MANAGEMENT PLAN For WILDLIFE DISPERSAL CORRIDORS THE KIDEPO CRITICAL LANDSCAPE (UGANDA)

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UNDP

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MANAGEMENT PLAN

FOR THE WILDLIFE DISPERSAL CORRIDORS IN THE KIDEPO CRITICAL LANDSCAPE (UGANDA)

FOR THE PERIOD
2018 –2027

NEMA
National Environment Management Authority
ENSURING SUSTAINABLE DEVELOPMENT

UGANDA WILDLIFE AUTHORITY
UWA

NFA
National Forestry Authority

FOREWORD

The Kidepo Critical Landscape in north and north-eastern Uganda is rich in biological resources with systems of protected areas comprising of national parks, game reserves and forest reserves. The landscape is also blessed with great expanses of shea butter trees (Vitellaria paradoxa) outside protected areas. However, there are emerging threats that this landscape is experiencing and these include: Wildlife poaching, Encroachment, Unsuitable use of natural resources, Unplanned infrastructure placement, Climate change, illegal and uncontrolled vegetation burning, Human-wildlife conflicts, Human population growth and Limited community participation in natural resources management. All these pose a challenge to the management of biodiversity outside protected areas, especially in the wildlife dispersal corridors and shea tree parklands.

Management and wildlife dispersal corridors and shea tree parklands requires proper institutional framework and planning mechanisms. It is on this basis that this Management Plan has been prepared. This Management Plan (MP) covers the wildlife dispersal blocks that straddle the Kidepo Critical Landscape (KCL) of north-eastern Uganda. This landscape sprawls over and area of more than 10,700 km2 and consists of the district of the Karamoja region. The geographical location of the Kidepo Critical Landscape is between latitude 00 22' and 00 35' N and between 300 56' and 330 02' East. The landscape has a Protected Area (PA) estate covering approximately 5,775 km2 . Controlled Hunting Areas (CHAs) cover the biggest percentage of the Pas (58%), followed by National Parks (NPs) (22%) and Central Forest Reserves (20%). There are twelve local forest reserves.

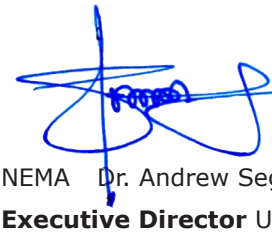
The management plan has been developed and aligned to contribute to implementation of the National Vision 2040, the National Development Plan II, the National Biodiversity Strategy and Action Plan, the National Forest Plan, the Uganda Wildlife Strategic Plan and Sustainable Development Goals. The implementation of the plan is envisaged to result in improved management corridors, create jobs and employment, improve livelihoods of local communities and also strengthen resilience of local communities to adverse impacts of climate change. The Management Plan provides opportunities for local communities, civil

society organizations, private sector and development partners to effectively participate in management of the wildlife dispersal blocks in the Kidepo Critical Landscape.

We thank the Global Environment Facility for providing the financial support through the United Nations Development Programme (UNDP) which made it possible for this Management Plan to be prepared. We are equally grateful to Government and project partners for the co-financing support that they provided.

We call upon all stakeholders to work together in the implementation of the this Management Plan

Dr Tom. O. Okurut
Executive Director
NEMA



Dr. Andrew Seguya
Executive Director UWA

Mr. Michael Mugisa
Executive Director NFA

ACKNOWLEDGEMENTS

The preparation of the Management Plan for Wildlife Dispersal blocks in the Kidepo Critical Landscape has been made possible with input from various stakeholders at local, sub-county, district and national levels including communities that live adjacent to wildlife dispersal blocks. In particular NEMA would like to appreciate the contribution of the district local governments of Abim, Agago, Kaabong, Kitgum, Kotido and Otuke districts together with the sub county local governments of Alerek, Kacheri, Karenga, Lapono, Ogur and Orom for the input and guidance during the stakeholder consultation.

NEMA is grateful to the various partners, including though not limited to United Nations Development Programme (UNDP), National Environment Management Authority (NEMA), Uganda Wildlife Authority (UWA), National Forestry Authority (NFA), Forest Support Services Department of the Ministry of Water and Environment, Non-Governmental Organizations (NGOs), Community Based Organizations (CBOs) and more specifically local communities living close to the wildlife dispersal blocks.

Also, NEMA would like to thank the project partners (UWA and NFA) for working together and delivering this very important output of the Kidepo Critical Landscape project. In the same vein, NEMA thanks the Project Coordinator (Mr. Sabino Francis Ogwal), the Project Manager (Mr. James Okiria-Ateker) and his team as well as Mr. Aggrey Rwetsiba and Mr. Masareka Johnson from UWA and, Ms Esther Nekesa from NFA for the good work done.

EXECUTIVE SUMMARY

The Kidepo Critical Landscape (KCL) sprawls over an area of more than 10,700 km2 of well-watered flat plains, gentle hills and valleys in Acholi (Kitgum and Agago districts) and parts of Lango (Otuke district). In addition, the area graduates from an area of flat plains and gentle hills of Abim and Kotido districts of Karamoja to the rocky landscape in the north-eastern corner of the district of Kaabong. The vegetation in the Kidepo landscape may be described as woodland and shrub tropical savannah in the Acholi and Lango areas; and semi-arid savanna woodlands in Kotido and Kaabong districts. The landscape has a Protected Area (PA) estate covering approximately 5,775 km2, consisting of Controlled Hunting Areas (CHAs), National Parks (NPs) and Central as well as Local Forest Reserves. In between these protected areas are dispersal blocks which provide connectivity bridges for wildlife movement. This plan has been developed for efficient collaborative management of these dispersal blocks.

The development of this management plan was done through a consultative process, and utilized a mixed-methods approach. Qualitative and quantitative data were gathered through desk reviews, focus group discussions, key informant and semi-structured interviews. The total annual economic value of ecosystem goods and services in the wildlife dispersal blocks was estimated using the benefits transfer approach and discounted into a present value over 10 years of the Management Plan (2018 – 2027), using a discount rate of 10% and 2017 constant prices. All the information assembled was triangulated to ensure that the results are linked up into a coherent and credible evidence base. The focus was to provide sufficient evidence to develop a reliable, detailed and up-to-date Management Plan.

A review of the current biodiversity of the Kidepo Critical Landscape including the wildlife dispersal block indicates a very high species richness. Data collated from literature indicates that the landscape contains all of the big game although those that are most commonly found in the dispersal blocks include elephants, antelopes, eland,

hyaena, pangolin, etc. The most common birds in the dispersal blocks include vultures, francolins, quail, weavers, eagles, etc. Amphibians and reptiles that are commonly found include snakes, skinks, crocodiles, lizards, chameleons, etc. Other forms of biodiversity that have been recorded in the landscape include butterflies, dragonflies and moths. Perhaps the highest diversity in a single class is that of plants. Over 700 plant species, including those highly threatened with extinction, have been recorded in the Kidepo landscape. These include the Encephalartos septentrionalis, Vitellaria paradoxa, Prunus africana, Aloe volkensii, etc. The Kidepo landscape is therefore richly endowed in biodiversity.

