern Africa generally. West Lunga National Park will be sustained by supporting a PPP following successful examples elsewhere in Zambia[4].

128. **Biodiversity Focal Area 1** is addressed by the project's focus on both the management effectiveness and the financial sustainability of Zambia's Protected Area (PA) estate in GKNP and West Lunga. Zambia's National Parks, managed by the Zambia Wildlife Authority, cover an area of 64,000km^2

[77] Ideally, support should include all GMAs around KNP and the corridor between KNP and West Lunga but this is not possible within the available budget and can be addressed by finding additional partners, e.g. TNC in the south - see above

or 8.5% of Zambia's landmass. National Parks are buffered by Game Management Areas, which allow settlement, agriculture and sustainable utilization of wildlife by communities and cover a further 166,000km^2 or 22% of the country. This project builds on the previous GEF investment in reclassification of new types of PAs, working at a systemic level to strengthen the management effectiveness of Zambian PAs in conserving biodiversity and addressing drivers of degradation such as poaching, wildfire, and illegal settlement and timber harvesting.

129. It also builds on the previous work done to quantify funding gaps, and seeks ways to address these gaps. This requires increasing revenues through establishing innovative Public-Private-Community partnerships, improving user fee systems for PAs and GMAs, earning revenue through the REDD system, and better management of commercial opportunities. Costs are controlled by facilitating evidence-based management (i.e. data on many aspects of PA/GMA management, economics and livelihoods) and strengthening activity-based budget systems.

130. At a site level the project will works in two National Parks covering a total area of 24,084 km^2. This protects poorly represented vegetation classes – Dry Evergreen Forest in West Lunga and Miombo Woodland in Kafue National Park. The project employs a landscape approach. Thus, Component 1, which is focused on the core National Parks, is fully integrated with Component 2 which focuses on the buffer-zone Game Management Areas through improved, incentive-led land use planning, governance, management, valorisation and monitoring. Strengthening the PA estate is also important for climate change mitigation – Zambia's forests are the 6th largest carbon reservoir globally[78].

131. **Component 1 has the following Outputs:**

1.1 Develop a strategy for improved management effectiveness and increased revenues for KNP and WLNP;

1.2 Increase PA Revenue;

1.3 Strengthening management operations (patrolling, wildlife monitoring, fire control, support to CBNRM) and performance effectiveness;

1.4 Management and monitoring of fire, biodiversity, and water

132. ***Output 1.1. Develop a strategy for improved management effectiveness and increased revenues for KNP and WLNP.*** ZAWA has established the Kafue Business Centre in Mumbwa to manage KNP as a devolved, independent cost centre following the example of South Luangwa and with the support of Norway and the World Bank (i.e. SEED Project). Activity based budgeting systems and performance management systems for law enforcement are in place. SEED improved the financial sustainability of KNP from near zero to 25%, with tourism revenues growing at 7-9% and reaching over $600,000 within five years (Annex 17). Detailed planning was completed by MCC for a major project, but this was dropped in favour of MCC investments in Lusaka's water supply. KNP has considerable potential for further growth beyond the point of financial viability (Annex 4), and significant planning effort into commercial options has already done by SEED and MCC. Growth is currently limited by insufficient investment in all-weather roads and infrastructure, complex procedures for investment[79], lack of pro-activeness in seeking flagship investors, and low (but recovering) wildlife populations.

133. **Output 1.1.1** will provide technical assistance in the form of a facilitator and PA financial and management expert to support an annual Project meeting (with key stakeholders) to review past performance and develop annual workplans and budgets as part of a sustainable financing plan for both KNP and the CBNRM/GMA Unit[80]. This annual meeting is the fulcrum of both adaptive management

[78] www.nicholas.duke.edu/institute/pb-redd.pdf

[79] DFID/World Bank (2011) What Would It Take for Zambia's Tourism Industry to Achieve Its Potential?

[80] It is anticipated that West Lunga NP will be developed as a PPP by 2014 as a continuation of previous initiatives

and performance-based management which is why it will be strengthened with technical assistance, both in the form of professional facilitation of the review and budget process and to provide wider regional/global experience in achieving financial and biodiversity goals simultaneously[81]. Particular emphasis will be placed on the participatory design of a logical framework and sustainable financing plan in the first year of the project that reflects both the Project intention (i.e. this document) and the experience of participants[82]. The outcome of the review and planning process will be an objective-orientated activity-based budgeting plan to contain costs, combined with measurable targets for the five key performance areas usually associated with PA management, namely

a. biodiversity monitoring and protection,

b. infrastructure maintenance and development,

c. tourism management and expansion,

d. community development and

e. managerial effectiveness[83].

134. **1.2 PA Revenue Increased.** An economic case will be built for KNP (with the support of TA). The objective of this TA will be to work with and train PA staff in PA financial and economic assessment, to calculate direct and total economic impact and job creation under realistic growth and investment assumptions, and to make a strong economic and operational case for long-term investment in GKNP. This financial and economic plan, supported by evidence that sound management and financial systems are in place (output1.1), will be used to justify to Government (Ministry of Finance) earmarked funding to cover the operational shortfall (approximately $1.5-2.5m annually[84]) and make the required capital investment (c$10-20 million over five years) needed to bring KNP to financial viability with at least 1,200 tourism beds in the next 10-15 years.

135. Tourism investments, and the process of enticing large flagship investors, require specialist skills and personal connections. PA managers, moreover, are seldom trained in the highly specialised financial and economic aspects of tourism investments, or in contract negotiation or economic justification. Since there has been limited capitalisation and investment, financial management has been on short-term basis. [85].Technical assistance will provided to develop at least three new tourism contracts annually (36+ beds;

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funded by UNDP and German assistance. Output 1.1. will, if necessary, provide technical assistance to ZAWA to develop West Lunga National Park as a PPP; West Lunga has been brought back from the brink by the UNDP/German funding and requires support for resource protection and the development of its tourism resource.

[81] The development of similar systems in South Luangwa was not accidental. The annual performance based review and budget process was supported by (a) a qualified facilitator with significant experience in log-frames and project management (b) technical assistance with significant experience in economics, management and CBNRM and (c) keen interest from the Norwegian Embassy which ensured that there were sufficient resources for local-level planning, but also held local-level managers accountable for delivering on these plans.

[82] The logical framework approach is an excellent methodology for involving participants in the design of project indicators, and for building a project hypothesis, and when used properly can result in strong buy-in from diverse stakeholders, and similarly strong buy-in to peer-based performance management processes. This process was not possible in the design of the project, but should be implemented carefully within 3-6 months of project start up when key players are in place.

[83] This directly follows the strategy whereby South Luangwa, with the support of Norway, was brought to financial sustainability.

[84] Note that, since the earlier version of the PPG, the ZAWA DG has made a commitment to provide this level of funding through the co-financing letter. Note, nonetheless, the importance of developing a sound financial sustainability plan based on the potential economic and employment impact of GKNP.

[85] A 'financial' outcome uses market prices and is done from the perspective of an individual of organization. By contrast, an 'economic' outcome is done from the perspective of society and is much more holistic. It includes economic multipliers (e.g. for every $1 in park fees, there are $6-10 in direct income plus $6-10 in employment and

incremental annual income of $65,000 assuming 150 days season x 40% occupancy x total park fees of $30 per bed night) to ensure that revenues increase by 10% annually. Opportunities to entice a flagship investor should be prioritized. In support of this, additional TA and capacity-building will be provided by the project to train 25 PA managers in sound economic, financial and contract management of PAs and GMAs so that commercial and economic management principles are internalised in the PA corporate culture.

136. **Output 1.3 Strengthening management operations (patrolling, wildlife monitoring, fire control, support to CBNRM) and performance effectiveness.** Greater KNP has some 170 uniformed patrol scouts and supports nearly 200 Village Scouts (Annex 17, 18). Assuming 10-20 days of patrols monthly per wildlife police officer, this amounts to some 60,000 patrol days annually. Kafue NP has a well-developed law enforcement monitoring systems, and while these are currently affected by operational constraints promised co-financing from ZAWA will resolve these shortfalls. The Project will provide Technical Assistance to further strengthen these evidence-based performance pay LE systems, and it is highly likely that they can be used to develop a regional best practice model and training at a time when elephant and other poaching is increasing across the continent[86]. In support of this, $100,000 will be provided to catalyse and incentivize patrol best practice[87]. This provides only very partial funding of an effective performance-based LE system[88], but is intended to provide the template and impetus for additional performance-related payment systems supported by ZAWA/Government funds. Formal training (e.g. SAWC, or Executive Masters-type courses) will be provided both to improve LE management at field and supervision level, and as an incentive and career-development strategy for LE managers. Four vehicles will be provided to enhance patrol management in the greater KNP, with computers for the monitoring system.

137. With no revenue base in West Lunga, financial support will be provided for 38 Village Scouts to undertake 15 days patrolling each month in the GMAs around West Lunga NP. Scouts will be paid $10 (ZAWA to confirm amount) for each patrol day that is properly conducted and reported through the MOMS system, and this system will be phased out as the proposed PPP takes hold. This reduces the risk of the progress that has been made in resuscitating this PA from being lost in the transition from recovery funding through REMNPAS/German funding and a PPP becoming active. As noted above, it is anticipated that the sustainability of the greater West Lunga will be achieved through a PPP.

138. Patrol bonuses will be available to Village Scouts in the greater KNP but at a lower rate (c$5/effective patrol day). This will enhance the financing of resource protection to enable the GMAs to increase self-financing. It is expected that records will show that wildlife sightings increase by 5% annually on the basis of well-organized patrolling, and that illegal tree cutting and burning is reduced by 50%. This increase in wildlife and forest protection will provide the basis for further commercial development and sustainability of GMAs through trophy hunting, tourism and REDD+.

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economic upstream and downstream multipliers). It also uses economically corrected prices (i.e. remove subsidies, effects of market distortions, etc.), and it prices in the value of goods like ecosystem services.

[86] This will be done in partnership with Copperbelt University and SAWC and the NORHED project. Both GTZ and KfW are in the process of developing capacity-building projects for SADC TFCAs and for ZAWA and linkages with these initiatives will also be developed. KfW is investing some $15m in field ranger training in TFCAs in SADC, with KAZA TFCA being a focal area.

[87] Further 'performance pay' for patrol effort and effectiveness should be prioritized in a request to Treasury for annual recurrent expenditure.

[88] However, performance-based systems require on-going support and analysis. For instance, there is anecdotal evidence that the current policy of requiring patrol scouts to fulfill a target of 20 patrol days by staying out for 20 nights is losing effectiveness. This reflects the danger of simply reaching targets (i.e. 20 patrol days/scout). It is also the outcome of the logistical challenge of there being inadequate transport and fuel for patrol deployment. Performance management systems need to guard against such problems.

139. The SEED project and other initiatives supported the training of KNP staff through SAWC. This has clearly improved the capabilities and dedication of KNP staff, and the capacity of middle/upper level PA staff is quite promising. Based on these positive lessons, support will be provided to further upgrade PA staff in ways that are directly linked to PA and GMA targets. Training will include specific accredited professional short courses and certificate training that are linked to on-the-job experiential learning at accredited institutions like SAWC, as well as appropriate graduate training (e.g. block release executive Masters in PA management) in Zambia and the region. Gaps in PA training have been identified, and initiatives are underway to address these[89]. Gaps that need to be filled include: administering performance based law enforcement, monitoring biodiversity indicators, economic principles and tools for PA management, CBNRM economics and governance, PPPs and contract negotiation, tourism management and monitoring, managing evidence-based stakeholder processes, performance management, CBNRM governance and REDD.

140. **Output 1.4 Management and monitoring of fire, biodiversity and water**. On average, 55% of KNP burns annually (i.e. 1,.253 million hectares equivalent to 1.6m tCO^2, and worth c$13.2m) compared to 25% of the northern GMAs. No data is available for West Lunga. Excessive burning of KNP is caused by patrol scouts, poachers, and fishermen (both legal and illegal). TNC (with TNC Arkansas) currently assists KNP with fire control and satellite monitoring of fires. The project will provide additional funding to assist the PA to develop a fire policy and stakeholder education initiative with awareness training on fire objectives and management strategies to PA staff, fishermen and other PA users. The Project will support the maintenance and development of firebreaks that facilitate an early burning regime (Annex 8) including improving all-weather access to the Park using equipment procured by KNP through the SEED project. Improved access through all-weather tracks is also critical for tourism expansion and patrol deployment (Annex 17). The effectiveness of the fire management strategy will be monitored through annual ground and remote sensing surveys and reporting, including research into key problems and opportunities, e.g. fire in the Busanga Plains and possible burning of peat beds.

141. The Project will build long term capacity by enabling 10 staff to undertake appropriate training each year related to the five key performance areas for PA management – law enforcement and biodiversity/wildlife monitoring; infrastructure management; tourism; CBNRM; and operational and financial management. The project will fund a wildlife aerial survey in Y1 and Y4 of the project using standard methods as in the 2008 survey, and is an important indicator of project progress. To support the development of a PES water programme with ZESCO, a study and consultation will be conducted in Y2 and Y3 of the project in partnership with key water users to determine the technical aspects of conservation versus degradation of the GKNP catchments and to link this to payments for ecosystem services[90].

142. ***Component 2*** aims to achieve

> ***"Sustainable land and forest management by "Community Conservancies" in GMA buffer areas through selected CBNRM practices "***

89 KfW has recently undertaken a "Training Needs assessment for the development of Trans-boundary Conservation and Management of Natural Resources in TFCA's of the SADC Region". This shows that adequate certificate training is provided at regional institutions like SAWC, Mushandike, Polytechnic of Namibia and so on, with gaps in CBNRM, governance, economics and stakeholder processes. Graduate training is focused on research and biology, leaving a significant need to develop appropriate training in practical subjects like governance, economics, and evidence-based stakeholder management. There are initiatives in the region that are attempting to fill this gap, for example a consortium of Universities including Copperbelt, Stellenbosch and Norwegian University of Life Sciences and Southern African Wildlife College that has just been awarded a NORHED Grant to do so.

90 WWF, supported by WWF-Netherlands has spent many years developing water models and plans for the Kafue river and Kafue Flats ecosystems. This has led to ZESCO implementing a more 'natural' water regime at the Itezhi-tezhi impoundment. The scope for WWF to play a role developing PES needs to be investigated during the project.

143. Building on the core institutional strengthening efforts proposed under Component 1, Component 2 offers a transformative approach towards the preservation and management of large areas of indigenous forests and wildlife within "Community Conservancies" in GMA buffer areas through the piloting of selected CBNRM practices. It is now clear that unless a sound CBNRM system with strong property rights, revenue retention, and governance is established soon in the GMAs, options for a high value bio-economy will be lost across the Greater Kafue ecosystem and forests and wildlife will be replaced by low-value subsistence farming. This uses large areas of land with few benefits because of poor farming techniques and fragmented settlement patterns. An important development is that ZAWA, working with Traditional Chiefs, have used land use plans and the law courts to control illegal settlement in areas zoned for protection by relocating new settlers to development zones. Moreover as regards preventing forest degradation in Kafue GMAs, the focus of government has now turned towards sustainable land use planning; promotion of conservation agriculture to decrease land clearing; law enforcement and control of in-migration; and financial incentives through REDD pilots as alternatives to stop deforestation (and nascent charcoal production in the these areas before it becomes a dominant land use activity).

144. In light of the baseline scenario, Component #2 will therefore focus on piloting interventions to address the three main drivers of deforestation and degradation in the targeted GMAs, namely: unplanned and unsustainable agricultural expansion and practices (with in-migration a corollary trend); unsustainable firewood collection and SFM governance; and late season fires and poor fire management monitoring and practices.

145. Rigorously constituted Village Action Groups with clear boundaries will provide the foundation for a bottom-up community-based approach to the integrated and sustainable management of forests (including REDD+ pilots), wildlife, agriculture and livelihoods[91]. Measures will be taken to strengthen tenure, rights and revenue retention at VAG level. The Project will focus on establishing exceptionally well governed VAGs as the institutional building block for integrated resource management. These VAGs and their members will receive direct benefits, including household cash, from sustainable resource management. They will be responsible for land use planning, achieving REDD+ criteria, resource protection and monitoring. The Vision is for villages to obtain title and to govern themselves face-to-face democratically as legally constituted Village Companies.

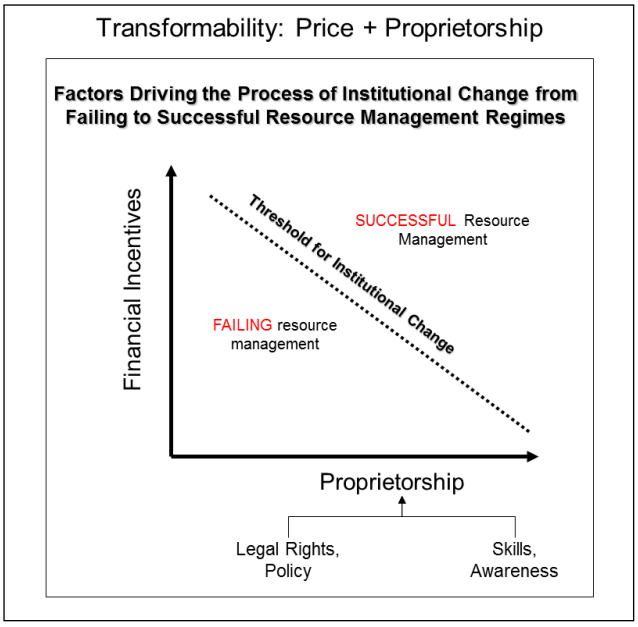
146. This follows on from the example, described above, of the reform of wildlife policy in southern Africa. This institutional reform has a strong theoretical basis in common property theory, new institutional economics, and resource pricing and allocation theory. It emphasises resource proprietorship through (1) the devolution of the rights to benefit, manage, sell and protect wildlife and forests to landholders. It increases the value of wild resources by (2) encouraging sustainable, inclusive, ethical markets for wildlife and wildlife products. It also aims to (3) remove differential taxation and regulation that disadvantaged wild versus domestic commodities. Application of these principles has led to an impressive recovery of wildlife on private land[92,93]. These "sustainable use policies" are applicable to

[91] This strategy is informed by the theories of New Institutional Economics (i.e. North, Williamson, Beinhocker, Ostrom, etc.). Acemoglu and Robinson argue coherently that the historic problem of the "dual economy" arises where communal lands are disenfranchised and deinstitutionalised as a way of extracting labour and resources towards the 'modern' economy. Similarly, inclusive governance and free markets are at the heart of unprecedented global wealth, and are built around a substantial shift in the political economy of (wild) resources from a top-down extractive economy (Rule by Man) to bottom-up, inclusive systems (Rule of Law) that rely on democratic choice and inclusive free markets. A detailed description of how colonial powers, especially South Africa's apartheid system, de-institutionalised communal lands to facilitate extractive regimes is provided by Acemoglu, D. and J. A. Robinson (2012). Why Nations Fail: The Origins of Power, Prosperity, and Poverty New York, Random House.

[92] These points are emphasised by the report, Phyllis Simasiku, Hopeson Simwanza, Gelson Tembo, Sushenjit Bandyopadhyay and Jean-Michel Pavy (2008) *The Impact of Wildlife management Policies on Communities and Conservation in Game Management Areas in Zambia, Message to Policy Makers*, Natural Resources Consultative Forum. This report contains a lot of useful data and analysis.

communal lands provided the additional challenge of effective micro-governance is addressed to ensure equitable participation and benefit sharing, and to prevent elite capture. Component 2 mirrors successful examples of private and communal land sustainable conservation in southern Africa. These seek to return 100% of revenues from wildlife to private landholders and "producer communities" and to establish a virtuous circle of inclusive governance, sustainable natural resource use and community benefit[9-13].