The area has had a steady increase in human population, from 444,679 persons in 1991 to 994,337 persons in 2014. This represents a doubling of the population in a period of just over 20 years. Since the land tenure in the area is customary, with a strong clan system, there is undoubtedly bound to be some conflicts with nature, especially in the wildlife dispersal corridors. The biggest conflict in the area is therefore that of survival, pitting humans versus wildlife. Being a resource endowed area, an evaluation of the economic potential of the wildlife dispersal blocks indicated that the value of ecosystem goods and services (at 2017 base year rates) stood at UGX 115,277,160,668 after adjusting for inflation.

The net present value of the dispersal blocks over 10 years of the Management Plan (2018 – 2027) was estimated at UGX 890,139,130,023 indicating that there is a high economic potential in the area to offer a contribution to national income and livelihoods.

The development of this Management Plan was therefore underpinned by the above values of the Kidepo landscape in general and the wildlife dispersal blocks in particular. Since there are no records of specific Management Plans for these dispersal blocks, this is the first of its kind for the area and will have 10-year rolling period with an initial period of 10 years from July 2018 to June 2027. The Management Plan will reviewed during the last year of implementation to capture new or emerging issues.

The goal of the management plan is to ensure that the wildlife corridors of the Kidepo Critical Landscape are conserved and properly managed to enhance its ecological integrity and functionality. The specific objectives are to:

1. *Identify and implement requirements for corridor conservation, restoration and management alternatives.*
2. *Promote sustainable natural resource use and management in the wildlife corridors.*
3. *Mitigate human-wildlife conflicts in and around corridors and strengthen community support for corridor conservation.*
4. *Strengthen collaboration and support for management and conservation of wildlife corridors*
5. *Improve the skills of land owners to manage wildlife resources and livelihood improvement interventions in the corridors.*

> "Based on the above objectives, several management activities have been recommended for implementation in a period of 10 years (2018-2027). These are summarized below per objective."

CONSERVATION, RESTORATION AND MANAGEMENT ALTERNATIVES.

1. *Map and demarcate the dispersal areas so as to understand the area and locate areas with high threats, high concentration of keystone, threatened or vulnerable wildlife species and areas of high touristic values or potential including cultural sacred sites.*
2. *Conduct inventories/assessments of key fauna and flora to ascertain their populations for informed management decisions and interventions.*
3. *Undertake measures to address threats from mining so as*

to minimize the current and future threats to the dispersal blocks posed by industrial-scale disturbance and pollution.

4. *Identify and explore possibilities of leasing or purchasing land critical for restoration of degraded dispersal blocks and thereby enhance conservation and livelihood enhancement efforts*
5. *Undertake specific restoration activities in the dispersal blocks such as re-planting of appropriate indigenous trees and domestication of some indigenous tree species such as shea trees, bamboo, medicinal and edible plants.*

SUSTAINABLE NATURAL RESOURCE USE AND MANAGEMENT

1. *Support appropriate alternative livelihood enterprises such as tree nurseries, innovative energy technologies, improved agricultural and livestock husbandry techniques, ecotourism, cultural tourism, high value crops e.g. shea oil and chilli, premium markets, in order to reduce dependence of the local communities on the wildlife dispersal blocks.*
2. *Promote sustainable natural resource use practices such as co-management, soil and water conservation, improved agricultural technologies, construction of trenches, grass bunds, cover crops, good livestock husbandry and stocking levels, river bank protection, etc.*
3. *Enhance private forest management capacity through technical support and training.*
4. *Reduce the occurrence of fires which impact on biodiversity by developing simple fire management plans and enforcing relevant laws such as the Burning of Grass Decree.*

HUMAN-WILDLIFE CONFLICTS

1. *Carry out massive and continuous mobilization and sensitization programmes through wildlife clubs, Music, dance and drama clubs, Radio talk shows, regular meetings and workshops to raise community awareness on the*

importance of peaceful co-existence with wildlife.

2. *Establish and maintain elephant barriers such as trenches, valley fences, planting Mauritius thorn (Caesalpinea decapetala) at corridor conflict hotspots.*
3. *Support Problem Animal Control (PAC) mechanisms such as construction of barriers, scare shooting, fire crackers, planting of chilli pepper, use of chilli-based grease on ropes to deter crop raiding whilst earning income for corridor-adjacent communities.*
4. *Implement benefit sharing schemes with communities that live inside or adjacent to wildlife dispersal blocks as a means to encourage local support for conservation and enhance community tolerance and acceptance of wildlife.*
5. *Implement innovative, community-involved law enforcement mechanisms such as joint patrols, streamlining of activities in district development and annual plans, paying token of appreciation for community participation in conservation of the dispersal blocks.*
6. *Recruit Vermin Control Officers (VCOs) at all the respective districts so as to support the efforts of UWA and NFA in management of problem animals in the dispersal areas.*

COLLABORATION AND SUPPORT FOR MANAGEMENT AND CONSERVATION OF WILDLIFE CORRIDORS

1. *Develop formal collaboration agreements including memoranda of understanding between the different agencies, district authorities as well as communities (councils of elders and traditional chiefs/kingdoms) to provided coordinated management of the dispersal blocks.*
2. *Enhance the implementation of joint law enforcement patrols and information sharing between UWA, NFA, LGs and communities through the council of elders/traditional chiefs, and install communication systems that enable effective communication between the different authorities and agencies.*

3. *Sensitize law enforcement officers (Police, Customs and Immigration) and the judiciary (Judges and Magistrates) about the importance of wildlife, their dependence on functioning corridors and the detrimental impact of illegal hunting and unsustainable resource extraction.*
4. *Strengthen existing community wildlife and CFM associations by equipping them with the basic skills such as forest management, wildlife and land use planning, records keeping, leadership, fundraising, negotiation and conflict management.*

TRAINING AND CAPACITY DEVELOPMENT

1. *Conduct appropriate training in land use planning, records keeping, leadership, fundraising, conflict management and silvicultural practices and management of the various economic enterprises for the beneficiary communities.*
2. *Organize study visits by LG leaders, CWAs, elders, religious leaders and selected community members (including women and youth) to areas of best practices within and outside the country to help them appreciate the value of wildlife and conservation.*
3. *Promote appropriate applied research on relevant issues such as wildlife-human conflicts, shea nut processing, marketing and postharvest handling, soil and water conservation, etc.*

ENVIRONMENT AND SOCIAL SAFEGUARDS:

1. *Encourage communities to protect streams and rivers by maintaining the recommended no cultivation buffer of 30-100 meters from the stream or river bank.*
2. *Eliminate or limit the slash and burn method of land preparation for cultivation, and if used, enforce strict control measures.*
3. *Closely supervise and limit the use of heavy machinery and equipment for road construction and mining only in*

specified areas. Where the mining and road construction activities require the removal of some vegetation in order to proceed, immediately replant and stabilize mining dumps, road cuts and banks with grass vegetation.