147. The project strategy builds on Bond's[94] observation that the shift from failing to successful natural resource governance regimes requires "re-institutionalization" through a minimum combination of (1) proprietary rights and (2) benefits, as illustrated to the right. According to recent best practice, proprietorship (or the shift from state ownership to ownership by local people) is the foundation of good forest governance, and is central to sustainable management, inclusive governance and citizen empowerment[95]. The success of this Component therefore rests on (1) greatly strengthening tenure rights, revenue retention and governance at VAG level[96] and (2) generating sustainable benefits at household level.



148. The first step in establishing sound micro-institutions includes clearly defining VAG boundaries and rights, and establishing sound financial and technical governance systems to manage these rights and the benefits and responsibilities flowing from them. Sound VAG governance provides the platform for improving the planning, management, monitoring and protection of forests and wildlife, and also for valorizing these resources through improved planning of concession areas, marketing and PPPs.

149. The project recognises that social justice is integral to sustainable land use: Local people live in forests and should be responsible for managing them, and local people bear the costs of living with wildlife and should be the primary beneficiaries and managers of wildlife of their land. Key success indicators are improved livelihoods at household level, and improved pluralism in decision-making including the participation of women. The project will therefore monitor livelihoods with the clear objective of improving benefits at household level. It will monitor that most people are participating in decision making at village level (especially the allocation and sharing of benefits). It will also monitor that women are participating equally in

[93] In South Africa, for example, wildlife populations increased from 575,000 animals in 1964 to 18.6 million animals in 2007[7], whereas without reforms of legislation and policy introduced by the Colonial powers in the early 1900s (e.g. Kenya) wildlife populations fell 70%

[94] Bond, I. (1999). CAMPFIRE as a vehicle for sustainable rural development in the Semi arid communal lands of Zimbabwe: Incentives for institutional change. Harare, University of Zimbabwe. Ph.D.

[95] See the proceedings of: ITTO (2009). Owning Africa's Forests, International Conference on Forest Tenure, Governance and Enterprise: New Opportunities for Central and West Africa, Tropical Forest Update 19(2).

[96] In developing the conceptual basis of effective CBNRM, Murphree states that "Authority is a pre-requisite for responsible management and should not be held out as a reward for it" and also that "For long-term sustainability CBNRM requires a fundamental shift in national policies on tenure in communal lands. The core of the matter is strong property rights for collective communal units – not only over wildlife and other natural resources – but over the land itself", Martin, R. in *Beyond Proprietorship. Murphree's Laws on Community-Based Natural Resource Management in Southern Africa* (eds B.B. Mukamuri, J.M. Manjengwa, & S. Anstey) 7-28 (Weaver Press, 2009).

governance and benefit sharing, and that SFM pays special attention to natural resources and activities that are important to women, including firewood and non-timber forest products (NTFPs).

150. Equity and inclusive development (including gender issues) will be emphasised and adequately addressed throughout the project, and especially through the CBNRM initiative. The Project Manager and CBNRM Manager will be expected to promote, monitor and report on gender and equity issues, including equitable benefit sharing. They will ensure that gender (and equity) issues are tracked and that project review and planning processes respond to this information. Gender is included as a log-frame indicator to ensure it gets continual review and attention during implementation. The project should promote and mentor female participation at all levels, and include gender issues in livelihood monitoring, governance tracking and other research and monitoring instruments. For example, new forest management practice may well have a differential impact on women (positive or negative), and these effects needs to be understood and managed for. Recruitment, research and stakeholder processes will be expected to promote equal opportunities and increased participation of women, both within the project and amongst stakeholder partners. The project focus on rural poverty (where women-headed households tend to be poorer) and on equitable participation and benefit sharing is also intended to promote gender equity as well as to improve livelihoods and participation in marginalised groups.

151. **Land Degradation Focal Area 3** and **Sustainable Forest Management/REDD+ Focal Area 1 and Climate Change Mitigation Focal Area 5** are addressed through Component 2. Sound micro-institutions will be established at VAG level to improve the governance and management of forest resources. They will work to reduce pressures on forest resources through a combination of land use planning, protection and enforcement measures by Village Scouts, VAG-level SFM/REDD+ pilots, Conservation Farming, improved wood fuel and fire management and sustainable wildlife utilization. The pressures on natural resources from competing land uses will be reduced through both institutional (i.e. clear boundaries) and managerial means (e.g. planning, protection and monitoring). This will generate a sustainable flow of forest ecosystem services from wildlife, forests, carbon markets and PES.

152. The proposed project area is summarised in **Table 4**. This includes three GMAs around West Lunga NP (7,790km2) (but not Chizera GMA in the corridor between the KNP and WLNP) and the five GMAs surrounding northern Kafue NP (128,818km2). The combined area of GMAs in the project is 41,297kms with 136,608 people.

153. National trends show an alarming degradation of wildlife habitat and carbon stocks – as well as a plethora of unsustainable land use practices – throughout the country's GMAs[97], with 12 of the 34 GMAs now classified as depleted in comparison to none in 1997 and land use conflicts widespread[98]. Moreover, people in GMAs have a livelihood income of only 70% of the national average. Through promoting integrated land use planning at VAG level with high levels of local participation, the project aims to halt the uncontrolled spread of unsustainable land uses, to protect high-value forest land in terms of new PA categories, and to promote sustainable land and forest management practices that increase incomes and directly address multi-dimensional poverty, i.e. livelihoods, opportunities and voice (in inclusive governance regimes). In the current Zambian policy environment, there are increasing pressures for decentralised approaches, and an effective way to facilitate this is to develop a working model of devolved natural resource management. The project has also been designed in line with GEF Investment Guidelines for Sustainable Forest Management and the REDD+ Programme. It supports the development of policies and regulations for SFM that complement existing UN-REDD activities. SFM challenge

[97] See the details report by Simasiku, P., Simwanza, H.I., Tembo, G., Bandyopadhyay, S., Pavy, J-M. (2008) *The Impact of Wildlife Management Policies on Communities and Conservation in Game Management Areas in Zambia: Message to Policy Makers.* National Resources Consultative Forum

[98] Zambia Environment Outlook, Environmental Council of Zambia, 2008

account funding will help to establish a sound policy environment to recognize the value of forest ecosystem functions and reduce GHG emissions from deforestation and forest degradation.

154. **Component 2 has the following Outputs broken down in two categories:**

A. Land use governance and planning in GMAs strengthened:

(i) VAGs acquire stronger rights and governance, management and monitoring systems improved

(ii) VAGs develop and implement Integrated Land Use Assessment plans linked to the national REDD readiness programme, delineating appropriate REDD compliance and MRV mechanism in VAG areas

(iii) Participatory and remote sensing monitoring system established for all VAG conservation areas, including updated biomass inventories

(iv) Increased revenues into selected VAGs improved through REDD pilots (via sale of offsets) and/or PES schemes

(v) Identification of potential buyers for the REDD+ carbon credits from the VAG pilots

(vi) Integrated support systems for CBNRM established through forums, training, capacity-building and evidence-based monitoring in all targeted GMAs

B. Land and forest resources managed more sustainably:

(i) Land use and forest conservation plans developed and adopted by all VAGs, supported and monitored by Kafue Central Business Unit (KBU)

(ii) Increased capacity of communities and partners (e.g. Forestry Department) through performance monitoring and training

(iii) Strengthened forest and wildlife patrolling and protection by Village Scouts

(iv) Fire control action plans adopted and in use in all VAGs

(vi) Introduction and testing of efficacy/suitability of conservation farming practices in 40 VAGs

(vii) Wood fuel collection zones established in all VAGs and coppicing best practices adopted

155. **Formally constitute communities and delineate boundaries at VAG level with devolved rights to benefit from, manage, sell and protect wildlife and forests**. At least 25 Village Action Groups (VAGs) in target areas will be formally recognized and constituted by Y2 with clear resource rights, delineation of legally recognized VAG boundaries and use zones, management structures and benefit sharing plans (in line with national REDD+ criteria) VAGS will be formally constituted in ways that are both legally recognized (i.e. Trusts, Conservancies, Village Companies) and following the principles of democratic, face-to-face, accountable participatory governance. Boundaries will be agreed and marked, and rights to use, manage, benefit from, sell and protect resources will be strengthened. Ideally, VAGs should receive 100% of revenues from both wild (forests, wildlife) and domestic (crops, livestock) resources. Governance guidelines will be developed for VAGs. These will entrench the rights of members to participate in decision-making, to have access to information, control the agenda and vote. Note that Copperbelt University in consortium with Southern African Wildlife College, Stellenbosch University and Norwegian University of Life Sciences recently won a $3.2m Norwegian Higher Education for Development (NORHED) grant that is specifically targeted at developing governance curricula and training materials and was intended to work in parallel with this project as a learning-by-doing laboratory.

156. **Establish effective participatory governance and financial management at VAG level and monitor conformance to CBNRM governance principles**. VAGs will be constituted following micro-

governance best practice. Constitutions will be developed that emphasise that the membership 'owns' the institution and therefore instructs the committee, and the criteria for accountable financial management will include face-to-face participatory budgeting, the use of activity-based budgets (with expenditure categories of member cash benefits, projects and activities, natural resource management, administrative overheads), and quarterly participatory variance analysis[99]. The CBNRM Unit will provide regular governance training at VAG level including member's rights, the constitution and its procedures, participatory financial management, gender, project planning, and sustainable resource management.

157. The CBNRM Unit will monitor the conformance of all VAGs to the principles set out in the guidelines, and only conforming VAGs will be eligible for grant funding. The CBNRM Unit will in turn have its capacity built experientially, both through regular annual planning and performance evaluation workshops and through accredited CBNRM courses in the region. Technical support will be provided to assist in planning, capacity-building of CBNRM staff, and in the development of guidelines and monitoring tools. As noted, a key function of the CBNRM Unit will be to monitor the conformance of each VAG to governance criteria using standard monitoring tools that incorporate quantity and quality of AGM and General Meetings, financial audits show expenditure is in line with budgets and properly presented to communities, annual elections, up-to-date membership lists, free choice lies with the members and is not imposed on them. Training strategies will target the "followership" to avoid differentially empowering an elitist "leadership" and will also ensure full participation of women and women's issues in training, meetings and leadership positions. Good governance ensures participation and empowerment of marginalised groups including women, and these improvements in these facets of governance will be subject to monitoring and performance assessments.

158. **VAGs develop and implement Integrated Land Use Assessment plans (ILUAPs) linked to the national REDD readiness programme, delineating appropriate REDD compliance and MRV mechanism in VAG areas.** ZAWA has already facilitated the development of "General Management Plans" for ten Community Resource Boards around KNP. The zoning in these plans provided the foundation for a major breakthrough in the control of resource use in GMAs, and a breakthrough Zambian court case where illegal settlers in community protected areas within GMAs were instructed to relocate to designated development zones in a process facilitated by ZAWA and chiefs. This process will be strengthened by developing ILUAPs at VAG level with high levels of local participation. A specific emphasis will be placed on aligning VAG ILUAPs with REDD+ criteria, MRV mechanisms and potential emissions payment schemes. These plans will zone wildlife and forest protected areas, as well as use zones and acceptable levels and modes of use of forest products. Sustainable firewood harvesting practices will be designed and will be included in VAG plans. Importantly, the plans will be required to define the criteria by which the performance and implementation of these plans can be assessed, e.g. patrol days, status of forests and wildlife, incidents of illegal use of wildlife and forests, restriction of settlement to designated zones, wood harvesting, use of charcoal, and management zones and criteria, etc. Technical assistance will assist the planning process to simplify plans to a level where both zoning and performance criteria are easily understood by community members[100].

159. **Participatory and remote sensing monitoring system established for all VAG conservation areas, including updated biomass inventories** Monitoring and enforcement of land use plans is essential. The 200+ Village Scouts will be trained and tasked to do this. Significant effort will be invested in designing a village-based monitoring system using participatory technology development and

[99] A full description of inclusive VAG constitutions and participatory financial accountability is provided by Child B and Wojcik D (2013) Manual on Micro-Governance in Community-Based Natural Resource Management in Southern Africa: Enhancing Capacity at the Local Level (in press)

[100] A good example to follow is the Land Use Plans developed in the Namibian CBNRM programme. These take the form of a single poster, including zonation and performance targets.

the locally 'owned' and implemented Management Orientated Monitoring System developed by WWF in Namibia[101]. Village Scouts (200) will be trained to use MOMS, with additional monitoring modules being added over time and with experience. Impact of changes and/or restrictions in forest use on household livelihoods, including differential impact on women and marginalised groups, will be monitored to provide information to enhance adaptation measures (see above). In addition to the CBNRM Unit, ZAWA plays an important role in supervising Village Scout operations in the GMAs, and will be provided an additional 2 4x4 vehicles and an operational budget specifically for this purpose. The operational budget will partly support 200 Village Scouts undertaking 15 patrol days/ month on a performance basis. Remote sensing systems will also be introduced and used.

160. **Increased revenues into selected VAGs improved through REDD pilots (via sale of offsets) and/or PES schemes.** The PPG studies (see Annex 6) specifically assessed the applicability of REDD+ interventions in the targeted GMAs and noted that measures such as improved fire management, conservation agriculture and efficient wood fuel collection practices would be complementary to a REDD+ project intervention, which would generate revenue for decentralized village committees in return for increased protection of forest resources and ecosystem carbon stocks. It was confirmed that the primary challenges to establishing a sustainable REDD+/SFM intervention will include managing the uncertainties of land tenure in GMAs and ensuring the full participation in and acceptance of the project by affected communities. By involving communities in activities complementary to a REDD+ project – such as undertaking forest inventories, anti-poaching and logging patrols, improved fire management strategies and promotion of conservation agriculture – risks and management costs of the project can be reduced while simultaneously contributing to household income, maximizing community participation in the project, and building local and national capacity for natural resource management. It now seems feasible in Zambia to have multiple layers of groupings within a nested REDD system, whereby the lowest level of accounting could be that of an individual village and community conservancy forest under a system such as Zambia's decentralized Community Resource Boards (CRBs) and VAGs. It is clear that the success of a REDD+ mechanism at the sub-national level (including within GMAs) depends on the ability of the numerous villages to effectively manage their own forest resources. Engagement with traditional administration (Chiefs and Headmen) is essential for the long-term sustainability of REDD+ initiatives. This is a major challenge for any REDD+ project because without clear and defensible rights to land or forest services, local communities cannot make a credible commitment to supply emission units.

161. Under Component #2 at least 25 VAGs in the targeted GMAs will be selected for establishing REDD+ pilots. Each VAG will take responsibility to protect at least 1,000 ha of intact forest (with no net loss) over the project period. If these are carefully designed and zoned this will leverage the protection of a further 3,000 ha in each VAG. The piloting of REDD+ under the Project will aim to build the capacity of small holders and GMA participatory forest management communities through the establishment and training of elected VAG committees, and by working with communities to:

- Strengthen tenurial authority via mapping and boundary demarcation of VAG target areas;

- Develop land use and forest conservation plans, supported and monitored by Kafue Central Business Unit (KBC);

- Strengthen forest and wildlife patrolling and protection by Village Scouts;

- Develop fire control action plans;

- Establish wood fuel collection zones and application of coppicing best practices for fuel wood extraction; and

[101] Stuart-Hill, G., R. Diggle, et al. (2005). "The Event Book System: a community-based natural resource monitoring system from Namibia." Biodiversity and Conservation 14: 2611-2631.

- Develop systems for annual carbon stock monitoring and reporting,

162. An important goal of the project is to integrate REDD+ readiness into governance, benefit-sharing and land use management at VAG level. Micro-grants will be utilized to mimic carbon markets and to develop a payment-for-performance system. In selected VAGs, forest protection and forest use zones will be established for trial REDD payments. Technical details drawing on global experiences, including Asia, are provided in Annex 12. A consultant familiar with REDD+ criteria will work with the CBNRM team and pilot VAGs to clearly define Reference Emission Levels (RELs) and VERs. This will be integrated into VAG-level land use planning and monitoring systems (MOMS), and criteria for Certificates of Emissions Reduction will be defined in ways that communities can understand. One of the objectives of the project is to learn adaptively how to combine field surveys coupled with remote sensing to assess performance in terms of carbon stocks. Payments will be made based on annual performance assessments. As with income from wildlife and domestic crops and livestock, VAG communities will have full discretion in the allocation of natural resource income provided they conform with governance criteria (see Annex 5).

163. On an annual basis, an assessment of the VAG forests will be conducted using these standards, in collaboration with remote sensing by the Management Information Unit in the Kafue Business Centre. Depending on performance against the criteria that the project will develop, VAGs will receive grants up to the value of $10,000 per year. Co-funding will be sought to increase the magnitude of these grants. The overlying purpose is to trail a REDD+ strategy to enable VAGs to be eligible for funding through global carbon markets. Grants will be based on technical emission criteria and also on governance criteria. Grants have three purposes: to enhance village management to achieve SFM and REDD+ performance criteria; to establish accountable micro-governance; and as household/member compensation for effective forest management (i.e. a form of PES).

164. The size of the micro-grants received by each community will depend on technical performance criteria that measure REDD+ emissions reduction performance. The grants will be used to incentivise forest conservation and to establish high levels of micro-governance. The objective is to obtain gold certification under the Climate, Community, and Biodiversity (CCB) standard, and to use this accreditation to help local community's access carbon finance in their efforts to safeguard biologically-rich forests. The likelihood of project success is enhanced because many of the VAGS will be able to sustain themselves by protecting and selling wildlife, but the intention is to diversify their economic foundation through carbon payments and the sustainable local use of forest products. Discussions with tour operators indicate a willingness to initiate voluntary conservation/carbon payments at a local scale. These direct linkages between tourism operators and strategically located SFM will be encouraged, for example with tourists providing voluntary offsets for their travel and these payments being targeted at community forests that are strategically located in buffer zones. A likely example of this between Mukambi Lodge and Mumbwa community is discussed in annex 14.

165. The establishment of the criteria and operationalization of the micro-grant scheme will be done in accordance with UNDP's Guidance on Micro-Capital Grants policy and guidelines. This component will also assist in identifying a potential buyer of the REDD+ credits, in collaboration with the development of a future national REDD registry in Zambia (one of the future priorities of the climate change secretariat). As regards identification of a buyer the project will liaise with the Lower Zambezi REDD+ Project managed by Bio Carbon Partners, who have successfully achieved CCB status and secured a buyer for their credits.

166. A full justification and assessment of the proposed incremental benefits of the REDD+ activities at the VAG level can be found in Annexes 6 and 12 of the Prodoc.

167. **In conjunction with the REDD+ pilots a** set of expanded site-specific CCM measures has been proposed under Component #2 to establish effective CBNRM and generate multiple GEBs across the targeted GMA buffer zones**. The three main types of CCM activities to be piloted are as follows:**

1) Fire control action plans adopted and in use in all VAGs

2) Introduction and testing of efficacy/suitability of conservation farming practices in 40 VAGs

3) Wood fuel collection zones established in all VAGs and coppicing best practices adopted

As regards activities under (1) fire control action plans will be adopted and put in use in all VAGs. As a result of implementing these plans fire losses will be reduced by at least 30% in GMA zones annually through fire protection practices (boundary and firebreak management, early burning, etc), land use planning, patrolling and education. These activities will result in a reduced incidence of late-season fires and lead to a reduction of avoided emissions of 69,170 t CO2/per annum in all GMA targeted zones. The resulting direct lifetime avoided t CO2 emissions (over 20 years) from these activities compared to a BAU scenario (in GMA zones) = 1,383,394 tCO2e [Note: this figure is only for avoided emissions in targeted KNP GMAs and excludes WLNP GMAs because of lack of data . If the calculations also included avoided emissions from reductions in late-season fires annually in the core PA zones of KNP the direct lifetime avoided t CO2 emissions from these activities would increase to 10.73 million tCO2e]

As regards conservation farming, this is a practice that is well established in Zambia, and can be rapidly expanded to the project area by providing additional operational budget to the Conservation Farming Unit on a per household contract – overheads and technology development costs are already supported by donors including a sixteen year investment by the Norwegians. The Conservation Farming Unit has 20 staff in Mumbwa and four in TBZ/Mufunta, and has already established extension methodologies and farm input supply packages. CFU will be contracted to provide agricultural extension and training to at least 40 demonstration farmers in 40 VAGs. The CBNRM Support Unit will ensure that these efforts are integrated with SFM, land use planning and renewable energy technologies. The claims for the effectiveness of Conservation Farming are widespread (See Annex 9) so confidence in these results will be strengthened by monitoring a matched set of 50 farmers that adopt conservation farming and 50 that do not to quantify and qualify benefits. It is expected that at least 3,760 ha of land will be brought under conservation farming practices by at least 1,600 HH (in 40 VAGs) by end of project.

The introduction of conservation farming practices will lead to improved soil organic matter and field intensification across 3,760 hectares leading to:

- 40% reduction in cumulative CO2 emissions from vegetation clearance for agriculture

- 7,520 ha of avoided deforestation in targeted areas

- Resulting decrease in direct lifetime avoided t CO2 emissions from clearance of vegetation for agriculture (20 years) in that same landscape = 988,128 tCO2e compared to BAU scenario

In terms of activities under activity (3) designated zones for fuel wood collection will be established for optimizing SFM (and testing different 'treatments'). Linked to land use planning, experimental fuel wood management and collection zones will be established in 25 VAGs; systems boundaries for VAGs will be defined; and alternative operational modalities for fuel wood harvesting and use will be applied (including coppicing). Working with the Copperbelt University, the 25 VAGs will be trained in harvesting and coppice management and will each establish an auditable fuel wood use and CFM plan. The direct avoided emission savings from the activities mentioned above are based on the following conservative assumptions:

- Equivalent area of Miombo woodland deforested to generate fuel (ha) in target VAG zones in BAU scenario = 482 ha

- Average CO2 emission from conversion of woodland for fuel use (t CO2/ha) = 131.4

This will lead to direct lifetime avoided emissions savings of 63,281 tCO2e (20 years) compared to fuel wood usage in a BAU scenario

2.6. Key indicators, risks and risk mitigation

4) The key indicators are as follows:

- **Objective:** Sustainable Land and Forest Management is established in Miombo Woodland and Dry Evergreen Forest ecosystems in PA Core areas and Community managed GMAs and conservancies covering an area of 65,461 km^2 including target GMAs consisting of Mumbwa, Namwala, Mufunta, Kasonso-Busanga, and Lunga-Luswishi in Greater Kafue NP, and Lukwawa, Musele- Matembo and Chibwika-Ntambu in West Lunga Management Area enabling forest corridor connectivity between WLNP and KNP in the long term;

- **Component 1:** (i) Increase in Management Effectiveness Tracking Tool; (ii) wildlife stocking rates; (iii) reduced area burned annually; (iv) reduced GHG emissions from fire (v) reduction in funding gap of the targeted National Parks moving up one category (based on REMNPAS financial viability assessment) with at least one new PPP formed as a result of this project; (vi) PES maintaining watershed / river catchments by communities in KNP benefitting ZESCO

- **Component 2:** (i) "Community Conservancies"; (ii) VAGs legally established; (iii) ILUA plans completed for all VAGs; (iv) At least 40% Women representation in VAGs and increased per capita household income; (v) Conservation farming practices applied in targeted GMAs with Increased yields; (vi) Demonstration of avoided deforestation (no net loss) in at least 25 VAGs establishing REDD pilots linking to national and/or voluntary carbon financing; (vii) Reduced rate of deforestation from fuel wood extraction in all targeted GMAs; and (viii) Reduced rate of deforestation from late season fires in targeted GMA zones.

5) Project risks are summarized in table 10.

Table 10. Risk Assessment

The overall risk is medium-high

Risk	Rating	Risk Mitigation Measure
This is a multi-faceted and complex project. Leadership from ZAWA and Forestry Department is uncertain in a climate of Ministerial reorganization and turnover	M	The Project is designed as a decentralized intervention, with a strong emphasis on performance targets, monitoring and capacity building (including Copperbelt University) specifically to obviate potential barriers caused by centralized management, much the way that has proven successful for SLAMU. This decentralized approach received strong support from the stakeholder meeting.
Failure to maximize value of wildlife, and to return benefit to the producer land unit (i.e. PAs, or CBNRM community) because of weak concessioning, hunting bans, absence of fiscal devolution, etc.	M	The Project is designed to bring KNP towards financial sustainability through tourism/PPP expansion and co-financing from GRZ. This is intended to release hunting revenues from ZAWA so they can be applied directly to CBNRM communities. The importance of fiscal devolution is currently an important policy topic at various stakeholder forums in Zambia, and change is supported by the new government. UNDP is currently supporting a review and revision of the administration of Zambia's hunting sector, which is an important source of funding for GMAs. To address these risk, the Project provides TA and training related to PPPs, concessioning, wildlife economics, forests, PES, etc.
Landscape planning and subsequent implementation of plan will be affected by institutional inflexibility, reducing collaborative efforts between PAs,	L/M	ZAWA and Forestry Department have selected to work in landscapes where this risk will be muted. The Project builds on strong Government will to strengthen management of natural resource management in the North Western province, and on significant initial progress in land use planning and their

District Councils and Villages.		enforcement in two GMAs in project sites. The project will invest in building grassroots institutions, and to 'coordinate' landscape planning from the bottom. It will provide training to participants in natural resource governance and economics, will provide effective multi-faceted monitoring, will establish economic arguments for managing the trade-offs between wildlife, forestry, tourism, agriculture and other land uses. Developing understanding of the economics of ecosystem services and governance will increase the prospects that institutions will find common ground.
Climate change could lead to changed distributions of BD components, and changes in community and private sector demands on wildlife and forest resources.	L	A focus on landscapes (as opposed to small patches), with sufficient buffer zone protection militates against short-term change and ensures ecosystem resilience. The maintenance of forest cover is a good adaptation policy in the face of uncertainty (because rainfall in this region is expected to change; the maintenance of watershed integrity is critical to avoid major floods). The focus on building VAG-level institutions is specifically designed to improve climate adaptability at the lowest level, and this will be supported by monitoring and evidence-based management.
Significant increases in externally driven pressures on forest and protected area resources e.g. logging pressures, mining, poaching	M	The project will make use of the steering committee to foster a common goal and prevent conflicts of land use interest across sectors. ZAWA through the project and in partnership with other NRM institutions will develop protocols for the management of macro-level development projects that may pose a threat to the project area. This project will also work at a landscape level, with a focus on governance processes in the PAs, GMAs and forested areas within GMAs. An important focus is the delineation and formalization of village boundaries and rights to mitigate against unplanned settlement, in-migration and resource use. Mining and logging concessions will be dealt with in land-use plans and areas identified where these activities can take place. In addition the Project will strengthen law enforcement and monitoring in PAs and GMAs
Mining expansion and road construction pose a serious threat to the achievement of project outcomes. Licenses for mineral exploration have been granted for areas near West Lunga.	H	As regards subsidiary negative environmental effects from both road construction and copper mining in the targeted sites, this will be addressed via improved governance, monitoring and law enforcement under Component #1 and other parallel government initiatives on accountability in the extractive industries sector. For example as regards efforts to control unsustainable mining, UNDP has just launched a new Regional Project (USD $10 million in core funding) on "Harnessing Extractive Industries for Human Development in Sub-Saharan Africa". This project was formulated through an extensive consultative process, internally and externally, and seeks to contribute to address the risks and opportunities for sustainable development associated with the exploration of extractive resources (minerals, oil and gas) in countries such as Zambia. That project will facilitate the implementation of the African Union's Mining Vision including the establishment of African Mineral Development Centre (AMDC). The project will establish a Rapid Response Facility to provide catalytic support to UNDP country offices (Zambia is one of the candidate countries), complementing national efforts to enhance linkages between human development and extractive industries.
Another project risk is the possible collapse of the carbon markets or a drop in the carbon prices. This will reduce the benefits accrued to the communities but will not affect the GEBs to be accrued from the project.	M	With regards to the carbon finance component, the control of the carbon markets is beyond the scope of this project but alternatives to a failure in the compliance markets regulated under the UNFCCC will leave the option of voluntary markets. For example the Lower Zambezi REDD+ project – the first of its kind in Zambia – has been able to conform to the Climate, Community and Biodiversity Standard (CCBS, Second Edition) and the Verified Carbon Standard (VCS, Version 3.3); this has in turn led it to secure premium prices for the monetization of its credits. A specific output has been added under Component #2 to identify a buyer for the carbon credits generated under the REDD pilots. Finally this risk will be buffered because VAGs rely not only on carbon financing, but also on income from wildlife (which is proven) and other revenue streams.

2.7. Cost-effectiveness and incremental activities and benefits

6) **Incremental activities and benefits**: Between 1970 and 2000, staffing and infrastructure in KNP (and, indeed, PAs generally in Zambia) was greatly neglected. By 2001, KNP had only some 70 personnel and four decrepit vehicles and was at risk of total depletion through poaching. Following their successful intervention in South Luangwa National Park, Norway funded a rescue operation in KNP. An innovative law enforcement system was introduced and funded by Norway whereby patrol scouts were paid $10/ effective patrol day, with a further $5 supporting PA operational costs and $2 supporting Chilanga HQ overhead costs. The introduction of a detailed law enforcement monitoring system and performance-based pay systems (plus a minimum provision of vehicles, uniforms and basic equipment), rapidly brought poaching under control. Importantly, the cost of the bottom-up performance-based pay anti-poaching system was approximately 25% of the initial cost estimate of a more conventional approach. With this success, but especially the success of the SLAMU as a decentralised revenue-retaining cost centre, Norway combined with the World Bank to redevelop KNP through the SEED Project using a similar model. KNP was therefore developed as a cost centre (i.e. Kafue Business Centre), with Norway supporting operational costs and capacity-building and the World Bank providing funding for infrastructure and capital equipment. As noted in Annex 17, KNP income increased by 9% annually, earning $614,000 in 2011, so that the PA was 25% self-sustainable within five years of re-investment. The PA received considerable re-capitalization in the form of roads and road-building equipment. MCC proposed a $90m investment to further recapitalise KNP[102], but this project was ultimately dropped in favour of supporting the Lusaka Water Supply. Recognising the important biodiversity in KNP and its economic potential, GRZ has committed co-financing of $12,396,777 to KNP and WLNP over the next five years. With judicious management, this is sufficient to ensure resource protection in both PAs, and to support the continued growth of tourism; at present tourism growth rates, the PA will be roughly 50% self-sustaining by Y5 of this project, and will be self-sustaining within 15-20 years, noting that flagship investments at Lake Itezhi-tezhi or near Chunga could rapidly shorten this period. However, this income reflects PA entry fees only. Economically speaking, GRZ support of PA recurrent costs ($2m) can be easily justified in terms of tourism turnover and multipliers ($40-80m) and employment creation (activity 1.2).

7) West Lunga NP was in an even worse state than KNP when, through UNDP's REMNPAS (2006-12) project, supported by a further $2m German funding, the PA was stabilised and basic infrastructure provided.

8) The project builds on this foundation through the consolidation of objective-orientated performance-based management at Kafue Business Centre (activity 1.1), with a particular focus on accelerating PA capacity for self-financing (1.2). KNP's excellent law enforcement system shows signs of backsliding in a period of transition and uncertainty (i.e. significant changes in ZAWA and Zambia's political leadership; ending of SEED Project) and this Project will consolidate previous gains both to protect wildlife and to protect and consolidate new and fragile capacities at a critical period in PA maturation (1.3). In the case of West Lunga, support for law enforcement is provided but phased out in anticipation of this PA being managed through a PPP. The project also invests in developing infrastructure and systems for fire management, making use of road building plant procured under the SEED project, with the goal of leaving behind an improved road network (1.4). Three aerial surveys track the impact of these measures on wildlife biodiversity (1.6) while the potential for PES payments related to catchment management and the supply of water for the Itezhi-tezhi HEP station will be developed (1.7).

[102] Note that this cost estimate was based on the development of an extensive road network using specifications and cost assessments that were far higher than, for instance SLAMU. Note also that a demand survey suggested that potential customers said that this kind of infrastructure would reduce their willingness to pay.

9) Zambia was an early leader in CBNRM, with the ADMADE Project (approximately 1985-2000) and LIRDP/SLAMU (1985-2002) being quite successful[103]. However, much of this progress was squandered in the transition of the wildlife agency from a government department (i.e. NPWS) to a self-funding parastatal (i.e. ZAWA). This stemmed from the expectation that ZAWA would be re-capitalization from anticipated EU funding which never materialised. This undermined community viability, benefits and governance. Similarly in the forestry sector, the rhetoric of community participation and benefit was not translated into on-the-ground results. The outcome has been the emergence of significant threats to large areas of intact forest and biodiversity. Partly as a result of the magnitude of this threat, and the rural poverty associated with it, Zambia's new political regime is emphasising decentralised resource management and benefit. This, together with the need to respond to climate change, presents an important opportunity for a major reform in community land, forestry and wildlife management. Indeed, policy reform processes are underway in both the wildlife and forestry sector. This Project is a critical opportunity to support policy processes by demonstrating effective, devolved management of natural resources.

10) Intellectually, it further develops southern Africa's leadership in CBNRM, not least the lessons developed through ADMADE and LIRDP/SLAMU. In particular, it focuses on VAG-level governance and on moving beyond wildlife to incorporate SFM/REDD and Conservation Farming. The partnerships (and co-financing) provided by WWF and TNC are important success factors in this project. WWF has been prominent in CBNRM in southern Africa for two decades, not least in hosting Zambia's CBNRM forum. TNC, the World's largest conservation NGO takes a landscape approach, supports the highly successful Northern Rangelands Trust in Kenya, and now supports two GMAs adjacent to KNP (Mulobezi and Bbilili) at well as KNP itself.

11) Similarly, a consortium of Copperbelt University, the SADC-accredited Southern African Wildlife College, Stellenbosch University and Norwegian University of Life Sciences have recently been successful in obtaining a $3.2m Norwegian Higher Education for Development grant. The purpose of this grant is to develop PhD/Masters capacity in CBNRM, PA management, and particularly aspects of governance, economics and stakeholder management to fill a major regional (and Zambian) gap in problem-orientated research and management. Its methodology is to integrate research and training to field implementation through monitoring and adaptive learning. The NORHED project was developed in parallel with this GEF/UNDP project. Its intention is that much of the training and research will be in the GKNP, and it is not a coincidence that it prioritised key needs of this project – such as CBNRM governance, PA finance and economics, intelligent law enforcement, stakeholder management processes and so on.

12) For 18 years, Norway and other donors have been investing in Zambia's capacity to support Conservation Farming. Technical and input packages for Conservation Farming are now therefore available for a highly subsidised price of $40/farmer/year. With Norway having a specific programme to support Conservation farming in Itezhi-tezhi district, and with the Conservation Farming Unit established in Mumbwa and Mufunta GMAs, these benefits can be extended to this project at a very low cost.

13) These factors, including risks to forests and wildlife and their potential economic values, provide a critical juncture for a transformational change in the management of Communal areas/GMAs in Zambia. Therefore the project establishes a strong CBNRM Unit at Kafue Business Centre to drive these changes (activity 2.1) supported by the capacity to monitor outcomes and disseminate lessons. A key intervention is the formal constitution of VAGs (2.2a) and the building of institutions and capacities for inclusive micro-governance (2.2b). This provides the basis for developing and implementing VAG land use plans including resource protection and monitoring (2.2c) and for converting these into benefits

[103] A number of additional donor investments in CBNRM and Integrated Resourced Development Project (IRDPs) were less successful because they were not so carefully formulated, and also because they were implemented at a time when Zambia was re-centralising natural resource management.

through PPPs, REDD+ pilots and wildlife sales (2.2d). Support is provided to integrate conservation farming into land use (2.3). Given the global priority to climate change and adaptation, specific support is provided to define Reference Emission Levels (RELs) and VERs and community appropriate criteria for Certificates of Emissions Reduction. The combination of REDD compliant VAG land use plans, sound micro-governance and equitable benefit sharing places these communities in a strong position to seek gold certification under the Climate, Community, and Biodiversity (CCB) standard, and to use this accreditation to help local communities access carbon finance in their efforts to safeguard biologically-rich forests (2.4).

14) The proposed project is requesting a grant from the GEF, which will be used to support activities that are incremental to the existing baseline(s). The project is designed to lift barriers that are currently preventing the effective and sustainable management of the PA estate in Zambia, with its multiple benefits. First, the Project will leverage additional GRZ funding of KNP and WLNP, and assist in placing both PAs on a track towards managerial and financial sustainability. Second, the Project will support integrated resource management in GMAs at a critical juncture when a working model of CBNRM is well positioned to influence national outcomes.

15) Without this GEF intervention, there will be a continuing loss of globally significant biodiversity values and ecosystem services, as well as the loss over time of forest cover, resulting in increased carbon emissions released into the atmosphere. This will happen despite the considerable intervention of Government and other stakeholders in the area. The loss of forest cover and biodiversity will happen in three ways. Firstly, areas of intact natural forests and biodiversity significance will remain excluded from the core PA system (including VAG plans). Secondly, there will be increased isolation within core PAs, unless landscape planning provides for effective conservation management of dispersal areas and corridors. Thirdly, there will be increased pressures on the GMA buffer zones from resource-dependent communities, and reduced capacities / finance to provide adequate protection. Project interventions under GEF will add to, and support, Government's commitment to addressing these complex pressures and problems. The project will strengthen institutional capacities for PA and forest management primarily within ZAWA, Village Action Groups, and Copperbelt University, but also in district councils, the Forestry Department, the Community Resource Boards. The integrity of core PAs will be secured by improving technical and financial self-sufficiency, and by integrating their management with that of surrounding landscapes and corridors on production lands including Partnership Parks and Community Conserved Areas. This will increase the proportion of under-represented vegetation classes effectively conserved and help rebuild wildlife populations. Management effectiveness in Zambian NPs and GMAs has been shown to be positively correlated with increases in wildlife[104].

16) The baseline activities mentioned – while significant, particularly with regard to SEED investments in KNP – fall short of comprehensively addressing the challenges of sustainable land and forest management in the Zambian PA system and would benefit from an additional suite of complementary activities. The solution being proposed by this project is to strengthen the institutional and financial capacity of GKNP through ZAWA and local stakeholders living in GMAs – as well as provide them with the requisite planning tools and monitoring systems – to better address core drivers of resource degradation and provide for the long-term ecological, social and financial sustainability of the landscapes in which they live and operate. The project will develop capacity to apply, sustain and replicate innovative management practices across the PA estate through two complementary components.