4. *Avoid or limit the use of hazardous chemicals in mining and agriculture, including herbicides/pesticides, and where inevitably used, take utmost precaution for the good of the environment.*
5. *Avoid or limit hunting (except for vermin control, sport hunting or prescribed hunting under the control of UWA).*
6. *Promote public-private-partnerships to secure areas such as the Paimol Caves and Kalongo Hills in Agago for cultural tourism.*
7. *Establish an inter-district coordinating committee comprising of community representatives, district politicians and technocrats as well as representatives of NFA and UWA to oversee wildlife management activities in the districts within the landscape.*

MONITORING AND EVALUATION

1. *Domesticate and mainstream this management plan in their annual work plans by each respective district to ensure that*

> "In order to ensure that the management plan is implemented with harmony across all the districts, terms of reference for inter-district coordination have been proposed. These include the establishment of a clear reporting mechanism and implementation structure as follows:"

due attention is given to these activities contained in this management plan.

2. *Systematically and objectively evaluate all on-going or completed components and/or activities of this management plan, in terms of design, implementation and results, at the end of every year during the preparation of the subsequent annual work plan.*
3. *Evaluate and revise this management plan every five (5) years to take care of any emerging management issues that may require to be included or any adjustments to be made.*

a). The Chief Administrative Officer (CAO) shall be the chairman of the IDCF in each district

b). The District Environment Officer (DEO) shall be the focal point in each district.

c). The officers responsible for natural resources at the district will work together to implement this Management Plan and report to the DEO.

d). The responsible officers shall prepare monthly, quarterly and annual reports on activities implemented under this Management Plan, in conformity with the district reporting requirements and management standards. These reports will be submitted to the DEO

e). Situational reports dealing with emergency situations like serious encroachment and illegal harvesting shall be prepared and submitted immediately to the appropriate person responsible for dealing with the situation.

f). The DEO will collect reports and submit them to the CAO for consideration and onward delivery to the respective ministries, agencies and organizations outside the district on achievements, progress and challenges faced during implementation of the management plan.

g). Specialized agencies such as NFA and UWA will report to their immediate supervisors but coordinate with the district officers in implementation of this Management Plan.

CONTENTS

ABBREVIATIONS AND ACRONYMS

A.S.L	Above Sea Level
AAC	Annual Allowable Cut
AEO	Assistant Engineering Officer
ALC	Area Land Committee
CAO	Chief Administrative Officer
Cap	Chapter
CBD	Convention on Biological Diversity
CBO	Community Based Organization
CCO	Certificate of Customary Ownership
CFM	Collaborative Forest Management
CFR	Central Forest Reserve
CHA	Community Hunting Area
CITES	Convention on International Trade in Endangered Species
CLA	Communal Land Association
CWA	Communal Wildlife Area
DEAP	District Environment Action Plan
DEO	District Environment Officer
DFO	District Forest Officer
DFS	District Forest Services
DLG	District Local Government
DNRO	District Natural Resources Officer

DPMO	District Production and Marketing Officer
DPO	District Production Officer
ECA	Environmental Conservation Association
EIA	Environmental Impact Assessment
ESS	Ecosystem Services
FGD	Focus Group Discussions
FR	Forest Reserve
FSSD	Forest Sector Support Department
GISO	Gombolola Internal Security Officer
GIZ	German International Development Agency
Ha	Hectare
HOD	Head of Department
ICRAF	World Agroforestry Centre
KCL	Kidepo Critical Landscape
KVNP	Kidepo Valley National Park
LC	Local Council
LFR	Local Forest Reserve
MEOL	Monitoring and Evaluation Officer
MoU	Memorandum of Understanding
MP	Management Plan
Mt	Mount
NEMA	National Environment Management Authority
NFA	National Forest Authority
NFP	National Forest Plan
NGO	Non-Government Organization
NP	National Park
NPV	Net Present Value

NTFP	Non Timber Forest Products
OWC	Operation Wealth Creation
PA	Protected Area
PAC	Problem Animal Control
PES	Payment for Ecosystem Services
PHRO	Principal Human Resources Officer
PPP	Private Public Partnership
PV	Present Value
REDD	Reducing Emissions from forest Degradation and Deforestation
SCDO/G	Senior Community Development Officer/Gender
SEA	Strategic Environmental Assessment
SNA	System of National Accounts
Spp.	species
TC	Tons of Carbon
TCO2E	Tons Of Carbon Dioxide Equivalents
THF	Tropical High Forest
UBOS	Uganda Bureau of Standards
UGX	Uganda Shillings
ULA	Uganda Land Alliance
USA	United States of America
USAID	United States Agency for International Development
UWA	Uganda Wildlife Authority
VCO	Vermin Control Officer
WR	Wildlife Reserve

DEFINITN OF KEY TERMS

COMMUNITY WILDLIFE AREA:
An area with wildlife resources on private land set aside by law to facilitate development of wildlife management programs for the benefit of the local communities.

EXTRACTIVE UTILIZATION:
The physical removal of wildlife and or their products from their natural habitats as permitted under Wildlife Use Rights Regime.

LANDOWNERS:
Those with undisputed individual, corporate and or joint ownership rights to land on which wildlife occurs.

LOCAL COMMUNITY:
Persons and households living in a defined geographical area, in close proximity to a wildlife conservation area, and identified by common history, common culture or common residence in a parish which shares a boundary with a wildlife conservation area.

NATIONAL PARK:
An area of National and International importance that because of its biological diversity, landscape or national heritage has been gazetted as such by law.

PROBLEM ANIMALS:
Any wild animal that poses a threat to human life and or property outside protected areas and with due regard to its conservation status have been declared as such by law. Any wild plant or animal declared as protected by law.

SUSTAINABLE RESOURCE UTILIZATION:
The use of the country's natural resources in a manner which helps satisfy the needs of the present generation without compromising the rights to the same resources by future generations.

VERMIN:
Wild animals that are destructive, annoying or injurious to health and with due regard to their conservation status have been declared as such by law.

WILDLIFE CONSERVATION AREA:
Any area gazetted as a National Park, Wildlife Reserve, Wildlife sanctuary, Community wildlife area, or any other area declared as such by law.

WILDLIFE MANAGEMENT AREA:
A wildlife sanctuary, a community wildlife area and any other area the minister may by law declare as such for sustainable management of wildlife.

WILDLIFE PROTECTED AREA:
Any area gazetted as National Parks, Wildlife Reserves and any other area gazetted as such by law.

WILDLIFE RESERVE:
Any area of national or local importance, which because of its biological diversity, landscape, or natural heritage has been gazetted as such by law.

WILDLIFE USE RIGHTS:
Rights granted to a person, community or organization to utilize wildlife in accordance with the law.

WILDLIFE:
Means any wild plant or animal species or their derivative products indigenous and or introduced in Uganda, including those that migrate through Uganda.