17) The project will spend $13.1m to address multiple issues across 65,461 km2 inhabited by 160,000 people. The project is a complex and long term undertaking, designed to tests how the economy can be transformed from a centralised to a decentralised approach, and from an economy dependent on low-value (often environmentally destructive) subsistence agriculture and extractive institutions to a more

[104] Global Environment Facility (2010) Results of the GEF Biodiversity Portfolio Monitoring and Learning Review Mission, Zambia

efficient economy that makes better, more sustainable, inclusive use of wild resources and ecosystem services.

A summary of the baseline scenarios and incremental GEBs to be secured from the various interventions to be piloted under the project is described below.

Summary of Global Environment Benefits

<table>
<tr><th>Focal Area</th><th>Baseline Scenario</th><th>Incremental Global Environmental Benefits</th></tr>
<tr>
<td>BD 1: Improve sustainability of protected area systems</td>
<td>KNP and WLNP were seriously decapitalised and depleted but support from SEED and UNDP/German Projects has partly stabilized PAs with METT scores of 58% and 28% respectively
<table>
<tr><th rowspan="2">Forest Ecosystem type</th><th rowspan="2">Total area (km2)</th><th colspan="2">% under PA category that ensures BD Conservation*</th></tr>
<tr><th>B'line</th><th>Target</th></tr>
<tr><td>Miombo Woodlands</td><td>2,899</td><td>6.1%</td><td>7%</td></tr>
<tr><td>Dry Evergreen Forest</td><td>2,680</td><td>4.5%</td><td>11.7%</td></tr>
<tr><td>Total</td><td>5,579</td><td colspan="2"></td></tr>
</table>
Wildlife in GKNP stocked at 8.6% of estimated carrying capacity (using data from aerial surveys which is an undercount)

KNP is 25% self financing and WLNP 0% self financing
<table>
<tr><th>Scorecard section</th><th colspan="2">Baseline 2012</th><th colspan="2">Target 2016</th></tr>
<tr><td>1 Legal, regulatory & institutional frameworks</td><td>WL 15%</td><td>K 41%</td><td>WL 35%</td><td>K 65%</td></tr>
<tr><td>2 Business planning & tools for cost-effective management</td><td>WL 58%</td><td>K 41%</td><td>WL 65%</td><td>K 65%</td></tr>
<tr><td>3 Tools for revenue generation</td><td>WL 33.3%</td><td>K 39%</td><td>WL 40%</td><td>K 70%</td></tr>
</table>
</td>
<td>Management effectiveness in target PAs, West Lunga and Kafue National Parks (covering 24,084 km2 of Miombo Woodland and Dry Evergreen Forest ecosystems) increase to 73% and 44% (measured by Management Effectiveness Tracking Tool).

Core PAs expanded by at least 5,579 km2 of forest ecosystems by formalizing new Partnership Parks and/or Community Conservancies to reduces gaps in representation.

Wildlife poaching will be controlled (monitoring of patrol coverage, poaching catch-effort ratios, and increase in sightings of wildlife) and populations stabilized or increased

Improved financial sustainability of target core PAs measured by increase in financial scorecard score (see table) and increase in KNP financial sustainability to 45% (funding gap reduced from $1.5-2.0m to $1m by Y5 through budget controls and new tourism concessions) with WLNP outsourced through a PPP by Y3.</td>
</tr>
<tr>
<td>LD 3 Reduce pressures on natural resources from competing land uses in the wider landscape</td>
<td>Open access property regimes allowing uncontrolled resource use and in-migration (figure 8 PPG)</td>
<td>Strengthening of rights (of exclusion), land use planning, REDD+ pilots and resource protection in 50 Village Action Groups results in planned use of resources and control of illegal/unplanned uses</td>
</tr>
</table>

CCM 5: Promote conservation and enhancement of carbon stocks through sustainable management of land use, land-use change, and forestry	***Unsustainable agricultural practices under BAU scenario*** Among 1,600 households in 40 VAGs (covering at least 3,760ha), all are practicing traditional agricultural practices based on the following assumptions: - 2.35 cultivated ha per household - average lifespan of cultivated plots = 4 years - Rate of agricultural expansion (ha/capita/annum) = 0.5875 ha - Average CO2 emission from conversion of woodland to cultivation (t CO2/ha) = 131.4 - Cumulative CO2 emissions from vegetation clearance for agriculture (t CO2/ household/year) = 123,516 tCO2e - Direct lifetime CO2 emissions from clearance of vegetation for agriculture (20 years) = **2,470,320 tCO2e**	At least 3,760 ha of conservation farming practiced by at least 1,600 HH (in 40 VAGs) by end of project. Introduction of conservation farming practices leads to improved soil organic matter and field intensification across 3,760 hectares leading to: - 40% reduction in cumulative CO2 emissions from vegetation clearance for agriculture - 7,520 ha of avoided deforestation in targeted areas - Resulting decrease in direct lifetime avoided t CO2 emissions from clearance of vegetation for agriculture (20 years) in that same landscape = **988,128 tCO2e compared to BAU scenario**
CCM5	***Unsustainable firewood collection and SFM governance*** - Wood fuel collection in designated areas is ad-hoc and unsustainable - No sustainable woodlots exist in targeted areas - Knowledge of coppicing practices for fuel wood extraction among communities in targeted areas is very low	Under the project designated zones for fuel wood collection will be established optimizing SFM (and testing different 'treatments') Working with the Copperbelt University, the 25 VAGs will be trained in harvesting and coppice management and will each establish an auditable fuel wood use and CFM plan. Linked to land use planning, experimental fuel wood management and collection zones will be established in 25 VAGs; systems boundaries for VAGs will be defined; and alternative operational modalities for fuel wood harvesting and use will be applied (including coppicing). The direct avoided emission savings from the activities mentioned above are based on the following conservative assumptions: - Equivalent area of Miombo woodland deforested to generate fuel (ha) in target VAG zones in BAU scenario = 482 ha

		- Average CO2 emission from conversion of woodland for fuel use (t CO2/ha) = 131.4 Leading to the following GEBs: - Direct lifetime avoided emissions savings of **63,281 tCO2e (20 years) compared to fuel wood usage in a BAU scenario**
CCM5 SFM / REDD+ 1: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services	***Late season fires and poor fire management monitoring and practices in all targeted GMA zones*** - 174,671 ha of forests burned in late-season fires annually in GMA areas in KNP - 627,088 ha of forests burned in late-season fires annually in PA zones of KNP - Annual estimated CO2 emissions from fire in GMA zones of KNP = 230,566 tCO2e per annum - Annual estimated CO2 emissions from fire in PA parts of KNP = 827,756 tCO2e per annum	Land use and forest conservation plans will be developed and adopted by all VAGs, supported and monitored by Kafue Central Business Unit (CBU) The project will support strengthened forest and wildlife patrolling and protection by Village Scouts Fire control action plans will be adopted and put in use in all VAGs As a result fire losses will be reduced by at least 30% in GMA zones annually through fire protection practices (boundary and firebreak management, early burning, etc), land use planning, patrolling and education As a result of these activities the incidence of late-season fires will be reduced and lead to a reduction of avoided emissions of 69,170 t CO2/per annum in all GMA targeted zones The resulting direct lifetime avoided t CO2 emissions (over 20 years) from these activities compared to a BAU scenario (in GMA zones) = **1,383,394 tCO2e** [Note: this figure is only for avoided emissions in targeted KNP GMAs and excludes WLNP GMAs because of lack of data . If the calculations also included avoided emissions from reductions in late-season fires annually in the core PA zones of KNP the direct lifetime avoided t CO2 emissions from these activities

		would increase to 10.73 million tCO2e]
SFM / REDD+ 1:	***No REDD+ pilots established in a Zambian GMA or at the VAG level***	SFM practices established in at least 25 VAGs as REDD+ pilots protecting 25,000 ha and leveraging an additional 75,000 ha (intact forest) through protecting VAG-designated forest zones

18) Key efficiency measures are a decentralised approach combined with sound indicators and performance-based management, and specific investments in unlocking the potential for financial self-sufficiency in both PAs and GMAs. In South Luangwa AMU, for example, decentralisation together with the adoption of performance-based management halved costs and improved performance four-fold in many areas. In CBNRM, decentralization from CRB to VAG level has been shown to improve participation, increase equity of benefit sharing, build micro-projects and reduce corruption by a factor of ten or more. In addition to this strategic approach, additional specific measure increase efficiency. As noted above, patrol performance bonuses pay for themselves many times over. Community projects have

a tendency to spend a lot of money on travel and meetings rather than tangible outcomes, a tendency exacerbated by placing extension staff centrally. This Project develops a lean CBNRM support team, and places community liaison assistants in villages which has proven much cheaper (by a factor of more than five) than more centralised and vehicle intensive approaches to CBNRM. Without neglecting participatory and inclusive processes, it nevertheless focuses on tangible and measurable results – patrol days, income, benefit sharing, emission savings, etc

19) As regards CCM funds, this project focuses on the conservation and enhancement of carbon in forests across a target GMA buffer area of 41,297 km2 and pilots a suite of site-specific interventions across 100,000 ha spread across 8 GMAs. The combined direct avoided GHG reductions for this project (from all CCM5 activities over a 20 year period) total an estimated 2,434,803 tons CO2eq. At the GEF incremental cost of US$ 3,715,000 in CCM funds, the cost of reduced or avoided CO2 emissions from the various CCM activities in the project is USD 1.53 per ton CO2. However this is an integrated project, and if LD and SFM/REDD activities are included the cost of avoided CO2 emissions is even lower.

20) The project seeks to leverage a major change in the economic governance of wildlife, forests and ecosystem services, and through experimentation, example and monitoring to remove barriers to this economy in the future. This includes decentralised approaches, and new markets for water PES and carbon, as well as utilizing PPPs to unlock the potential of wildlife areas and carbon markets. A strong financial case for the bio-experience economy has been presented (Annex 4), suggesting that the project can leverage a total economic impact from KNP alone of $40-80m annually at full operations. In addition, one of the first steps of the project is to develop the economic case for KNP, and to take this to the Treasury to solidify a commitment for long term funding. Experience with the Namibian CBNRM programme demonstrates that up-front expenditure results initially in a slow and steady growth in the economic impact of natural resource use and CBNRM, but that the net economic value of these resources overtakes the initial investment by about year 10, when benefits exceed investment by several factors (even following significant donor investments); in Namibia the annual return from the CBNRM programme at national level now exceeds $35m, compared to an annual average investment of $10m, and is expected to quadruple within the next ten years (Annex 4, Chris Weaver personal communications).

21) The alternative scenario is "business as usual". In KNP and WLNP, the considerable investments and progress made in rescuing the PAs will be reversed, whereas additional investments will go a long way to securing their futures and a pathway to self-sustainability. The GMAs are a prototypical example of a tragedy of the commons. Without intervention, deforestation and forest degradation is highly likely to accelerate under open access property regimes, with inefficient and destructive use of forests, wildlife and land. The private benefits from ad-hoc subsistence in-migration will be far outweighed by the social and long term environmental costs of these actions that are externalised to society, including Zambia's disproportionately high levels of CO2 emissions. In southern Zambia, south of the Project area, we are already seeing degraded lands being abandoned; indeed this is an important source of 'illegal' settlers in protected areas.

22) **Co-financing strategy** (sources, amounts and purpose). The reasoning (in the PIF) was initially based on a baseline scenario provided by the UN-REDD+ program and the US cooperation (Millennium Change Corporation and US Forestry Service). These have been replaced a much stronger commitment from ZAWA ($12.4 vs. $5m), plus commitments from GRZ/PPCR ($25m), the Norwegian Embassy ($5m), WWF ($0.4m) and TNC ($1.1m). UNDP remains a co-financier. As described in **Table** there was considerable success in ensuring that new co-financiers were implementing activities that were in line with, and strengthened, the GEF V project activities.

23) The loss of some $90m investment in KNP will slow the transition to self-financing. However, ZAWA has increased its commitment to a level sufficient to maintain the operational costs of both PAs, with some capital investment. Further, it must be noted that the proposed MCC project focused heavily on road infrastructure, with specifications (and costs) far beyond those required in a PA, and perhaps even

negatively so because detailed tourism demand surveys showed a negative willingness to pay for infrastructure like the wide gravel roads proposed by MCC – game viewing tracks are cheaper and preferable. GMA activities have been strengthened by bringing on board new co-financing partners that focus on strengthening the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change (PPCR) and Conservation Agriculture (Norway) with WWF and TNC also focusing specifically on CBNRM/climate related investments.. Below is additional information on the activities they will be implementing:

Table 11.Summary Overview of Co-Financing

Baseline Project #1 – Zambia Wildlife Authority
The cofinancing letter from the Director General of ZAWA affirms the alignment between this GEF V Project and ZAWA's mandate for managing PAs and supporting GMAs. ZAWA is mandated to control, manage, conserve, protect and administer national parks, bird sanctuaries, wildlife sanctuaries and GMAs and coordinate activities in partnership with local communities, to share the responsibilities of management in GMAs. It is also the responsibility of ZAWA to adopt methods to ensure the sustainability, conservation and preservation in the natural state of eco-systems and biodiversity in its protected areas.
The ZAWA DG makes a five year annual commitment of US$12,396,777 in cofinancing. This comprises US$2,016,833 for KNP and US$462,522 for WLNP, which is sufficient to support PA operations and activities. Support from ZAWA will go towards the Kafue National Park Business Centre and West Lunga Area Management Unit and will cover the following operations: Kafue National Park Business Centre: A. Park Management and Administration B. Infrastructure Development C. Resource Protection D. Wildlife Research, Monitoring and Rehabilitation of Critical Habitats and Species E. Community-Based Natural Resources Management and F. Private Sector Partnerships and Business Development. Funding to West Lunga Area Management Unit will be focused on A. Park Management Administration and B. Resource Protection
Sub total:$12,396,777 (West Lunga National Park $2,016,833.00, Kafue National Park $462,522.75)
Baseline Project #2 Ministry of Finance / World Bank Pilot Program on Climate Resilience
The Strategic Programme for Climate Resilience (SPCR) Strategic Component 1: Participatory Adaptation is one of three investment projects under the (SPCR) implemented through AfDB at a cost of $45m**.** The specific objective is to strengthen the adaptive capacity and livelihoods of vulnerable farmers and rural communities to climate change and variability in priority areas of the Kafue and Barotse Sub Basins. It is expected to involve primarily agriculture and natural resources adaptation.
The component will help to mainstream climate resilience directly into adaptation into Integrated Development Plans (DCs) and Local Area Plans (ADCs). Climate resilient plans will promote priority adaptation activities such as **sustainable land management**: through scaling up conservation agriculture and agro forestry as well as physical soil conservation measures; **forest, grassland management and afforestation:** through bee keeping, support to non-timber forest products, grazing management and pasture improvement.
This will be done through 2 sub components, namely, community Based Adaptation and Support to Community Based Adaptation. **Community Based Adaptation** will foster sustainable water, and land management agriculture and pastoral practices to help local communities to better address the current and future impacts of climate change and variability. Finance will be for Integrated Development Plans (IDP) and Local Area Plans (LAP) in several districts including, Mumbwa, Kasempa, Itezhi Tezhi and Namwala. **Support to Community Based Adaptation** will be for the preparation of IDPs and LAPs.
In justifying PPCR co-financing, relevance of the project is based on a recent study done under UNREDD, which has shown that agriculture is one of the major drivers of deforestation and through promoting sustainable agriculture methods, which we believe the PPCR project will be doing in the Kafue Basin, will contribute to a reduction in deforestation and soil conservation, which are reservoirs for carbon stocks. With the focus of the UNDP/GEF Project on VAG governance and SFM/REDD+, there are strong synergies with integrated development planning and sustainable agriculture.
Sub-total $25,000,000
Baseline Project #3 GEF/UNDP support of this project

UNDP will provide co-financing to the GEF V Project through 3 projects. Support will be towards the management and functioning of the respective Project Implementation Units.

The Small Grants to NGOs/CSOs/CBOs for enhancement of community capacities in the environmental protection and natural resources management project. The project aims to improve biodiversity, environmental protection and reduced poverty levels among communities in GMAs surrounding the Kafue and West Lunga National Parks. The objective is to bring about sound management of natural resources at the community level and contribute to poverty reduction among communities in areas surrounding the two parks. $1,040,000

GRZ-UN Joint Programme on Climate Change and Disaster Risk Reduction will strengthen national systems for climate change financing, management and continued awareness creation in climate mitigation and adaptation. $1,000,000.

Strengthening Management Effectiveness and Generating Multiple Environmental Benefits Within and Around Protected Areas in Zambia. $200,000 per year;

Sub-total $3,040,000

Baseline Project #4 Royal Norwegian Embassy: The Conservation Agriculture Programme (CAP) Phase II

The Conservation Agriculture Programme (CAP) Phase II is a 5 year investment programme to accelerate the adoption of Conservation Farming (CF) and Conservation Agriculture (CA) in Zambia by building on the experiences and achievements of earlier interventions supported by the Royal Norwegian Government and in particular the current Conservation Agriculture Programme (CAP), which comes to an end in April 2011. The CAP II intervention will be the final major investment in the promotion of CF/CA through the Conservation Farming Unit (CFU).

The strategic development goal of the programme is to cause the adoption of more climate resilient environmentally sustainable and productive farming practices by small and medium scale farmers in Zambia. The purpose of the programme is for 237,000 small and medium scale farmers in Zambia to adopt Conservation Farming and Conservation Agriculture practices on 287,000 hectares of farm land. In Mumbwa and Kaoma districts (Mufunta GMA) bordering Kafue National Park, support is provided to the Conservation Farming Unit, which provides training in conservation farming methods for an expanding number of farming households. 33,000 households have already adopted conservation farming in the two districts.

The programme has fourteen Expected Results:

1. Increased integration of practices by small and medium scale farmers leading to adoption of Conservation Farming and Conservation Agriculture.
2. Increased area of adoption of CF/CA practices by farmers
3. Representative adoption of CF/CA practices by women with accruing benefits
4. Integration of food security standby crops and fruit trees
5. Decline in negative impact of conventional farming practices on soils and the environment in general
6. Improved household food security and disposable income and increasing numbers of smallholders graduating from subsistence to economic production.
7. Decline in labour inputs per unit area of production through safe utilisation of herbicides and access to animal draft and mechanised tillage service provision.
8. Improved adaptation of crops to adverse climatic conditions and resilience of SSF's to climatic shocks.
9. More effective and sustainable integration of the private sector in the delivery of input supply services to small and medium scale farmers.
10. More efficient, cost effective and sustainable delivery of extension and training services for small and medium scale farming communities.
11. More specific and robust delivery of research findings related to the performance of CF/CA and related technologies.
12. Improvement in the coordination of activities related to the promotion of CF/CA in Zambia

13. Wider awareness within Government and development agencies of the potential benefits accruing from the wide scale adoption of CF/CA in Zambia

The Expanded Food Security Pack Programme a successor of the Food Security Pack Programme implemented under the Ministry of Community Development, Mother and Child Health (MCDMCH). The programme has been redesigned into a more effective tool for implementing interventions that will empower vulnerable rural households to engage in sustainable and more productive farming practices, become food secure and reduce dependency on seasonal input subsidies. Itezhi Tezhi District (including Namwala GMA), adjacent to the Kafue National Park is one of the initial 3 districts earmarked for implementation of the programme during the first farming season. Each subsequent year, 3 more districts will be added, resulting in a total of 12 districts to be covered by the EFSP.

The EFSP model uses conservation farming methods that can secure productive and sustainable climate-resilient agronomic practices and input support to reduce poverty in the participating 9,000 households. Under the Food Security Pack, farmers are provided with input for non-traditional drought resistant crops and expected to adopt minimum tillage as a minimum requirement for conservation farming. The strategic thrust of the EFSP model is anchored on among others promoting crop diversification, through conservation agriculture (including agro-forestry) that improves household food security, soil fertility, climate resiliency and overall sustainability of agriculture and sustainable land use management practices.

Sub-total $5,000,000

Baseline Project #5: WWF "Supporting a future in the KAZA Transfrontier Conservation Area: From Talk to Tangibility"

In an effort to increase the viability of the larger KAZA Transboundary Conservation Areas and bolster conservation outcomes in Mufunta GMA bordering Kafue National Park, WWF will be implementing a 2 year project called **Supporting a future in the KAZA Transfrontier Conservation Area: From Talk to Tangibility**. This will be accomplished through on-the-ground capacity building efforts designed to: 1) empower rural communities to become vested stakeholders and benefactors in the Zambia Conservation sector; 2) influence and enhance the effectiveness of the over-arching Zambian conservation policy environment.

WWF's $800,000 Project (with $400,000 as cofinancing) aims to strengthening communities and their governance structures in the Mufunta Game Management Area (GMA) located on the western border of Kafue National Park through activities that are directly aligned with the GEF V project. Mufunta GMA is one of two areas where capacity building efforts will be focused. WWF-Zambia will focus its efforts on strengthening game management area communities and their governance structures through activities that include:

a) **Land-use planning** – to assist communities maximize benefits from both conservation and development: Communities will be provided with the necessary skills, information, and technical support to develop village land use plans that feed up to overarching game management area land use plans. Uses to be taken into consideration include settlements, agriculture, livestock, wildlife corridors, hunting and tourism blocks, forestry, etc. through participatory zoning techniques;
b) **Capacity strengthening** – of the Community Resource Boards (CRBs) and Village Action Groups (VAGs) through training, technical backstopping and operational assistance. Areas of emphasis will include community organization, advocacy, planning and reporting, natural resource management and monitoring, anti-poaching/surveillance, and financial human resource management;
c) **Integrated Resource Management** – promoting a more integrated and coordinated approach to land use planning and management (land, forest, wildlife, water) and simultaneously to move towards more community involvement in holistic natural resource management and benefit-sharing. This will entail development of Integrated Natural Resource Management Plans at VAG level, capacity building of VAGs to implement the management plans, defining and implementing benefit-sharing mechanisms arising from the natural resources being managed across the multiple players and how those benefits ought to benefit nature and local communities in the Mufunta GMA in the long term.
d) **Human-wildlife Conflict Management** – building community understanding of the factors that contribute to incidences of human wildlife conflict and providing them with a suite of mitigation techniques through facilitated zoning exercises and application of techniques;
e) **Nature Based Enterprise Development** - through promotion of joint ventures among community, public and private sector partnerships (CPPPs) for ecotourism development. In the long term, the activity will entail supporting local communities in the GMA with identification of potential private sector partners, capacity building of communities in negotiation skills, business management skills and hospitality management skills. Any promotion or investment in a new nature-based enterprise will be preceded by a

cost-benefit analysis including assessment of market opportunities locally, regionally and where appropriate transnationally. In the short term, potential products of interest already identified by community stakeholders include honey and woodlots for fuel production (also relevant to the reduction of deforestation rates in Mufunta due to tobacco farming especially the smoke-cured, Virginia tobacco).

f) **Support to conservation Policy Development** - Support to conservation Policy Development. The project will target support to review/development mainly of for policies: forestry, wildlife, tourism and wetlands by working closely with government agencies responsible for implementing these policies and by leveraging policy influencing support through the Zambia Parliamentary Conservation Caucus. The action will specifically support tasks towards external consultancy support, workshops, and high level meetings.

Sub-total $400,000

Baseline Project #6: The Nature Conservancy, Kafue Ecosystem Project

The Nature Conservancy's Kafue Ecosystem Project in Western Zambia aims to protect critical lands and waters in the Kafue River basin to sustain healthy human communities and resilient ecosystems by improving conservation management, governance and benefit distribution to local communities in Kafue National Park and Surrounding GMAs. The project is being implemented the Kafue River Basin in its entirety including National Parks, Game Management Areas, Community Areas, Forest Reserves, and critical water bodies.

Successful management of this ecosystem will require the improvement and diversification of the livelihoods of people living outside of National Park and Forest Reserve boundaries through improved benefit sharing, improved local governance, job creation and developing viable and compatible revenue generating options. By focusing on people and protected areas the Nature Conservancy strives to ensure that ecological benefits are available for local communities and biodiversity in perpetuity.

In the next five years The Nature Conservancy will implement five major strategies to abate threats and improve resilience of this critically important ecosystem:

a) Improved Park Resource Management - Increase management capacity to improve wildfire management, resource protection capacity, habitat quality and security for a diversity of wildlife in Kafue National Park.

b) Sustainable Resource Management in Mulobezi GMA - Increase governance and management capacity of the Community Resource Board (CRB) to improve education, food security and benefits from sustainable resource utilization for residents of Mulobezi GMA in order to reduce pressure on Kafue National Park.

c) Improved Enabling Policy and Funding Conditions for Conservation – Develop Sustainable financing plan for KNP and surrounding GMAs. Improve Zambian wildlife, forestry and land tenure policies and revenue distribution processes to leverage our site investment and lessons learned to other protected area complexes in Zambia.

d) Smart Infrastructure and mining offsets/mitigation (Development by Design) piloted in the Copper Belt Region of Zambia -Improve existing mining practices in the Copper Belt region by working with private companies and the Ministry of Mines to encourage stronger regulations and pilot an offset or mitigation framework.

e) Payments for Ecosystem Services Approaches to Conservation Implemented – Diversified income streams from sustainable natural resource management demonstrated in the Kafue Ecosystem.

Sub-total $1,100,000

2.6. Sustainability

24) The "business as usual" scenario described above is not sustainable. The purpose of this project is to develop a sustainable future based on new and devolved institutional frameworks, and new practices, methods and models for the valorisation of common pool wild resources (wildlife, forests) and ecosystem services (carbon, water, PES). Experience, such as that of the Namibian CBNRM programme, indicates that this is a long-term process. This project can initiate critical change, but further investments will be necessary to reap full benefits in the GMAs, e.g. the Namibian example, Annex 4. One of the lessons of

the national CBNRM programme in Namibia is that the combination of decentralised approaches, effective data collection, multi-stakeholder approaches and dissemination of results have been the key to attracting on-going donor support, i.e. success breeds sustainability. External support has been critical in the development phase of CBNRM, and in responses to climate change, with their high requirements for up-front investment in awareness raising and the development of new systems and approaches. A second lesson, from both Namibia and Zimbabwe's CAMPFIRE programme, is that legislative devolution, especially to the level of VAGs, can greatly reduce start-up and transaction costs, and greatly increases the likelihood of programme sustainability – despite significant economic and political difficulties, Zimbabwe's CAMPFIRE programme is still working because the Act devolved authority and benefits to local level, while legislative devolution has been critical to the growth and sustainability of the Namibian program.

25) This project cannot guarantee legislative devolution, nor can it guarantee long term sustainability. However, it has been designed to greatly improve the probability of these actions occurring, and to transform a "business as usual" situation that is certainly not sustainable by providing a demonstration of the way forward. Moreover, Zambian policy making and practice is seldom supported by data, and this Project makes specific efforts to develop a strong evidence-base for future policy making, as well as to invest in the education and training of participants (future leaders) in these new approaches.

26) Provision is made to ensure the institutional, financial and socio-economic sustainability of the project outcomes. A number of factors combine to ensure that the prospects for achieving a high level of sustainability are good. Firstly, there is a commitment by government to the on-going development of community-public-private partnerships using the new policy and legislative framework which will be in place by the time the project commences as well as the PPP Act (Annex 16). This means that private sector partners will continue to be sought to fulfil untapped tourism potential, generating revenue for the PA system. This is particularly important for West Lunga NP, which will be put on a pathway to follow the example of some eight successful PPPs for PA management in Zambia including Kasanka, North Luangwa and Liuwa Plains. Indeed, WLNP was designed to be advertised for PPP under the UNDP REMNPAS Project.

27) Secondly, the government has made a commitment to decentralised approaches to environmental governance and poverty reduction (National Decentralization Policy, 2010, Annex 16). In addition to specific policy commitments, senior officials in the new government regularly promotes the importance of decentralization for poverty reduction and resource conservation, a trend that is also noticeable in the composition and actions of the new ZAWA Board.

28) Thirdly, there is also a commitment by government, specifically MTA and ZAWA, to putting in place a financial sustainability plan for the PA system, including through this project, and implementing it on an on-going basis, and also to mainstream the needs of PA financing into national development planning. We have already seen the latter through an increased co-financing commitment by ZAWA. The Project will continue to develop an economic case for improved budget allocations, and for accessing carbon finance (REDD, LULUCF, voluntary carbon markets). It supports increasing private sector investments in tourism operations, growing Park entrance fee collection, increasing revenue from trophy hunting[105] and photographic tourism, and involvement of new private sector partners in GMAs and areas of NPs without tourism facilities to increase concession revenues. Finally, at site level, the project will improve financial sustainability of the two target core National Parks and their surrounding GMAs, by undertaking the collaborative development of site-specific business plans and PPPs.

29) The financial viability of KNP from own funding is anticipated to increase from 28% to nearly 50% during the project, and the project will specifically develop the economic case for government

[105] UNDP has financed a review of the administration of the hunting sector that is currently underway for the purpose of maximizing incomes and sustainability.

funding of a long term investment plan; GRZ has already committed to fund the shortfall between KNP and WLNP management costs and revenues. The project strategy is to develop a sound economic case for KNP and, by linking this to a track record of effective performance management and cost control, to greatly increase the probability that KNP (and ZAWA more generally) will obtain additional funding from government. The devolved CBNRM programme also will not be viable by project end, but will be much more viable than it is currently, and is also designed to provide the data and the case for further transformation and investment.

2.7. Replicability

30) The project in part replicates the financially sustainable model of the devolved South Luangwa cost centre, and is therefore also replicable. Indeed, a second example of the effectiveness of such a model will lend further credibility to this approach. The project is specifically designed to enhance or develop decentralised management systems, to measure their effectiveness, and to link them to formal training to enhance the probability of replication in Zambia and in the region more generally (i.e. in partnership with the NORHED-funded Copperbelt University capacity building programme).

31) Similarly, the CBNRM model is a combination and replication of regional best practice, and an advance on these by incorporating a wide range of lessons especially related to micro-governance. As noted, the Project is designed to provide an evidence base to support this approach, and to link this to formal training programmes through Copperbelt University and institutional partners in their NORHED capacity-building project (i.e. Southern African Wildlife College, Stellenbosch University[106]). The incorporation of Copperbelt University into the programme, enhances the probability that lessons learns from the project will be researched, published and disseminated through training and the peer-reviewed academic process.

32) Finally, the entire programme is designed as an Adaptive Learning Approach. At the project level, the annual review and planning workshop is deliberately designed as an adaptive management process. The heavy focus on monitoring and surveys will strengthen learning at this level, but also translate this learning into an evidence base for national policy making and for training in educational establishments in Zambia and regionally. For example, KNP has a well-designed performance-based law enforcement system; if this is linked to a learning process as envisaged, it can be further developed as a place where people from the regional can learn best practice.

2.8 Stakeholder involvement plan

33) Effective collaborative adaptive management in complex systems requires (1) a process for bringing key stakeholders together face-to-face and (2) the use of visualised data to enhance the problem solving process[107]. Therefore, the foundation of the stakeholder involvement plan is two-fold: the production, collation and visualization of data on all aspects of land management including governance, economics, livelihoods, gender, status of wildlife and forests, unplanned and illegal activity; and the sharing and incorporation of this data into stakeholder decision processes at multiple levels. Data is the

[106] This consortium, with Norwegian University of Life Sciences, has just been awarded a $3.2m project proposal for capacity-building from NORHED (Norwegian Higher Education for Development) that is directly linked to this project.

[107] Theoretically speaking, the use of visualized data (as opposed to unsupported opinion) transforms the social process of problem solving. Visualized data encourages participants to use their frontal cortex (i.e. the logical, problem solving part of the brain) rather than their limbic brain (the primitive and emotional part of the brain). Thus data 'distances' participants from emotional issues (e.g. who did what to whom in the past) and focuses them on joint and logical problem solving.

ingredient for "evidence-based-management". Evidence-based adaptive management will be operationalized at three levels - within VAGs and CRBs (micro), in the project area through the proposed Stakeholder Forum and many informal interactions that are likely at this scale (meso), and at National level through the Project Steering Committee and the dissemination of results by Copperbelt University and the Information Unit (macro). Quality data on all aspects of the Project and its impact will be managed by the Information Unit in the Kafue Business Centre, and strengthened by analysis and dissemination through the Project, Copperbelt University and technical consultants.

34) At micro-level, most of the people affected by the Project will participate through involvement in VAG meetings and operations. At the meso-level, agencies and NGOs participating in related activities in the Project Area will participate in a bi-annual Stakeholder Forum meetings as the basis of decision-making and coordinated action, but are highly likely to also interact on a day-to-day basis. The Stakeholder Forum will be chaired by the Kafue CBNRM Association, with ZAWA and/or the CBNRM Support Unit acting as secretariat. At National level, the Steering Committee will be chaired by MLNR&EP. One of the key functions of the PIU Unit (see Annex 24) is to ensure that data on finances, wildlife, forestry, land use planning, etc. is made available at all levels to improve the quality of decision-making.

35) The roles of key stakeholders are described below. **Table 11** summarizes how these roles are intended to change over time to clarify responsibilities and accountability, and reduce the current overlap and gaps. Stakeholders anticipated to play substantial roles are shaded in grey. The strategy is to empower producer communities (i.e. VAGs) and KNP to plan, manage, valorize and protect their resources, with "support" agencies providing the requisite law enforcement, extension services, research and coordination. This approach follows the wisdom of systems thinking, which states that the purpose of a hierarchy is defined by (and in the service of) the smallest units within that hierarchy[108]. This changes the roles especially of VAGs which as "producer communities" become the primary DOING level, whereas CRBs are situated at a scale suited to coordination rather than participation and implementation. In the GMAs, agencies such as ZAWA, Forestry Department and District Council's will be more effective in the long run by facilitating implementation through VAGs, rather than directly. The project will also develop the GMA/KNP Stakeholder Committee as a mechanism for bring government, private sector, community and civil society actors together to act in a cohesive and coordinated manner.

Table 11. Stakeholder Roles and Involvement

Key Stakeholder	Role
Ministry of Lands, Natural Resources and Environmental Protection	Key Oversight partner and National Coordinating Agency
Ministry of Tourism and Arts	Key Oversight partner
Department of Natural Resources and Environmental Protection	National Project Coordinator
Zambia Wildlife Authority (ZAWA) **Target:** self-funding through PA viability and government grants for provision of public goods	Key Implementing partner • Management of KNP and fire projects • Support VAGs in GMAs to do the following ✓ Planning and control of land use in GMAs in partnership with communities ✓ Monitoring of wildlife populations ✓ Administration of Village Scout programmes ✓ Negotiation of hunting concessions in partnership with communities ✓ Collection of hunting revenues and (partial) allocation to CRBs and Patrons

[108] Meadows, D. H. (2008). Thinking in Systems. A Primer. London, Earthscan.

Key Stakeholder	Role
	✓ Monitor usage of funds by CRBs
Village Action Group **Target:** 85%+ of wildlife/ forest revenues as HH and community income from natural resource production	• Key units of BENEFIT, ACTION and ACCOUNTABILITY • Participatory allocation and control of income and expenditure • Establish, monitor and manage land use plans and protected forests • Employ and manage Village scouts (contribute wages for payment of VS) • Establish VAG committees to implement member's directives with annual elections, maintain membership records, conduct quarterly general meetings for submission of reports and finances
Community Resources Boards **Target:** 10% of wildlife/ forest revenues to coordinate VAGs and oversee implementation and compliance with land use plans	As outlined in the current ZAWA Act but specifically, to • COORDINATE the management of human and natural resources to enhance and promote sustainable biodiversity conservation and rural development. • Ensure and monitor CBNRM compliance for VAGs and NRM • Adhere to CBNRM principles • Will not do projects but facilitate programmes at local structures. • Report downwards to VAG and upwards to ZAWA and Stakeholder Committee
Chiefs / traditional authorities / Patrons in "Project" GMAs **Target:** 5% of wildlife/ forest revenues to encourage compliance with land use plans	Key collaborating and supportive partners on implementation • Patrons (non-administration) of CRBs • "Owners" of the land / Traditional control over land • Overseer of integrated NRM • Support community conserved areas.
Forest Department	Key Collaborating partner • Administration of licenses for timber and charcoal • Management of declared forest areas • Implementing SFM
Ministry of Energy and Water Development	Key Implementing Partner for PES policy piloting with ZESCO
Other sectors (tourism, fisheries, agriculture) etc	• Specific agreements or MOUs will provide framework for transfer or delegation of rights and sharing of revenues to VAGs and user groups. • Provide management support to VAGs and extension advice for NRM activities • Sharing of information
District Councils in relevant districts	Cooperation on implementation • Provision of services • Administration of districts
Zambia UN-REDD Programme	Key collaborating partner on implementation of REDD pilots
Copperbelt University/Zambia Forestry College	Key monitoring and capacity building partner • Provision of support services (Research, Monitoring and Training) • Development of training manuals and support

Key Stakeholder	Role
	services to resource monitoring • Dissemination of information scientifically.
Ministry of Agriculture and Cooperatives	Member of National Steering Committee
Zambia Environmental Management Agency	Sharing information
Embassy of Finland	Sharing information
Embassy of Norway	Sharing information
NGOs, Zambia National CRB Association	• Support CBNRM development activities (Institutional, Financial, Natural Resources Management, Enterprise and Tourism). • Support capacity building and training of VAGs and CRBs
Kafue CBNRM Association **Target:** 2-4% of wildlife/ forest revenues (from CRB cut) to provide advocacy for VAGs	• Developed as a producer association that represents "producer communities" VAGs on matters of policy and implementation • Coordination and sharing of ideas between communities / VAGs • Advocacy on behalf of producer communities / VAGs • Long term goal is to collect, manage and provide technical information on behalf of VAGs
GMA/KNP Stakeholder Committee (proposed)	• General policy direction of the GMA based on information from database and monitoring • Coordinated support of VAG integrated natural resources Management • Ensure that all revenues of the GMA are retained and kept within the GMA/Business centre • Provide technical advice to CRBs/VAGs/ Associations /other NRM local management structures. • Meets at least twice a year • ZAWA/Forestry/District Council can provide the secretariat for this committee. • To protect and defend good CBNRM practices. The Stakeholder committees role is advisory, information and to encourage communication and participation. It has no power to decide against local institutions decision even if it is against their advice.