PART 1: GENERAL DESCRIPTION AND METHODOLOGY

CHAPTER 1: PHYSICAL DESCRIPTION

1.1 INTRODUCTION

Habitat fragmentation through anthropogenic activities such as road construction, residential and commercial development, energy development and agriculture decreases the ecological integrity necessary for the survival of many wildlife species. Habitat fragmentation can lead to change in habitat ranges of some species. In addition to climate change, habitat connectivity is therefore very important for species persistence. Wildlife corridors can therefore serve as a strong tool for preserving the migration routes and habitats of wildlife species.

Although it is intuitive to think of wildlife corridors as well-defined physical structures, it is important to note that these corridors may sometimes be spaces that are highly accessible to human activities. Moreover, the corridor definition for terrestrial wildlife may defer greatly from that of avian wildlife, in that the latter can traverse even urban areas. Therefore, corridor conceptualization has to be considered in terms of the locomotive abilities of the species as well as habitat exposure to anthropogenic activities.

The general description of the Kidepo Critical Landscape that follows in the subsequent sub-sections will therefore attempt to clearly expound on the inter-pay between the physical and anthropogenic factors of this crucial wildlife habitat. This assessment will lead to the detailed description of the management proposals that will be contained in the next section of this report. It is notable that, for such an area as Kidepo Critical Landscape, "science-based recommendations" are developed and these can then be used in land use planning and management that ensures a healthy natural landscape for flourishing wildlife population.

It is important to note that in the Kidepo Critical Landscape, the colonial government set aside extensive tracts of land for hunting and conservation. For example, by the time of independence in 1962, 95% of Karamoja was under reserved status. This status was only reviewed by the Uganda Wildlife Authority in 1998 when the area under reservation for wildlife was reduced to 54%.

1.1 NAME, LOCATION AND BOUNDARIES

This Management Plan (MP) covers the wildlife dispersal blocks that straddle the Kidepo Critical Landscape (KCL) of north-eastern Uganda. This landscape sprawls over an area of more than 10,700 km2 and consists of the districts of Kitgum, Agago, Otuke, Kaabong, Kotido and Abim, the latter three forming part of the Karamoja region. The geographical location of Kidepo Critical Landscape is between latitude 0° 22′ and 0° 35′ N and between 30° 56′ and 33° 02′East.

The landscape has a Protected Area (PA) estate covering approximately 5,775 km2 (Figure 1). Controlled Hunting Areas (CHAs) cover the biggest percentage of the PAs (58%), followed by National Parks (NPs) (22%) and CFRs (20%). Within the PA system lies Kidepo Valley National Park (KVNP) managed by the Uganda Wildlife Authority (UWA), the Central Forest Reserves (CFRs) of Zulia, Rom, Lwala, Morungole, Timu and Nyangea-Nyapore, all under the mandate of NFA. Parts of the Nyangea, Morungole and Zulia FRs are located within KVNP and are under dual management by both UWA and NFA. Also within the Kidepo Critical Landscape are twelve Local Forest Reserves (LFRs) managed by District Local Governments (DLGs). All but one are very small in area, approximately 3 ha or less, and are either encroached or heavily degraded.

The Kidepo Critical Landscape is bounded by the Republic of Kenya to the east, just across from Kaabong district. To the north lies the Republic of South Sudan, across from the district of Kitgum, which is also bounded by Lamwo district to the north-west. The southern districts of the Kidepo Critical Landscape are bordered by Moroto, Napak, Amuria and Alebtong districts. To the west lies Lira and Pader districts.

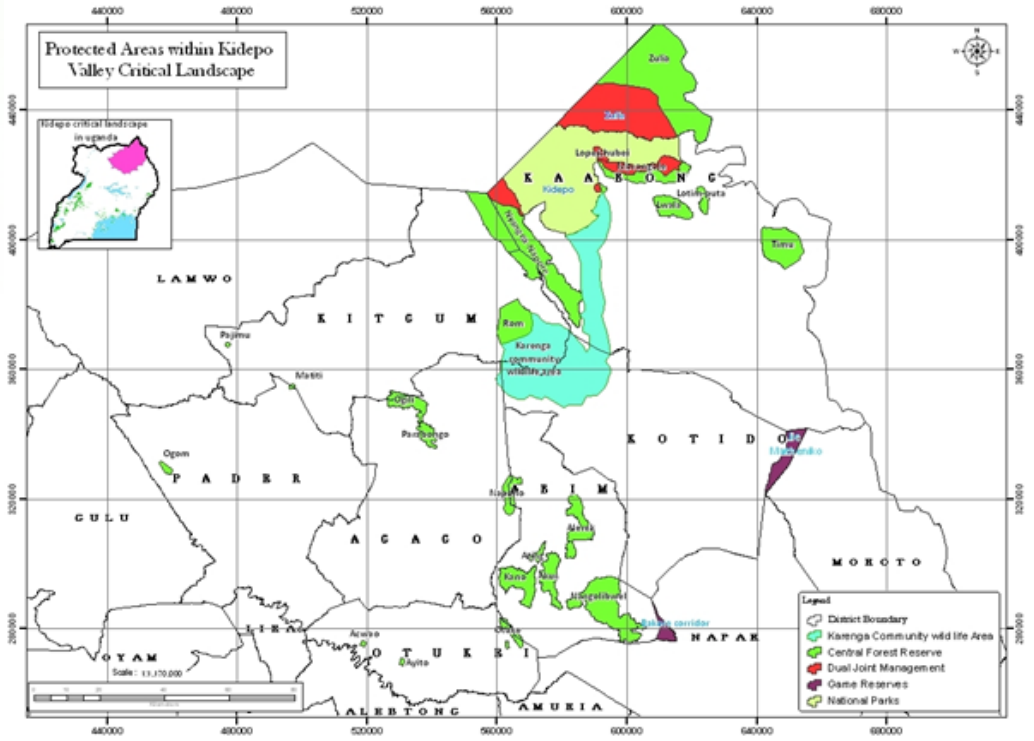


FIGURE 1: *Protected area coverage in the Kidepo Critical Landscape*

1.2: LOCAL CONDITIONS

1.2.1 Topography And Altitude

The Kidepo Critical Landscape lies on an area with well-watered flat plains, gentle hills and valleys in Acholi and parts of Lango, graduating into a hilly and rocky landscape in the north-eastern corner of the district of Kaabong. The area rises dramatically from around 900 in Otuke and Abim districts to approximately 2,750 m.a.s.l. atop the forested Mount Morungole. The area that lies in Karamoja is straddled by a pedeplain that runs all the way from Kidepo Valley through Bokora to the foot of Mt. Elgon. In other areas are found undulating and magnificent hills, such as the Labwor, Rwoth and Akor hills in Abim

district; the inselbergs of Adilang, Lapono, Lukole and Parabongo sub-counties in Agago district; Maaru and Kacheri hills in Kotido District.

1.2.2 GEOLOGY

Parts of central Karamoja form part of a plateau with several stages of transition of the ancient basement rock, comprised principally of Pre-Cambrian system, the Mesozoic and Cenozoic groups. This basement complex is characterized mainly by banded acid gneisses and undifferentiated-banded acid biotite magmatic gneisses. These highly metamorphic rocks form north—South trending low lying wide ridges. The trend of the ridges indicates the axial trend of folding which controls most of the drainage system. The other groups of rocks include those of Mesozoic and Cenozoic origin associated with volcanic eruptions in the eastern parts of the region represented by mountains such as Ikidi Rwoth and Angira in Alerek and Abim sub-counties of Abim districts.