3. *Project Results Framework*

This project will contribute to achieving the following Country Programme Outcome as defined in the UNDAF, CPAP and UNDP Strategic Plan for Zambia *UNDAF : Outcome 4: is expected to contribute to the reduction of people's vulnerability from the risks of climate change, disasters and environmental Degradation* *CPAP Outcome 1: Government. promotes adaptation and provides mitigation measures to protect livelihoods from climate change* *CPAP Outcome 2: Government implements policies and legal frameworks for sustainable community based natural resources management.*
Country Programme Outcome Indicators: *% increase in the area brought under effective management of PA system* *% reduction in annual average deforestation rate*
Primary applicable Key Environment and Sustainable Development Key Result Area: Government implements policies & legal frameworks for sustainable community based natural resources management
Applicable GEF Strategic Objective and Program: **BD-1: Improve Sustainability of Protected Areas** Outcome 1.1 Improved management effectiveness of existing and new protected areas. Output - New protected areas (number) and coverage (hectares) of unprotected ecosystems. Outcome 1.2 Increased revenue for protected area systems to meet total expenditures required for management Output - Sustainable financing plans (number) **CCM-5: Promote conservation of carbon stocks through sustainable management of land use, land-use change and forestry** Outcome 5.1. Good management practices in LULUCF adopted both within the forest land and in the wider landscape Outcome 5.2. GHG emissions avoided and carbon sequestered Output - Carbon stock monitoring systems established Output - Forests and non-forest lands under good management practices **LD-3: Integrated Landscapes: Reduce pressures on natural resources from competing land uses in the wider landscape** Outcome 3.1 Enhanced cross-sector enabling environment for integrated landscape management Output - Integrated land management plans developed and implemented Outcome 3.2 Integrated landscape management practices adopted by local communities Output - Information on INRM technologies and good practice guidelines disseminated **SFM REDD+1: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services** Outcome 1.1: Enhanced enabling environment within the forest sector and across sectors Outcome 1.2: Good management practices applied in existing forests Outcome 1.3 Good management practices adopted by relevant economic actors. Output - Forest area under sustainable management, separated by forest type Output - Types and quantity of services generated through SFM Forest area (hectares) under sustainable management
Applicable GEF Expected Outcomes: As per project framework on page 1 of the CEO Request
Applicable GEF Outcome Indicators: As per project framework on page 1 of the CEO Request

PROJECT FRAMEWORK (PIF/CEO ENDORSEMENT FORMAT)

<table>
<tr><td colspan="6">Project Objective: Biodiversity and carbon sinks of Greater Kafue / West Lunga in Zambia are better protected from threats and effectively managed by local institutions, communities, and economic actors using sustainable forestry and land management practices.</td></tr>
<tr><td>Project Component</td><td>TA</td><td>Expected Outcomes</td><td>Expected Outputs</td><td>Indicative Financing from GEF</td><td>Indicative Co Financing ($)</td></tr>
<tr><td>Increased management effectiveness and financial sustainability of Greater Kafue and West Lunga PA system</td><td>TA (A)

TA (B)

TA (C i. ii and iii)

INV (C iv)</td><td>Outcome 1.1 - Management effectiveness increased in target core PAs: West Lunga and Kafue National Parks covering 24,084 km2 of Miombo Woodland and Dry Evergreen Forest ecosystems (measured by increase of 15% in the Management Effectiveness Tracking Tool for the two Parks).

Outcome 1.2 - Expansion of core PAs through increased protection to an estimated 5,579 km2 of forest ecosystems by upgrading PA status in terms of new categories to reduces gaps in representation as follows:
<table>
<tr><td rowspan="2">Forest Ecosystem type</td><td rowspan="2">Total area (km2)</td><td colspan="2">% under PA category that ensures BD Conservation*</td></tr>
<tr><td>B’line</td><td>Target</td></tr>
<tr><td>Miombo Woodlands</td><td>2,899</td><td>6.1%</td><td>7%</td></tr>
<tr><td>Dry Evergreen Forest</td><td>2,680</td><td>4.5%</td><td>11.7%</td></tr>
<tr><td>Total</td><td>5,579</td><td colspan="2"></td></tr>
</table>
Achieved through:
• formalization and performance effectiveness of Community Conservancies and/or
• formalization of new Partnership Park (e.g. in Mufunta linked to Kasonso Busanga, a new Game Reserve in Namwala, and the proposed West Lunga Game Reserve across Lukwawa and Chibwika-Ntambu) through pending PA legislation</td><td>A. <u>PA system framework strengthened.</u> This includes: i) strengthening Kafue Business Unit for decentralised management of project area through performance based planning and management systems ii) technical training program for all Park Managers and Area Wardens (iii) Sustainable financing plan established for KNP identifying specific cost control and revenue generation mechanisms (iv) WLNP managed through a suitable PPP (v) effective CBNRM entitlement, governance and management put in place in GMAs

B. <u>Site level operations strengthened for Target Core PAs</u>. This includes for target NPs: (i) Strengthened system for law enforcement, fire control and deforestation (ii) Staff training for performance / financial management and control, evidence based management of complex systems, and CBNRM planning in relation to GMAs, biodiversity conservation and climate change (iii) Sustainable financing and PPP plans developed for KNP and WLNP respectively, and revenues returned to and properly managed in GMAs
<u>C. Expansion of PA Core through upgrading and gazetting</u>. (i) Reclassification and gazetting of 5,579 km2 of forested portions of GMAs in terms of new categories (ii) Formal establishment of Community Conserved Areas with legal recognition and/or title in eight GMAs</td><td>3,530,600

(BD)</td><td>16,732,101</td></tr>
</table>

Outcome 1.3 - Increased site capacities reduce pressure in target core PAs from:

- Wildfire (reduction in incidence shown in wildfire records)
- Wildlife poaching (monitoring of patrol coverage, poaching catch-effort ratios, and increase in sightings of wildlife)
- Illegal harvesting of wood products (halting of deforestation rates confirmed in regular monitoring of land use plans by researchers)

Outcome 1.4 - Improved financial sustainability of target core PAs measured by:

- Increase in financial scorecard score

Scorecard section	***Baseline 2012***		***Target 2016***	
1 Legal, regulatory & institutional frameworks	WL 15%	K 41%	WL 35%	K 65%
2 Business planning & tools for cost-effective management	WL 58%	K 41%	WL 65%	K 65%
3 Tools for revenue generation	WL 33.3%	K 39%	WL 40%	K 70%

- Reduction in funding gap of core PAs – KNP funding gap reduced from $1.5-2.0m to $1m by Y5 through budget controls and new tourism concessions, and WLNP outsourced through a PPP by Y3.

2. Sustainable land and forest management by "Community Conservancies" in GMA buffer areas through selected CBNRM practices Target buffer GMAs in KNP are[109]: • Mufunta, • Namwala, • Mumbwa, • Kasonso-Busanga, • Lunga-Luswish Target buffer GMAs in West Lunga are: • Lukwawa • Chibwika-Ntambu • Muselo Matebo	TA (A) INV (B)	Outcome 2.1 - Improved land use planning, governance, management and diversification of income streams over all target GMA buffer area of 41,297 km2 Outcome 2.2 –25 Village Action Groups (VAGs) in target areas formally recognized and constituted by Y2 with clear resource rights, delineation of legally recognized VAG boundaries and use zones, management structures and benefit sharing plans (in line with national REDD+ criteria) Outcome 2.3 – SFM practices established in at least 25 VAGs as REDD+ pilots protecting 25,000 ha and leveraging an additional 75,000 ha (intact forest) through protecting VAG-designated forest zones Outcome 2.4 – Conservation farming introduced to at least 1,600 households in 40 VAGs covering at least 3,760ha, leading to improved soil organic matter and improved yields Outcome 2.5 – Fire losses reduced by at least 30% in GMA zones annually through fire protection practices (boundary and firebreak management, early burning, etc), land use planning, patrolling and education Outcome 2.6 – Reduction in forest degradation in target GMAs from unsustainable fuel wood collection practices	A. Land use governance and planning in GMAs strengthened: (i) VAGs acquire stronger rights and governance, management and monitoring systems improved (ii) VAGs develop and implement Integrated Land Use Assessment plans linked to the national REDD readiness programme, delineating appropriate REDD compliance and MRV mechanism in VAG areas (iii) Participatory and remote sensing monitoring system established for all VAG conservation areas, including updated biomass inventories (iv) Increased revenues into selected VAGs improved through REDD pilots (via sale of offsets) and/or PES schemes (v) Identification of potential buyers for the REDD+ carbon credits from the VAG pilots (vi) Integrated support systems for CBNRM established through forums, training, capacity-building and evidence-based monitoring in all targeted GMAs B. Land and forest resources managed more sustainably (i) Land use and forest conservation plans developed and adopted by all VAGs, supported and monitored by Kafue Central Business Unit (CBU) (ii) Increased capacity of communities and partners (e.g. Forestry Department) through performance monitoring and training (iii) Strengthened forest and wildlife	8,993,000 (=LD 2,686,364 + SFM 3,262,500 +CCM 3,044,136)	28,059,235

[109] These were selected based on a) valuable BD b) conflicting land use c) governance d) potential for financial viability

			patrolling and protection by Village Scouts (iv) Fire control action plans adopted and in use in all VAGs (vi) Introduction and testing of efficacy/suitability of conservation farming practices in 40 VAGs (vii) Wood fuel collection zones established in all VAGs and coppicing best practices adopted		
Project management costs				$ 625,264 (=BD 292,127+ CCM 333,137)	2,145,441
TOTAL				13,148,864	46,936,777

Project Strategy	Objectively Verifiable Indicators	Baseline	Target[110]	Sources of verification	Risks and Assumptions
Objective: Biodiversity and carbon sinks of Greater Kafue / West Lunga in Zambia are better protected from threats and effectively managed by local institutions, communities, and economic actors using sustainable forestry and land management practices.	Sustainable Land and Forest Management established in Miombo Woodland and Dry Evergreen Forest ecosystems in PA Core areas and Community managed GMAs and conservancies enabling forest corridor connectivity between WLNP and KNP in the long term	24,164 km2 (PA Core areas)	24,164 km2 PA+ 41,297 km2 GMAs = 65,461 km2 (Target GMAs consisting of Mumbwa, Namwala, Mufunta, Kasonso-Busanga, and Lunga-Luswishi in Greater Kafue NP, and Lukwawa, Musele-Matembo and Chibwika-Ntambu in West Lunga Management Area)	KNP / WLNP Management Plans and Annual Reports; GMA Management Plans and Reports; Project Progress Reports from Kafue Business Centre (KBC) Project Implementation Unit	Supportive Government policies in place Short – term extractive gains (mining) do not override SFM / Conservation achievements in PAs, GMAs and the wider landscape
Component 1. Increased management effectiveness and financial sustainability of Greater Kafue and West Lunga PA system	1. Increase in Management Effectiveness Tracking Tool;	57% KNP (METTPAZ 2010) 39% KNP GMAs (2010) 28% WLNP (2010) 20% WLNP GMAs (2010)	65% KNP 45% KNP GMAs 40% WLNP 30% WLNP GMAs	KBC / ZAWA tracking tools	Private sector willing to partner with PAs Continued flow of infrastructure investment funding for KNP by Government and / or Co-financiers opening up potential areas for non-consumptive revenue generation Government policy supportive of PES by ZESCO in KNP
	2a. Wildlife stocking rates; 2b. reduced area burned annually 2c. Reduced GHG emissions from fire	KNP=8.6% of carrying capacity (as per aerial survey 2008) KNP=56% (1.252 mill ha) KNP=1,650,000 CO2 annually	12% of carrying capacity in both KNP and productive GMAs KNP=reduced by 50% (625,800 ha) KNP=825,000t CO2 reduced emissions annually[111]	ZAWA / KBC reports	

[110] The target timeframe for all indicators is by project end, unless otherwise stated.

[111] Figures used to estimate fire emissions: annual CO2 emitted per hectare due to fires IN LATE SEASON (as opposed to early season) = 1.32 tonnes CO2/ha. Assuming 625,800 ha, project scenario reduces CO2 emissions by 825,000 per annum.

Project Strategy	Objectively Verifiable Indicators	Baseline	Target[110]	Sources of verification	Risks and Assumptions
		from late fires			
	3. Reduction in funding gap of the targeted National Parks moving up one category (based on REMNPAS financial viability assessment) with at least one new PPP formed (WLNP)	0 PPP in Greater KNP and WLNP revenues: approx $600,000 in KNP	At least 1 PPP in each of core PAs of Greater WLNP and KNP at least $850,000 revenues in KNP (increase by 10% per annum)	ZAWA Reports and MOF Reports	
	4. PES maintaining watershed / river catchments by communities in KNP benefitting ZESCO	0	1 PES in KNP with ZESCO	ZESCO and ZAWA Reports	
2. Sustainable land and forest management by "Community Conservancies" in GMA buffer areas through selected CBNRM practices	1a. "Community Conservancies" established	0 ha	- 557, 900 ha (5,579 km2) of intact forest ecosystems established as community conservancies in targeted GMAs	ZAWA Reports / KBC Reports	A: CBNRM structures such as Community Conservancies and VAGs are supported by National authorities and policy environment Local authorities in GMAs have the political and institutional will to develop ILUAs, boundaries and use zones, management structures and benefit sharing plans. Male members are open to allowing increased female participation in local decision-making
	1b. VAGs legally established	0	At least 25 Village Action Groups (VAGs) in target areas formally recognized and constituted by Y2 with clear resource rights, delineation of legally recognized VAG boundaries and use zones, management structures and benefit sharing plans (in line with national REDD+ criteria)	Legal documentation of VAG establishment	
	1c.ILUA plans completed for all VAGs	No ILUAs in place for VAGs (0)	Integrated Land Use Assessment plans developed for all VAGs	KBC reports, PIU reports	
	1d. Women members in VAGs and improved livelihoods	Negligible women representation in governance structure in VAG areas	At least 40% female representation in all elected VAGs in project area; increased per capita / household income compared to 2012 baseline	KBC reports, PIU reports	

Project Strategy	Objectively Verifiable Indicators	Baseline	Target[110]	Sources of verification	Risks and Assumptions
	2. Conservation farming practices applied in targeted GMAs Increased yields	0 ha using conservation farming techniques	At least 3,760 ha of conservation farming practiced by at least 1,600 HH (in 40 VAGs) by end of project. Introduction of conservation farming practices leads to improved soil organic matter and field intensification across 3,760 hectares leading to: - 40% reduction in cumulative CO2 emissions from vegetation clearance for agriculture in targeted areas resulting in 7,520 ha of avoided deforestation in targeted areas - Resulting decrease in direct lifetime avoided t CO2 emissions from clearance of vegetation for agriculture (20 years) in that same landscape = 988,128 tCO2e compared to BAU scenario	CFU records / KBC Reports/ CCM tracking tools	A: Conservation farming techniques will attact the required buy-in by VAG members for their successful adoption Increased yields and field intensification will in turn result in reduced vegetation clearance and such processes will not be offset by additional in-migration or other external factors
	3. Demonstration of avoided deforestation (no net loss) in at least 25 VAGs establishing REDD pilots linking to national and/or voluntary carbon financing	0 ha / no REDD+ pilots in VAGs	- 25,000 ha leveraging additional 75,000 ha (intact forest) by protecting VAG designated forest zones - VCS and CCB standard acceptable to international brokers certifying REDD pilots and marketing for carbon financing - Potential buyers identified to purchase the REDD+ carbon credits from the VAG pilots	REDD Pilot Reports by KBC / PIU reports	A: Successful piloting of REDD+ activities assume that the fundamental weaknesses in the current management structure of the national Parks and GMAs – in the form of weak institutional arrangements, sub-optimal community outreach, and inadequate range management – can be overcome. The sale of any REDD+ offsets assumes that the carbon markets are able to pay for such credits and benefits from carbon schemes may provide additional incentives to
	4. Reduced rate of deforestation from fuel	***Unsustainable firewood***	- Under the project designated zones for fuel wood collection will be established optimizing	Audits of fuel wood use and	

Project Strategy	Objectively Verifiable Indicators	Baseline	Target[110]	Sources of verification	Risks and Assumptions
	wood extraction in all targeted GMAs	***collection and SFM governance*** - Wood fuel collection in designated areas is ad-hoc and unsustainable - No sustainable woodlots exist in targeted areas - Knowledge of coppicing practices for fuel wood extraction among communities in targeted areas is very low	SFM (and testing different 'treatments') - Working with the Copperbelt University, the 25 VAGs will be trained in harvesting and coppice management and will each establish an auditable fuel wood use and CFM plan. - Linked to land use planning, experimental fuel wood management and collection zones will be established in 25 VAGs; systems boundaries for VAGs will be defined; and alternative operational modalities for fuel wood harvesting and use will be applied (including coppicing). Leading to the following GEBs: - Direct lifetime avoided emissions savings of 63,281 tCO2e (20 years) compared to fuel wood usage in a BAU scenario	CFM plans for all VAGs; VAG patrol reports; GIS monitoring data; Surveys of Land Use Plan compliance and forest use; CCM tracking tool; PIU reports	communities surrounding the national Parks Successful implementation of REDD+ assumes that additionally, MRV and REDD+ criteria can be met and that leakage boundaries and safeguards can be established; A: Successful completion of these activities assumes that VAG members and local authorities are able to enforce and regulate the collection zones and that coppicing can provide a sufficient biomass resource for cooking needs in the targeted areas
	5. Reduced rate of deforestation from late season fires in targeted GMA zones	***Late season fires and poor fire management monitoring and practices in all targeted GMA zones*** - 174,671 ha of forests burned in late-season fires annually in GMA areas in KNP - 627,088 ha of forests burned in late-season fires annually in PA zones of KNP	- Land use and forest conservation plans will be developed and adopted by all VAGs, supported and monitored by Kafue Central Business Unit (CBU) - Forest and wildlife patrolling and protection will be done by Village Scouts in all targeted GMAs - Fire control action plans will be adopted and put in use in all VAGs - As a result fire losses will be reduced by at least 30% in GMA zones annually through fire protection practices (boundary and firebreak management, early burning, etc), land use planning, patrolling and education	Audits of land use and forest conservation plans; GIS monitoring data; CBU reports; Tracking by National Remote Sensing Centre in Lusaka; CCM tracking tool; PIU reports	A: Like the other activities proposed successful fire management devolved to community structures assumes that communities see benefits from adherence to the fire plans. A reduction in fire losses also depends on climatic conditions since climate-induced stresses can cause increased burning even in the face of fire protection practices.

Project Strategy	Objectively Verifiable Indicators	Baseline	Target[110]	Sources of verification	Risks and Assumptions
		- Annual estimated CO2 emissions from fire in GMA zones of KNP = 230,566 tCO2e - Annual estimated CO2 emissions from fire in PA parts of KNP = 827,756 tCO2e per annum	The resulting direct lifetime avoided t CO2 emissions (over 20 years) from these activities compared to a BAU scenario (in GMA zones) = **1,383,394 tCO2e**		

4. *Total budget and workplan*

Award ID:	**00077150**	**Project ID(s):**	**00088132**
Award Title:	ZAMBIA: Management Effectiveness in Forest Protected Areas		
Business Unit:	ZMB10		
Project Title:	**Strengthening Management Effectiveness and Generating Multiple Environmental Benefits within and around the Greater kafue National Park in Zambia**		
PIMS no.	PIMS 4625		
Implementing Partner	Zambia Wildlife Authority (ZAWA), KBU		

GEF Outcome / Atlas Activity	Imple-menting Agent	Fund ID	Donor Name	Atlas Budgetary Acct Code	Atlas budget description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	TOTAL (USD)	Budget Note
Outcome 1: Increased management effectiveness and financial sustainability of Greater Kafue and West Lunga PA system	PMU KBU / ZAWA	62000	GEF	71200	International Consultants	60 000	40 000	40 000	30 000	30 000	200 000	**1**
				72100	Contractual Services - Companies	716 400	641 400	607 200	640 100	523 000	3 128 100	**2 a ,b, c, d**
				75700	Training, Workshops and Confer	15 000	15 000	15 000	15 000	15 000	75 000	3
				72200	Equipment and Furniture	97 500	7 500	7 500	7 500	7 500	127 500	4
					Total Outcome 1	**888 900**	**703 900**	**669 700**	**692 600**	**575 500**	**3 530 600**	
Outcome 2: - Sustainable land and forest management by "Community Conservancies" in GMAs in collaboration with private sector	PMU KBU / CBNRM / ZAWA CBU	62000	GEF	71400	Contractual Services - Individual	308 000	308 000	308 000	308 000	308 000	1 540 000	5
				71200	International Consultants	142 500	133 750	133 750	92 500	92 500	595 000	6
				72100	Contractual Services-Companies	452 000	452 000	418 000	298 000	298 000	1 918 000	**7 a, b, c**
				75700	Training, Workshops and Confer	150 000	150 000	150 000	150 000	150 000	750 000	**8 a, b**
				72600	Grants	500 000	500 000	500 000	500 000	500 000	2 500 000	9
				71600	Travel	224 000	224 000	224 000	224 000	224 000	1 120 000	10
				72300	Materials and Goods	36 000	36 000	36 000	36 000	36 000	180 000	11
				72200	Equipment and Furniture	297 000	17 000	42 000	17 000	17 000	390 000	12
					Total Outcome 2	**2 109 500**	**1 820 750**	**1 811 750**	**1 625 500**	**1 625 500**	**8 993 000**	
Project Management	PMU DNREP	62000	GEF	71200	International Consultants			40 000		40 000	80 000	13
				71300	Local Consultants	3 000	3 000	3 000	3 000	3 000	15 000	14
				71400	Contractual Services - Individual	57 500	57 500	57 500	57 500	57 500	287 500	15
				72100	Contractual Services-Companies	20 000	20 000	20 000	20 000	20 000	100 000	16
				75700	Training Workshop and Meetings	16 500	16 500	16 500	16 500	16 500	82 500	17
				71600	Travel	8 000	8 000	8 000	8 000	8 000	40 000	18
				72200	Equipment and Furniture	16 000	2 250	1 000	1 014		20 264	19
					Project Management	**121 000**	**107 250**	**146 000**	**106 014**	**145 000**	**625 264**	
Total						**3 119 400**	**2 631 900**	**2 627 450**	**2 424 114**	**2 346 000**	**13 148 864**	

Summary of Funds

Summary of Funds	
Source of Funds	**Total (US$)**
GEF	**13, 148, 864**
Co- Finance	
Government of Zambia	37, 396, 777
Bilateral Norway	5, 000, 000
NGO The Nature Conservancy	1, 100, 000
NGO WWF	400, 000
UNDP	3, 040, 000
Total Co-Finance	**46, 936, 777**
Totals-GEF & Co-Finance	**60, 085, 641**

Budget Notes	
COMPONENT 1	
1	**International Consultants:** To facilitate initial strategic plan (in form of log-frame) and to facilitate annual performance review, budget and planning processes. The intention is to replicate the South Luangwa management system in which performance targets, regular review, decentralized financial and technical control within the business unit, and clear role and job definition have greatly improved management effectiveness and financial efficiency (Output 1.1). Deliverable: annual performance review, workplan and budget • **Management Specialist/ Facilitator** – facilitate meeting and provide review report and annual workplan and budget with KBC staff • **PA/CBNRM Specialist –** technical support to check quality of data, performance metrics, etc. Protected Area economist. This consultant requires a financial and economic analysis of KNP and GMAs, for the purpose of making a submission to Ministry of Finances as strong case for providing recurrent and capital support to KNP (Output 1.2) Deliverable – report and analysis to Ministry of Finance to justify long-term support of recurrent and capital funding to KBC on the basis of a rigorous financial sustainability plan (i.e. generating income through tourism) and economic impacts in terms of tourism turnover, value-added and employment
2	**Contractual Services- Companies** **a. Kafue Business Unit/Centre (KBC):** The Kafue Business Unit (KBC), is a devolved and independent business centre within ZAWA which will be used to provide the following services and outputs: • To combat serious poaching in KNP: Implementation of a high-quality patrol tracking information system including patrol days, PA coverage, poaching incidents, wildlife sighting, apprehensions of poachers and confiscation of firearms and snares. This includes tracked poachers through the courts and prisons to determine punishment levels and where these were actually implemented. Annual funding will be disbursed only through an audited patrol performance (This is linked to the LE information system) (output 1.3). Product: 8,000 patrol days, poaching incident catch/effort <2 incidence/100 patrol days; at least 100 arrests and 30 firearm confiscations. • Maintenance of equipment (provided by World Bank/SEED) to manage fire, including road access, firebreaks, grading, minor culverts, etc. Product: km firebreak, km access road maintained, number of water crossing built maintained (to enable placement of fire prevention measures immediately after the rains before the fire season) Funding will be made available to KBC to • Monitor fires in KNP using remote sensing and ground monitoring. Product: annual map and statistics of fire extent • Training fishermen (who have an historical legal right to use the park), tourists, staff and communities about the fire management policy. Product: training sessions and education materials. **b. Communities, managed through KBC:** • Product 1: 14,000 patrol days in West Lunga. Funding will be provided to West Lunga communities on a sliding scale (though the KBC) to pay patrol costs and bonuses for Village Scouts in West Lunga (in anticipation of these costs being absorbed through a Public Private Partnership. • Product 2: 60,000 patrol day in the GMAS around KNPs. Funding will be provided by KNP communities (and managed by the KBC) to pay patrol costs

	and bonuses for 200 Village Scouts in the GMAs around KNP (in anticipation of increased revenues from recovering wildlife populations and revenue retention facilitate by the project). **c. Contractual Services for Capacity Development Training.** The training for many of the skills required is currently not available in Zambia, and is only beginning to emerge in the southern Africa region, e.g. .devolved PA management, micro-governance and equitable benefit sharing in CBNRM, 'intelligent' law enforcement etc. Indeed, through the Project innovative approaches will be developed. However, innovation requires a combination of technical assistance, implementation, monitoring and training (i.e. adaptive learning). To achieve this, an approach is taken direct support will be provide to the PA through recruitment of a consultant who has dual responsibilities – to provide technical support and mentoring to the PA, but do this in partnership with a local and/or regional training institution/s so that the required skills are captured in training materials, curriculum and training-of-trainers. This will allow benefits to be expanded more widely in Zambia (and the region) through tailored professional short-course training. • **Tourism/Commercial Specialist.** Role is to train PA/CBNRM staff in tourism/wildlife economics and contract negotiation, to develop standard performance contracts for tourism lodges, to assist with establishing negotiating processes and training to implement these contracts, and to train staff in performance monitoring of contracts (output 1.2). Product: guidelines for developing and monitoring tourism lodge contracts; teaching manual for the same **Law Enforcement/Management Information Specialist**. Upgrade/develop law enforcement monitoring systems, and train 25 staff in use of data (i.e. 'intelligent law enforcement') and management of patrols, prosecutions, investigations, logistics related to running an efficient law enforcement system. Note that Zambia is probably a regional leader in the management of LE, and that strengthening these systems and incorporating them into formal training may also have a positive impact of LE regionally (output 1.3). product: technical support of LE monitoring system; training course and manual for using evidence-based law enforcement monitoring • **General PA training**. Funding will be provided annually to develop a training needs assessment and implement a training strategy in key aspects of PA management mainly through certificates/diplomas and professional short courses. This might include funding PA staff to attend certificate training (e.g. SAWC), and/or hiring trainers to run courses in Kafue for larger numbers of staff. Graduate training targeted at resolving identified problems can also be considered. Output: Training of 30 PA staff at certificate/diploma level • Note: In recognition of the absence of thee training skills in the region, partly stimulated by Project preparation, a consortium comprising Copperbelt University, Southern Africa Wildlife College, Stellenbosch University and Norwegian University of Life Science recently submitted a $3.2m grant proposal to NORHED to fund the development of curricular and training capacity for exactly such skills. **d. Studies and Surveys** To undertake Studies and surveys • Funding will be provided to KBC in Y1 and Y4 to outsource an aerial survey. Produce: aerial survey report • Funding will be provided to KBC in Y2 and Y3 to outsource a study of the potential for a PES scheme linked to the Kafue River and ZESCO. Product: draft agreement between ZESCO and KNP on hydropower-related PES.
3	**Trainings, Workshops and Conferences** • Funding will be provided to KBC to support the annual planning and review meeting.
4	**Equipment and furniture**

	• Funding will be provided to KBC to maintain and update computers and printers • Funding will be provided to KBC to purchase essential 4x4 vehicles in support of LE and fire control and for supporting 200 Village Scouts in PA buffer zones. These vehicles will be earmarked for deploying, uplifting, resupplying and rescuing patrol scouts, and for fire control measures.
COMPONENT 2	
5	**Contractual Services- Individual** A CBNRM Support Unit will be established at KBC and managed by the Project Manager (output 2.1). Its costs are as follows • Hire of a national/regional CBNRM specialist (Masters/PhD) plus 12 community liaison extension staff to be located in communities • Purchase of vehicles and motorbikes, office equipment, monthly travel expenses and monthly costs of materials and goods is included under other line items (include below). The CBNRM support programme is specifically designed to reduce the transport costs of supporting 200,000 people in areas the size of Costa Rica. The majority of staff are located in villages therefore, provision is made for vehicles and motorbikes for extension staff covering the Mumbwa, Namwala, West Lunga and Mufunta GMAs to service the remote 25,000km2 Lunga-Luswishi and Kasonso-Busanga GMAs where wildlife and forestry is particularly important.
6	**International Consultants:** • **Governance/livelihoods monitoring specialist** (US$ 500 x 125 days) to assist in the development of monitoring systems for governance and livelihoods by CBU and CBNRM team (Output 2.1). Product: standard survey protocols developed for livelihoods and governance monitoring, CBNRM staff training to implement them; and materials/training provided to CBU to run this as a short course in action research • **Wildlife tourism commercial specialist*** (US$ 500 x 180 days) to work with VAGs to develop at least 15 PPPs (hunting, tourism, other), and to establish systems for marketing, allocating and contracting PPPs, including tracking performance relative to contracts. Establishing systems for quota setting, allocation and administration is included here because it will provide the primary commercial basis of many PPPS (output 2.2d). Products: site tender documents; standard contracts for hunting and small lodges; co-development of marketing systems with communities/KBC; training of participants in tender evaluation and interviewing of potential partners; process developed as short course training at CBU/regional training institution . • **CBNRM Institutional Design and Management specialist*** (US$ 500 x 225 days). To work with and mentor the CBNRM Unit (and training institutions) to develop VAG constitutions, conformance monitoring systems, financial management systems including participatory budgeting and activity-based budgeting, Participatory Oriented Monitoring Systems, and to experientially train support staff in governance, management, conformance monitoring and adaptation (output 2.1d). Product: manual on VAG constitutions, conformance monitoring, and participatory budgeting and control; at least 50 people training in use of this manual; process used to develop a short course at CBU/regional training institution • **Legal specialist in land/community titling (150 days @ $500).** This local and/or regional specialist and will be contracted to legally establish VAGs with title and/or resource use rights in ways that incorporate CBNRM best practice – see annex 5. This must also incorporate institutional/governance principles and requirements (developed through the above consultancies) (output 2.2a). Product: new legal arrangements to strengthen community rights, preferably in the form of Village title linked to governance conformance requirements (in tune with the Institutional/ Design product) • **CBNRM Land Use Planning and MOMS specialist*** (US$ 500 x 225 days) To work with and mentor KBC, CBNRM and key stakeholder teams to develop VAG economic and land use plans. Note that the LUP used in Namibian Conservancies is a best-practice that can inform this process (output 2.1d). Product: Standard, concise land use plan format appropriate to community participation; training of at least 25 support staff in participatory LUP; process developed as short course training at CBU/regional training institution

	• **Data, Remote Sensing and Information Management specialist** (US$ 500 x 135 days) to work with the KBC information unit to develop and backstop a data and information system to monitoring and report results of RS of forest cover, Village Scout reports through MOMS, CBNRM conformance monitoring, survey results from CBU, etc. (output 2.1c, 3.1). Product: databases and standard reports in visual format for most aspects of Project including finances, livelihoods, governance, law enforcement, land use plans, SFM, wood use for HH and tobacco smallholders, etc. • **REDD+ specialist (150 days @ $500).** In liaison with CBNRM Unit, to establish technical criteria for REDD-readiness pilot payment and/or certified access to Voluntary Carbon Payments Standard (output 2.4**)** Product: Protocol for community forest relating to REDD-readiness pilots developed; at least 10 staff training in protocol; protocol and implemented in at least four pilot communities *These consultants will provide both technical development and backstopping to PA/CBNRM staff in the Project. They consultants will be required to work with training institutions (especially CBU) to ensure that these outputs are incorporated into training courses and the development of capacity in Zambia/region to provide formal certified training in their subject area **The PM will ensure (as appropriate) that these consultants are contract to work closely with KBC and local NGOs and to provide a concise policy briefing and/or guidelines related to their subject. This should also be tailored for use by the Natural Resources Consultative Forum which is responsible for policy advocacy.
7	**Contractual Services- Companies** **a. Contractual services (NGO**) • A local NGO will be contracted to develop policy briefings on CBNRM, VAG Governance, game ranching, PPPs, and SFM/REDD in liaison with stakeholders (output 2.1d.) Product: policy briefings on CBNRM, VAG governance, SFM/REDD, game ranching • A local NGO will be contracted to provide conservation farming inputs to at least 1,600 farmers in 40 VAGs in the project areas (output2.3a). Product: provision of conservation farming inputs to 1,600 farmers • Training in conservation farming **b. Contractual services** • A local education/training institution (or consortium) will be contracted to develop a research team that undertakes a survey of (1) livelihoods and (2) governance (n=40-60) in each participating VAG once every three years. A requirement is that results are given back to each VAG within two weeks of the survey. Results will also be provided to the Kafue Stakeholder Committee in the form of a visualized tracking tool for half-annual and annual meetings (output 2.1). Product: livelihoods and governance survey reports for at least 20 VAGs annually • A local education/training institution (or consortium) will be contracted to develop and implement an independent evaluation of the efficacy of conservation farming through an annual comparative survey of 50 farmers (with) and 50 farmers (without) conservation farming (output 2.3). Product: technical evaluation report of conservation farming, and peer reviewed publication • A local/regional education/training institution (or consortium) will be contracted to develop a methodology for monitoring the effectiveness of 25 Village protection forests using REDD-ready protocols (working with the REDD consultant) and will establish an annual monitoring system that is participatory but independently supervised and managed by CBU (output 2.4). Product: protocol for monitoring effectiveness of Village protection forest using REDD-ready criteria; annual evaluation report of 25 Village forests this research/monitoring will be backstopped by relevant International consultants. **c. Contractual services (KBC)** • KBC will be provided with a monthly budget to run the operations of an integrated data-base management information system that is required to

	provide data on all aspects of the programme to stakeholders, including annual and half-annual meetings, in a timely, accurate and visualized manner (output 2.1c). Product: up to date reports on all aspects of project included in monthly, quarterly, annual reporting • KBC will be provided with a budget in the first three years of the project to operationalize a LUP team comprising appropriate government officials, CBNRM Unit and other partners to develop at least 20 VAG land use plans. This will be integrated with inputs from the Consultant, and with LUP/MOMS training (output 2.2c). Product: LUP team trained (see TA above) and 60 VAG land use plans agreed by full community meetings • KBC will have an annual budget to facilitate the deployment of Village Scouts including transport and patrol rations. Product: at least 200 patrols deployed annually, and LE tracking reports submitted and analysed
8	**Training, Workshops & Conferences** **a.** A local/regional education/training institution (or consortium) will be contracted to develop the capacity to provide the following accredited training: • To train 50 people in CBNRM principles and practice relating to participatory governance (output 2.2b); Product: 50 people graduate from CBNRM professional short courses • To develop training in LUP/MOMS with WWF (which developed MOMS). This will consist, according to decisions at the time, of a combination of on-site courses for 25 participants and/or enabling individuals to participate in specialist courses. Training will be developed in coordination with the Consultant responsible for development MOMS/LUP systems (output 2.2c) Product: Short course in MOMS developed and 4 trainers trained; 50 people graduate from CBNRM professional short/experiential training courses annually • run an annual course in PPP negotiating, contracting and management (output 2.2d);); Product: 5 people graduate from PPP planning, negotiating, contracting and monitoring professional short courses annually • Funding will be provided to enable the KBC data management team to obtain appropriate training in data management, GIS and remote sensing related to their performance responsibilities. This will use specific training institutions as identified according to evolving training needs (output 2.1c). **b.** The CBNRM Unit will have an annual budget to run workshops and meetings related to various aspects of CBNRM training.
9	**Grants** Micro-grants. A micro-grant per year will be available to 50 VAGs and paid on the basis of quantified annual performance assessments of SFM in at least 25,000ha of forest (see output 2.4a – independent monitoring). This funding will be managed by VAGs to provide both HH benefits in relation to SFM, and to ensure that these forests are protected, according to decisions made at local level by the whole community and facilitated by the CBNRM Unit (output 2,3). Product: 25 VAGs reaching SFM targets and using PES-payments for SFM and HH benefits.
10	**Travel** Monthly travel expenses for CBNRM Unit to cover this huge area (output 2.1) Products: for each of the 60 VAGs: tracking tools each quarter for – 3 individual POMS questionnaires, audit, general meeting including financial report, projects tracking tools and issues raised; annually – AGM report, quota-setting report, elections, governance conformance report, independent audit; provide quarterly/annual training on participatory budgeting, value of quotas, SFM/REDD, gender, constitution.

11	**Materials & Goods** Monthly expenditure on materials and goods for field workshop costs, facilitating equipment, etc. for CBNRM Unit (output 2.1).
12	**Equipment and furniture** • The CBNRM Unit will be provided with one 4x4 vehicle to support VAG activities and to enable them to support the deployment, monitoring and training of Village Scouts • The CBNRM Unit will be provided with motorcycles to support community liaison assistants in field activities • CBNRM Unit purchase and replacement of office equipment • Management Information Unit at KBC will have a budget annually to purchase images and related supplies • Management Information Unit at KBC will have a budget in Y1 and Y3 to purchase computers and software
PROJECT MANAGEMENT COSTS	
13	**International Consultants** • Mid-term and terminal evaluations
14	**Local consultants** • Annual project audit
15	**Contractual services – individual** • Hire of Project Manager • Hire of Project Finance Administrator • Administration Assistant • Driver
16	**Contractual services – Companies** • Support costs of Secretariat of Project Inter-Ministerial Committee in DNREP
17	**Trainings, Workshops and Conferences** • Two stakeholder meetings each year • Workshops and meetings of Inter-Ministerial Committee each year • PMU to participate in and facilitate annual review and planning workshop
18	**Travel** Travel costs of Project Manager
19	**Equipment and furniture** • Purchase of 4x4 vehicle for Project Manager, specifically for the purpose of project monitoring and field visits. • Purchase of computers and office equipment for Project office

5. Management Arrangements

36) The implementation structure in Figure 17 and Table 12 calls for setting up a Committee of the Permanent Secretaries (Inter-Ministerial Committee) at the Central level, with the Department of Natural Resources and Environmental Protection (DNREP) acting as its Secretariat. This National Project Coordination Unit (NPCU) has the task of coordinating policy issues, calling for oversight meetings, and protecting and enhancing the devolved structure of the project. The **Inter-Ministerial Committee** is like a **Project Board** responsible for making strategic decisions and providing guidance and oversight to the Project Manager, but also in bringing Project achievements and requirements (e.g. barrier removal) to central attention. The Project Board plays a critical role in project monitoring and evaluations by quality-assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project, or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities.