1.2.3 SOILS

The soils of the area are mainly composed of vertisols in the southern and eastern parts of Kotido district; luvisols and lithosols in the western and northern parts of Abim and Kaabong districts; gleysols in formations of well drained sandy, clay, loam and sand-clay soils in the districts of Kotido, Kitgum and Agago. Ferralitic soils also occur in small patches in several places in more advanced stages. Generally, the soils are affected by several factors, such as climate, elevation, type of parent rock, vegetation cover, topography, aggravation, farming, land fragmentation and erosion processes. As such, all the soils are of low to medium productivity. In the Karamoja area, a lot of soil has lost its fertility because of frequent droughts and desertification. There is a lot of sheet erosion that occurs due to torrential rain and due to the strong winds that carry away top soil cover. Poorly drained soils, liable to water logging, are also found in the area, such as along river Pader.

1.2.4 DRAINAGE

The area is well drained with both permanent and seasonal rivers and streams (Figure 2). The river Achwa flows through the region. River Agago branches off from the river Achwa and runs through the middle of Pader and Agago districts. These rivers have several streams some of which are seasonal and dry out in the dry season.

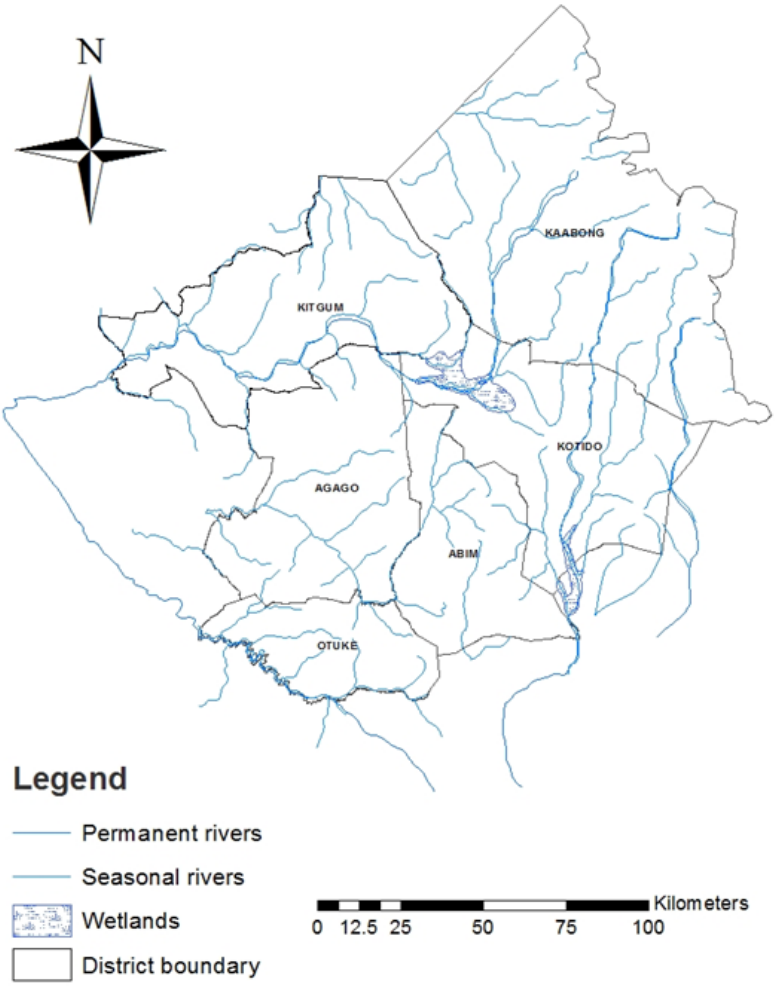


FIGURE 2: *Rivers and wetland drainage of the Kidepo landscape.*

1.2.5 Climatic considerations

The area enjoys a marked contrast of climatic conditions from the north-east towards the south and west. Most parts of Kitgum district as well as most of Abim and the whole of Otuke and Agago district enjoy dry and rainy seasons. The rainy season runs from late March to the end of November and hits two peaks in a year. There is an intensive dry season that runs from December until late February. The mean annual rainfall ranges from 1330 to 1450 mm. The average monthly maximum temperature is 29° C and average monthly minimum temperature is 17° C.

In Kotido and Kaabong districts, the rainy season starts from April to August, with a marked minimum in June and maximum peaks in May and July. The rains which are sparse, un-evenly distributed and dependent on local factors, are usually torrential with high speeds, thunder storms and lightening. The mean annual rainfall ranges is about 519 mm. There is one long dry season from October to February with dry spells in June to August. The dry season is particularly intensive and is characterized by dust storms. Between December and April of each year, the north-easterly winds can exceed 200 km per day. The daily temperatures range from 20° to 35° C.

1.3 Vegetation and land use types

The districts in the Kidepo Critical Landscape have got a vegetation which may be described as tropical Savannah characterized by woodland and shrub cover as well as a grass layer. Woodland, bush and grass land comprise over 48% of total land, especially in the Acholi and Lango areas. The dominant grasses in these areas are Hyparrhenia, Panicum, Bracharia and Setaria. Vitellaria paradoxa (shea butter) are dominant trees in the area with Acacia cambrelium constituting a dominant tree cover in the extreme eastern extent of the area i.e. in Kaabong district. The District is drier in the northeast and the vegetation includes shrubs.

The vegetation pattern in Kotido and Kaabong districts may be described as semi-arid with savanna woodland tree species dominating grass species. Forests are found on localized patches of hills and mountains

such as Mt. Morungole, Zulia and Timu. In some areas, the vegetation is composed of dry montane natural forests and some plantation forests (Tables 1 and 2), semi evergreen thickets and grass steppes, especially around the Karenga wildlife corridor (Figure 3).