37) The Project will be established within the Kafue Business Centre, under ZAWA. Project management, and coordination with stakeholders will be the responsibility of the **Project Manager** who will be an international/regional expert recruited to manage the project in close collaboration with UNDP (see TOR, Annex 4). The Project Manager will be supported by a dedicated **Project Financial Manager** (TOR 3). A key recruit, also to be coordinated by UNDP, will be the **CBNRM Manager** (TOR 2). A small CBNRM team (TOR4) will be recruited locally by the project[112]. This decentralised organization structure builds on the success of decentralised approaches in Kafue and South Luangwa, and is workable in the current fluidity of the institutional situation in ZAWA, Forestry, and related Ministries. The project Manager will be required to implement the Project. Work and financial disbursements will be guided by the Annual Work Plan. This will be developed through a process of performance review and work planning, and will be approved by the Project Board and UNDP. The Project Board can also consider and approve half-annual plans (if necessary), and can also approve any essential deviations from the original plans in collaboration with UNDP. Note that the purpose of the Annual Plan is to provide the PM authority to act, with recourse to the Board only where actions fall outside agree plans. Note also that much of the research and survey work will be done by Copperbelt University, who have a programme on forestry and other natural resources management. The capacity assessment of the institution was under taken and found successful. Another aspect is that Copperbelt University has a programme to support research in environment and natural resources which the project could benefit from. Work done by Copperbelt University will be done in combination with specific use of local, regional and international consultants.

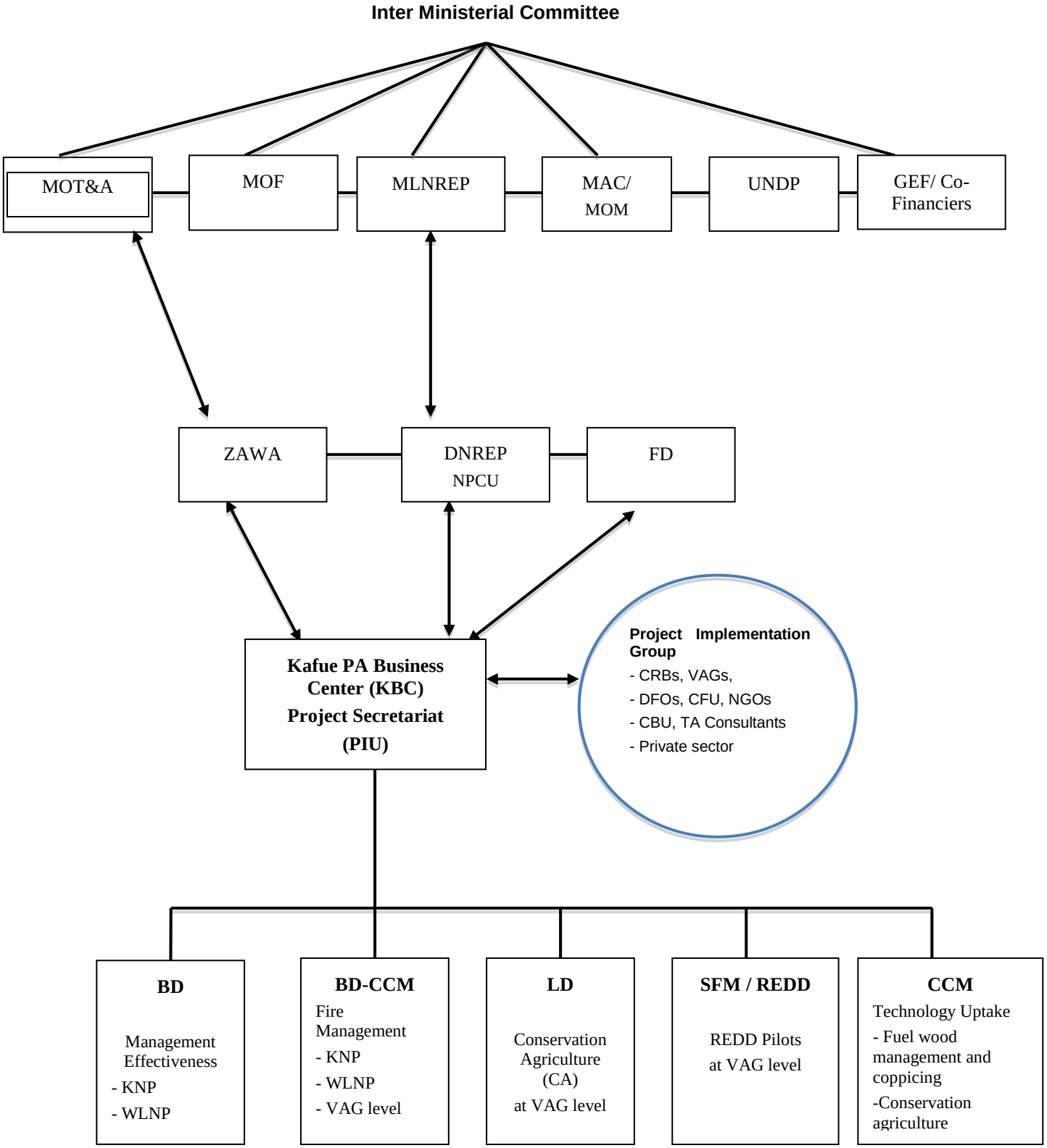
[112] An alternative considered was to fund and provide support in exactly this manner and using the same TORs but through an appropriate NGO or consortium of NGOs. At the time of writing, ZAWA is passing through a period of leadership flux and policy. NGOs are also increasing their capacities in CBNRM support. Therefore, the exact placement of this unit (not its functions) should be subject to an operational decision.

Table 12. Project implementation: key roles and responsibilities

Organization	Key Roles
Inter-Ministerial Committee	• "Project Board" • Approval of annual workplans and budgets • Link project to National processes • Approve strategic decisions
Department of Natural Resources and Environmental Protection	• Secretariat to Inter-Ministerial Committee • Organise and manage annual/half-annual meetings of Inter-Ministerial Committee • Technical oversight of annual performance evaluations, workplans and budgets
Project Manager	• Reports to Project Board through DNREP and in liaison with KBC Regional Manager and Director General ZAWA • Project management and supervision of staff, finances, vehicles and equipment • Annual review of progress, work planning and budgeting • Development and over-sight of sub-contracts to MLNREP, KBC, CBU, consultants, etc.
UNDP	• Approval of PIRs, annual workplans and budgets, sub-contracts worth $10,000 or more

38) In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the final decision shall rest with the UNDP Project Manager. Potential members of the Project Board are reviewed and recommended for approval during the PAC meeting. Representatives of other stakeholders can be included in the Board as appropriate. At the national level there is need for close collaboration between DNREP, ZAWA, and Forest Department, with key actors in civil society such as the Natural Resources Consultative Forum, and with the private sector (e.g. Zambia Association of Tourism Operators).

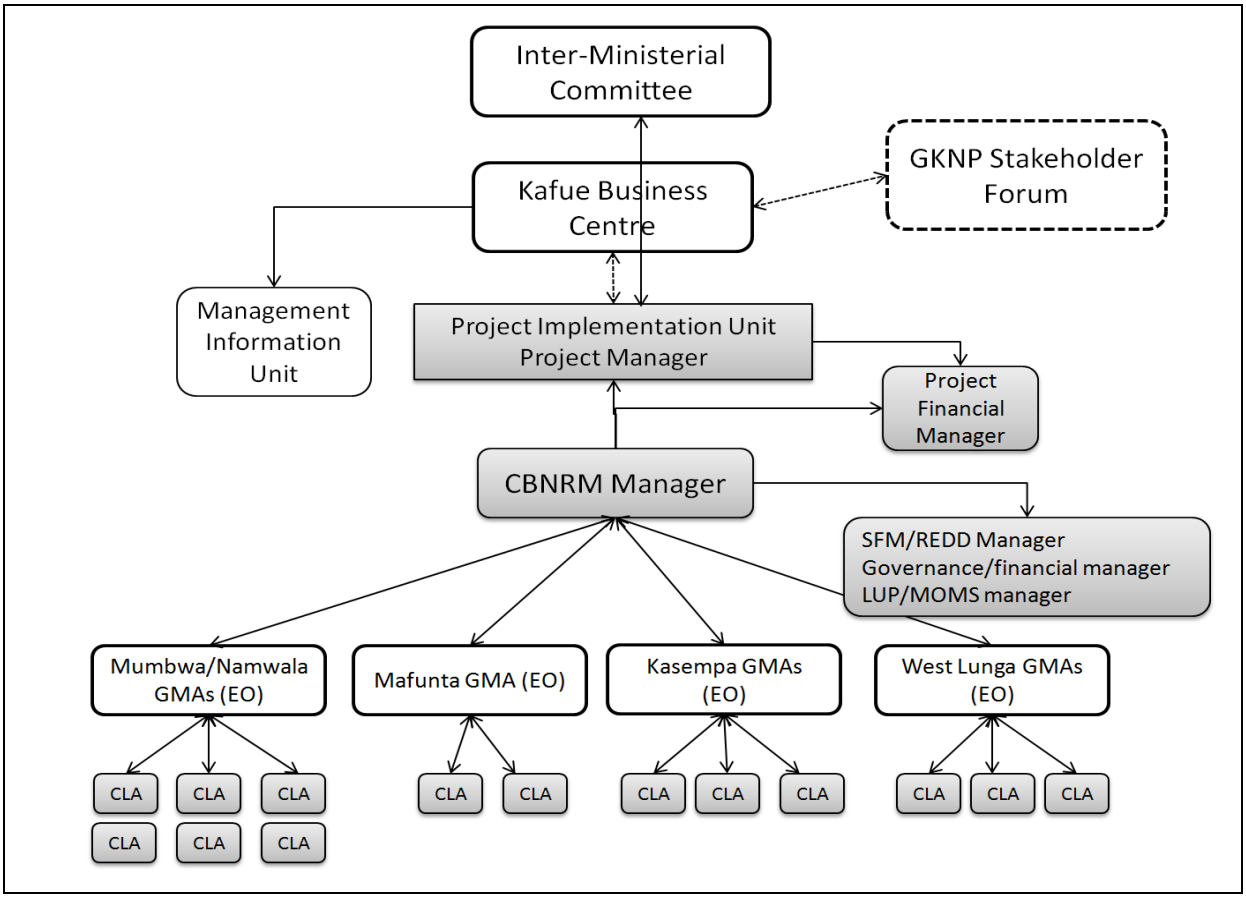
Figure 17. Implementation Structure



39) **Project Management**: The Project Manager is located at the Kafue Business Centre known as the Project Implementation Unit (PIU). The PM acts as a Project Secretariat and has the authority to run the project on a day-to-day basis on behalf of the Implementing Partner (ZAWA) within the constraints laid down by the Inter-Ministerial Committee (Board) (figure 20). The PM reports to the GKNP Stakeholder Forum through the ZAWA Regional Manager for day-to-day issues, and to the Inter-Ministerial Committee on an annual basis. The Project Manager's prime responsibility (full responsibilities are described in Annex 24) is to ensure that the project produces the results specified in the project document to the required standard of quality and within the specified constraints of time and cost.

40) The CBNRM Manager will be specifically recruited with CBNRM skills and implementation track record (Annex 14) and has the authority and responsibility for this part of the project, while the Project Manager is responsible for the overall project (see Annex 24). Note the need to integrate CBNRM management with ZAWA's efforts to support CBNRM, but also that the Project needs to lead this process.

Figure 18: Project Structure at Mumbwa Level



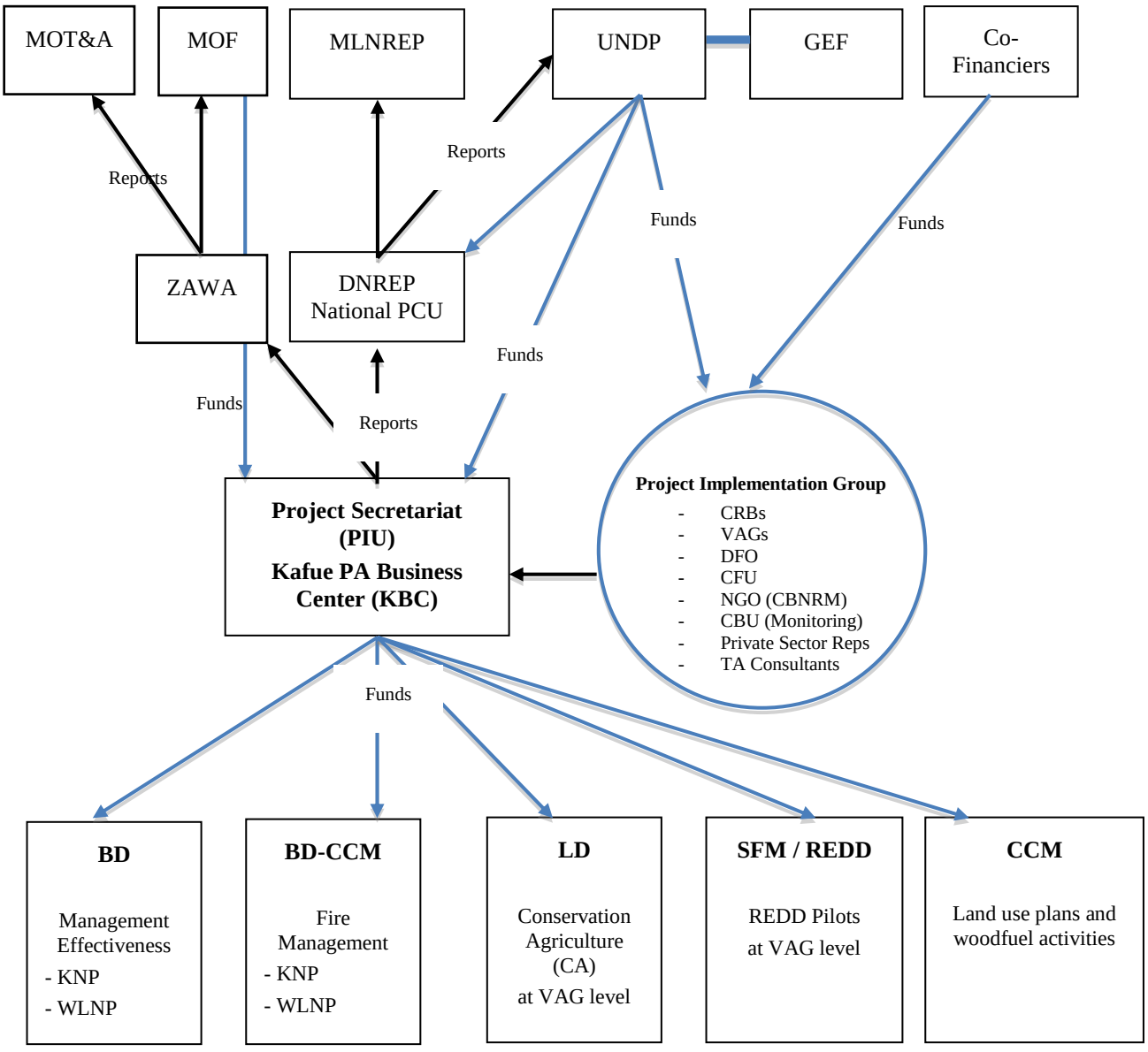
41) **GKNP Stakeholder Forum/Project Implementation Group**: The Project implementation group consists of all decentralized collaborating partners, who are critical to project implementation. These are: CRBs and VAGs, District Forest Officers, Conservation Farming Unit, contracted NGOs and CBNRM associations, Copperbelt University, private sector association representatives, and TA consultants.

42) The **Fund Flow** and reporting is described in Figure 17. It shows that Government may request UNDP to administer GEF funds and co-financing amounts and disburse directly to various project implementers, such as: the National Project Coordination Unit at DNREP, the Project Implementation Unit at KBC, and to individual entities within the Project Implementation Group. Other Co-financiers may wish to disburse directly or channel funds through the UNDP.

43) Government Co-financing from Ministry of Finance will flow through the Ministry of Tourism and Art to ZAWA Project Implementation Unit at KBC.

44) **Project reporting** will be submitted by the Project Implementation Unit at KBC to both ZAWA Head Office as well as to the National Project Coordination Unit at DNREP so that these can be submitted to the respective Ministries – MOF, MOT&A, and MLNREP as well as to UNDP and GEF Secretariat.

Figure 19. Fund Flow and Reporting



6. Monitoring Framework and Evaluation

45) The project will be monitored through the following M& E activities. The M& E budget is provided in the table below. At **Project start:** A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and with appropriate/feasible regional technical policy and programme 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. The Inception Workshop should address a number of key issues including:

a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
b) Based on the project results framework and the relevant SOF (e.g. 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. This should be done within a long term plan for financial sustainability.
c) 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.
d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

46) 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.

47) **Quarterly:**

- Progress made shall be monitored in the UNDP Enhanced Results Based Managment 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.

48) **Annual Project Review/Project Implementation Reports (APR/PIR):** 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 SOF (e.g. GEF) reporting requirements. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)

- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

49) **Periodic Monitoring through site visits:** Government (Ministry of Finance -M&E),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 less than one month after the visit to the project team and Project Board members.

50) **Mid-term of project cycle:** The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (insert date). 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, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. 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-EEG. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Centre (ERC). The relevant SOF (GEF) Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

51) **End of Project:** 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 SOF (e.g. 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-EEG. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Centre (ERC). The relevant SOF (e.g. GEF) Focal Area Tracking Tools will also be completed during the final evaluation.

52) 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.

53) **Learning and knowledge sharing:** 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.

Table 13. M& E workplan and budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Inception Workshop and Report	▪ Project Manager ▪ UNDP CO, UNDP CCA, ZAWA	Indicative cost: 10,000	Within first two months of project start up
Measurement of Means of Verification of project results.	▪ UNDP CCA RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on *output and implementation*	▪ Oversight by Project Manager ▪ Project team	To be determined as part of the Annual Work Plan's preparation.	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	▪ Project manager and team ▪ UNDP CO ▪ UNDP RTA ▪ UNDP EEG	None	Annually / Quarterly
Periodic status/ progress reports	▪ Project manager and team	None	Quarterly
Mid-term Evaluation	▪ Project manager and team ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: 40,000	At the mid-point of project implementation.
Final Evaluation	▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost : 40,000	At least three months before the end of project implementation
Project Terminal Report	▪ Project manager and team ▪ UNDP CO ▪ local consultant	0	At least three months before the end of the project
Audit	▪ UNDP CO ▪ Project manager and team	Indicative cost per year: 3,000	Yearly
Visits to field sites	▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US$ 93,000 (+/- 5% of total budget)	

UNDP corporate tools are to be used in project monitoring and evaluation:

1. *ERBM which is linked to ATLAS*
2. *UNDP Evaluation Resource Centre*

7. Legal Context

54) This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the Government of Namibia and the United Nations Development Programme. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

55) UNDP acts in this Project as Implementing Agency of the Global Environment Facility (GEF), and all rights and privileges pertaining to UNDP as per the terms of the SBAA shall be extended mutatis mutandis to GEF.

56) The UNDP Resident Representative in Namibia is authorized to effect in writing the following types of revision to this Project Document, provided that s/he has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

a) Revision of, or addition to, any of the annexes to the Project Document;

b) Revisions which do not involve significant changes in the immediate objectives, outcomes or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;

c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and

d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

57) Audit Clause

The Project audits will be conducted according to UNDP Financial Regulations and Rules and applicable Audit policies.

8. Annexes

See separate Volume on Annexes.

Agreements

The agreements will be attached once they are made available.

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