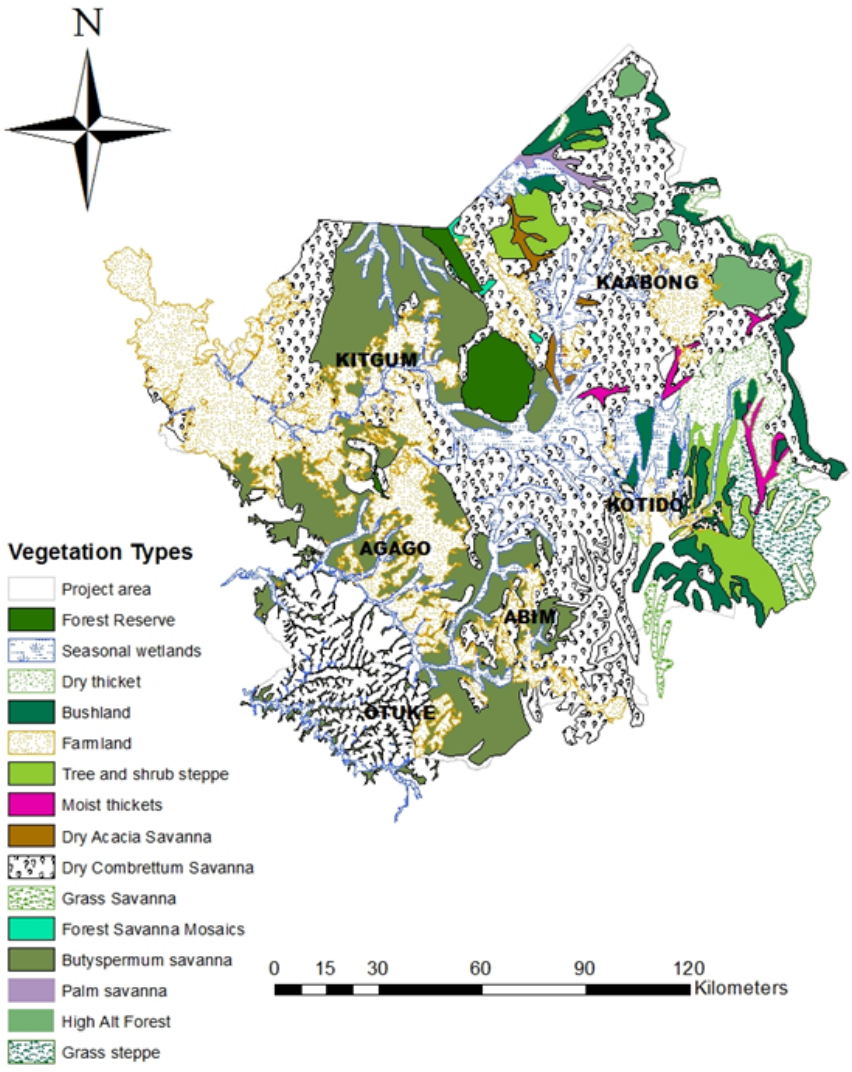


FIGURE 3: *Vegetation types and land use in the Kidepo Critical Landscape*

TABLE 1: *Central Forests Reserves in Kidepo Critical Landscape*

DISTRICT	FOREST	AREA (HA)
Abim	Akur CFR	6,279
Abim	Alerek CFR	7,410
Abim	Ating CFR	1,253
Abim	Kano CFR	8,240
Abim	Nangolibwel CFR	19,739
Agago	Napono CFR	2,281
Agago	Parabongo CFR	2,805
Agago-Kitgum	Ogili CFR	5,274
Kaabong	Lomej CFR	762
Kaabong	Lopeichubei CFR	1,129
Kaabong	Lotim-Puta CFR	1,894
Kaabong	Lwala CFR	5,876
Kaabong	Morongole CFR	15,483
Kaabong	Timu CFR	12,178
Kaabong	Zulia CFR	92,281
Kaabong-Kitgum	Nyangea-Napore CFR	42,182
Kitgum	Matidi CFR	237

TABLE 2: *Local Forest Reserves in Kidepo Critical Landscape*

DISTRICT	FOREST	AREA (HA)
Agago	Adilang LFR	2
Kaabong	Kaabong LFR	40
Kitgum	Orom LFR	5
Kitgum	Naam-Okora LFR	3
Kitgum	Labongo LFR	4
Kitgum	Kitgum LFR	4
Otuke	Adwari LFR	12
Otuke	Olilim LFR	4
Otuke	Orumo LFR	5

CHAPTER 2: POLICY AND LEGAL FRAMEWORK

2.1 POLICY ENVIRONMENT

Wildlife management and conservation can be enhanced by reducing human-wildlife conflicts, increasing local incomes and protecting species, especially in wildlife corridors on public or community land. Sustainable management of wildlife by local communities has been incorporated into several Ugandan policies and Acts. These form the underlying basis of any management plan. The following sections provide a review of the most relevant international instruments, national policy frameworks and laws that should form the basis for implementation of this management plan.

2.1.1 INTERNATIONAL CONVENTIONS AND TREATIES

a). The African Convention on the Conservation of Nature and Natural Resources, 1968

This Convention is the primary Pan-African legal instrument for the conservation of the environment in general and biological diversity in particular. The Convention adopts an ecosystem approach to environmental management, and provides for measures to ensure conservation, utilization and development of soil, water, flora and fauna resources, in accordance with scientific principles and taking into account the interests of the inhabitants. In line with this convention, member countries (Parties) undertake to establish and manage protected areas, and to prohibit and regulate trade in specimens and trophies of protected species.

b). The Ramsar Convention, 1971

The Ramsar Convention utilizes an intergovernmental framework to develop a conducive environment for international co-operation in the conservation and management of wetlands. The Convention requires member states (parties) to take active conservation measures,

especially for those wetlands designated as "Wetlands of International Importance".

c). The World Heritage Convention, 1972

The principal objective of the World Heritage Convention is to protect objects of cultural and natural heritage, which are of value to the present and future generations. These objects or natural features consisting of physical and biological formations or groups of such formations that are of outstanding universal value from an aesthetic and scientific point of view are in abundance in the Kidepo Critical Landscape. After critical evaluation, these features, such as the Paimol Caves and Kalongo Hills in Agago, the preserved traditional villages in Kotido district as well as sacred forests in Abim may be designated as world heritage sites. This potential is ripe for tapping as Uganda gears to expand the tourism and income base of the country.

d). The Stockholm Declaration, 1972

The Stockholm Declaration was adopted by the United Nations Conference on the Human Environment at Stockholm in 1972. The Conference increased awareness of the importance of conserving the environment. Conference declarations cover the need to safeguard the natural resources of the earth (including flora and fauna and especially representative samples of specific ecosystems) for the benefits of present and future generations. This is to be accomplished through careful planning and management, the maintenance of natural resources and, where practicable, their improvement or restoration, and the conservation of wildlife and their habitats.

e). Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973

This is one of the most important international tools for the conservation of endangered species. Uganda as a signatory is obligated to adhere to the recommendations that arise from regular Conferences of the Parties to this convention regarding trade in endangered species. Since many species covered by CITES, both flora and fauna, are found even on open public land in the Kidepo Critical Landscape, this convention is very relevant for the management of these areas.

f). Convention on Migratory Species of Wild Animals (Bonn Convention), 1979.

There are many species of wild animals, especially fauna, which are migratory in nature. This convention aims to improve the status of all such threatened migratory species through national action and international agreements between countries that form the ranges of the migratory species. The form of action of this convention is through a range of instruments, including legally binding agreements, treaties and even less formal memoranda of understanding, all aimed at reducing the level of threat to each migratory species.

g). Convention on Biological Diversity (CBD), 1992.

This convention obligates Uganda to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings. In addition, the Convention requires Uganda to establish a system of protected areas and develop guidelines for the selection, establishment and management of protected areas. Uganda is further expected to create economically and socially sound incentives for conservation and sustainable utilization of biodiversity resources. Therefore, Uganda has developed several enabling instruments to domesticate this convention. These will be described further in section 2.2 below.

h). The Lusaka Agreement, 1997

The Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wildlife Fauna and Flora was adopted to provide for co-operation in reducing illegal trade in wildlife fauna and flora, both nationally and internationally. The Agreement contains provisions for the establishment of a permanent Task Force and a National Bureau. Uganda has been active in enforcing the Lusaka Agreement and strengthened the border points against trade in items such as Rhino horns, ivory, pangolin scales, etc.

i). East African Community Protocol on Environment and Natural Resources, 2006

Although some East African countries e.g. Tanzania have not yet acquiesced to this protocol, obligates Uganda (which ratified it in 2010) to sustainably conserve wildlife resources in partnership with

the local communities. The protocol requires Uganda to cooperate in management of trans-boundary wildlife resources, promoting of social and economic incentives for conservation and to conclude agreements aimed at conserving trans-boundary wildlife resources.

2.1.2: NATIONAL POLICY FRAMEWORKS AND STRATEGIES/PLANS

2.1.2.1 NATIONAL POLICIES

J). The National Environment Management Policy, 1994

This policy provides guiding principles for environmental management in Uganda. It is a framework policy broadly addressing management of all matters relating to the environment and natural resources. It also establishes a centralized coordination mechanism for environmental management. The goal of the policy is sustainable social and economic development, which maintains and enhances environmental quality and resource productivity on a long-term basis to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

k). Uganda National Wetlands Policy, 1995

This policy recognizes that wetlands are a major habitat for wildlife resources. Wetlands provide habitat for a variety of plants and animals, some of which depend entirely on wetlands for their survival. Therefore, goal 5 of this policy promotes the recognition and integration of wetland functions in resource management and economic development decision making with regard to forestry, agriculture, fisheries, wildlife and sound environmental management.

l). Decentralization Policy, 1997

This policy provides for the decentralization of administrative mechanisms to ensure community-based governance. It provides the basis for devolving natural resources management to the local government level and encouraging local participation in decision-making. It also acts to enhance community benefits and cost-sharing of management of the environment and natural resources. Local Environment Committees at Local Council II and III are responsible

for planning and executing sound environmental management.

m). National Forestry Policy, 2001

This policy provides for the conservation of biodiversity and the need to involve communities and private owners in the management of forest resources within and outside protected areas.

n). The Tourism Policy of Uganda, 2003

The policy is aimed at ensuring that tourism becomes a vehicle for poverty eradication in the future. This is mainly in the area of managing and developing the extensive resource base as well as developing and marketing various products. The policy further emphasizes the need to facilitate the flow of tourists within the region and promotion of East Africa as a single tourist destination.

o). The National Agriculture Policy, 2003

This policy is related to environmental management through promotion of land-use practices that conserve and enhance land productivity. It recognizes land as a natural resource for agriculture, and that land use has implications on biodiversity conservation through direct impacts on soil, water and living organisms on which farmers depend for agricultural production.

p). Oil and Gas Policy, 2008

This policy requires the Ministry responsible for tourism and wildlife to harmonize tourism and wildlife Policies with Oil and Gas Policy. Most of the oil and gas wells have been identified in sensitive wildlife protected areas. This policy clearly outlines government intentions to exploit oil and gas for the benefit of Ugandans and commits government to ensuring that oil and gas activities follow acceptable environmental standards. The policy identifies institutional responsibilities for monitoring of impacts to wildlife and clearly spells out roles of all stakeholders.

q). Uganda National Land Policy, 2013

Wildlife health and vitality depends a great deal on the land ownership and tenure system. Policy statement 60, Strategy 62(iii) recognizes that there is need to maintain an adequate balance between use of land for pasture, agriculture, energy, industry and for wildlife protection.

Under section 3(15)(a), this policy calls for review and updating of wildlife conservation policies and laws to ensure guided land utilization especially of Protected Areas. Section 3(17)(a) of the same policy calls for effective management of wildlife outside Protected Areas.

r). (The Energy Policy, 2002

The energy policy is premised on the existing economic, social and environmental context in the country. Since the energy sector can have serious environmental impacts, this policy has strong inter-linkage with other policies on the economy, such as environment, water resources, agriculture, forestry, industry, health, transport, education, decentralization and land use. The energy policy is therefore very relevant since it aims at mitigating these impacts.

s). Renewable Energy Policy, 2007

This policy is aimed to diversifying the energy supply sources and technologies in the country while addressing poverty, catalyzing industrialization and protecting the environment. The policy takes note of several cross-cutting issues, including planning which integrates demand side constraints and environmental planning considerations, as well as paying sufficient attention to renewable energy activities with implications on environmental sustainability.

u). Uganda Wildlife Policy, 2014

The Uganda Wildlife Policy established the Uganda Wildlife Authority and brought the management of all wildlife resources (except forests and wetlands) under the same institution. The policy emphasizes community participation in management decisions and activities. The policy also provides for the private sector to participate in management and sustainable utilization of wildlife resources by the granting of wildlife use rights - a new concept in Ugandan law.

2.1.2.2 NATIONAL STRATEGIES AND PLANS

a). The National Vision 2040

In the medium term plan, Uganda has committed herself to sustainable development through preservation of natural resources such as forests and wetlands. In the Vision 2040 therefore, government of Uganda

commits to ensure the elimination of wildlife dispersal. Uganda has therefore taken to institute urgent measures to protect the environment and natural resources to ensure their future sustainability. Under Chapter 4 (section 4.1.1), the Vision provides for refocussing on wildlife conservation to respond to current realities in the sector. In Chapter 5 (section 5.8), the Vision lays out a detailed plan for the Environment and Natural Resources sector, while taking account of the various challenges that have led to biodiversity loss in the country

b). National Development Plan II, 2015

The NDPII outlines five priority investment areas: agriculture, tourism, minerals (including oil and gas), infrastructure and human capital development. Tourism is documented as one of the major foreign exchange earners of the country and government's plan in the short run is to focus on improvement, diversification and exploitation of tourism products. Specific mention is made (in paragraph 391) of the need to develop appropriate skills and capacity building, enhance security and eliminate the problem of wildlife dispersal as well as conservation of tourism sites and wildlife. The plan specifically mentions that the need to link tourism development to biodiversity conservation so as "to enhance the sector's contribution to wealth creation and employment".

c). National Strategy for Conservation of the Shea Butter Trees in Uganda, 2015

Shea butter trees are very critical biodiversity resource for the local communities in the wildlife corridors of the Kidepo Critical Landscape. Government has therefore developed a national strategy for conservation of shea trees, which among other things, aims at eliminating destructive utilization of the shea butter trees while promoting sustainable use options. The intended outcome of the strategy is to see that shea butter trees are managed and used sustainably for livelihood improvement and enhancement of environmental quality and productivity. In order to achieve this, the strategy is guided by the fact that biodiversity loss in Uganda is highest outside protected areas, such as the wildlife dispersal corridors in the KCL; and that community-based approaches to the protection and sustainable use of shea butter trees is very important.

d). National Biodiversity Strategy and Action Plan II (NBSAPII), 2016

The NBSAP addresses the key concerns regarding biodiversity management in Uganda including declining species abundance, shrinking habitats, unsustainable use of biodiversity resources, conversion of habitats into other commercial land uses or habitat degradation, human-wildlife conflicts, agricultural expansion, climate change, illegal wildlife trade and pollution. In addition, NBSAPII recognizes that research, awareness, information sharing and valuation of biodiversity and ecosystem services are key drivers of achieving sustainable development. As pointed out by the NBSAPII, one of the strategies to achieve sustainable development is the mainstreaming of biodiversity into sectoral, cross-sectoral and district development plans.

e). The National Forestry Plan, 2013

The NFP provides a framework for implementing the Forestry Policy of 2001. The vision of the NFP is a sufficiently forested, ecologically stable and economically prosperous Uganda, through three objectives. The first is to increase economic productivity and employment through forest production, processing and service industries. The second objective raise incomes for households through forest-based initiatives. The third objective is to restore and improve ecosystem services derived from sustainably managed forest resources. One of the core Programmes of the Plan (Programme 3) aims at restoration and conservation of natural forests. This is supported by Programmes such as forestry research (Programme 8), forest sector institutional development and coordination (Programme 10), forest law enforcement and forest governance, as well as (Programme 11). Under Programme 3, the Plan recognizes the following strategies for sustainable development: (1) Restore/rehabilitate degraded and deforested natural forests in CFRs and wildlife conservation areas, (2) Promote the restoration / rehabilitation of natural forests on private and communal lands, (3) Build capacity for community based natural resource forest management and collaborative forest management, (4) Promote conservation of biodiversity in priority forest reserves and wildlife conservation areas, and (5) Promote management of important biodiversity corridors on private and communal land.

2.2 LEGAL REGIME

a). The Constitution of the Republic of Uganda, 1995

One of Uganda's national objectives (National Objective XVII) obligates the state to protect natural resources including water, wetlands, minerals, oil, fauna and flora, on behalf of the people of Uganda. Under National Objective XXVII (iv), the state including local governments are obligated to "ensure the conservation of natural resources and promote the rational use of natural resources so as to safeguard and protect the biodiversity of Uganda". This is further enshrined in the constitution under Article 237(1) which vests land in the citizens of Uganda. Article 237(2b) of the constitution identifies the resources that are to be held in trust for the people of Uganda:

> "The government or a local government as determined by parliament by law, shall hold in trust for the people and protect natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and touristic purposes for the common good of all citizens."

The Uganda constitution therefore adequately creates an enabling environment for policy formulation, planning and programme development.

b). The Animal (Prevention of Cruelty) Act, Cap 220 as amended, 1962

This Act provides for the prevention of cruelty to animals, which can include wildlife. The responsible Minister is empowered to appoint an authorized officer to implement provisions of the Act, and may also grant and revoke licenses. This can especially be relevant where wildlife are utilized for sport and tourism.

c). The National Environment Act, Cap 153, 1995

The National Environment Act (1995), section 73(2) makes provision for the protection and sustainable use of wildlife. The Act provides for wildlife protection and contains provisions which can be applied to the protection and sustainable use of wildlife. It includes provisions for the conservation of biological resources in situ, and the selection and management of protected and buffer areas. The Act further provides for NEMA to prescribe measures to ensure the conservation of biological resources in situ as well as issue guidelines for: land use methods that are compatible with the conservation of biological diversity; the selection and management of PAs so as to promote the conservation of the various terrestrial and aquatic ecosystems of Uganda; the selection and management of buffer zones near PAs; special measures for protection of species, ecosystems, and habitats faced with extinction; the prohibition or control of the introduction of alien species; the integration of traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge; the prescription of measures for the conservation of biological diversity ex situ, especially for species threatened with extinction.

d). The Uganda Wildlife Act, Cap 200, 1996

This Act aims at promoting the conservation and sustainable utilization of wildlife for the benefit of the people of Uganda while at the same time enhancing benefit sharing through wildlife use rights and promoting public participation in wildlife management. According to the Act, it is possible for individuals and communities to manage wildlife in a sustainable and joint approach. Section 19(2) of the Wildlife Act seeks to balance the interests of wildlife conservation with those of communities living with or near wildlife protected areas. It is to the effect that wildlife should be managed in such a way as to ensure the co-existence of communities with wildlife and protection of wildlife notwithstanding the continued use of the land in the area by people and communities ordinarily residing there. Under Section 25 certain historic rights are not affected by the restrictions on use of resources in conservation areas. These include persons actually residing in Game Reserves on the 1st July, 1959; persons who lawfully acquired rights in National Parks before 3rd April, 1952.

e). The Local Governments Act, Cap 243, 2000

This Act introduces a decentralized system of governance in Uganda and therefore provides for and devolves powers and services to local governments in line with the Constitution so as to ensure good governance and democratic participation in, and control of, decision making by the people. The Act gives the local governments the authority to deal with functions that had been the preserve of the central government, including the protection of local wetlands and the control of vermin in consultation with the Ministry responsible for tourism and wildlife.

f). The Cattle Grazing Act, Cap 222, 2000

This Act makes provisions for the control and regulation of grazing of cattle to prevent overstocking and overgrazing. The administration of this Act is entrusted upon the Commissioner of the Veterinary Services and Animal Industry, under the direction of the responsible Minister. The Minister may by statutory instrument declare an area to be non-grazing area.

g). The Prohibition of Burning of Grass Act, Cap 33, 2000

This law prohibits the unauthorized burning of grass except in accordance with the Act. Enforcement measures are given to the Sub county Chief who may in writing after consultation with a Veterinary or Agriculture Officer; authorize controlled burning of grass for a specific purpose.

h). The Animal Diseases Act, Cap. 218, 2000

This Act provides for the control and prevention of the spread of disease in animals, including wildlife. The administration of the Act is vested in the responsible Minister and the Commissioner of Veterinary Services and Animal Industry.

i). The National Forestry and Tree Planting Act, 2003

This Act provides for the protection of forests through the creation of forest reserves in which human activity is strictly controlled. It seeks to control commercial harvesting of forest products through the use of licenses and promotes afforestation. The Act classifies forests in Uganda to include (i) central forest reserves, (ii) local forest reserves, (iii) community forests, (iv) private forests and (v) forests forming part of a wildlife conservation area declared under the Uganda Wildlife Act,

Cap 200. The Act provides for conservation of forests and trees and their management in a manner that meets the needs of the present generation without compromising the rights of future generations.

J). The National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005

These regulations are the most comprehensive instrument in as far as fulfilling the requirements as set in the CBD and the Bonn guidelines as well as addressing key access to genetic resources and benefit sharing issues in Uganda. The regulations were developed under the National Environment Act in order to prescribe the procedures for access to genetic resources for scientific research, commercial purposes, bio-prospecting, conservation or industrial application; provide for the sharing of benefits derived from genetic resources; and promote the sustainable management and utilization of genetic resources, thereby contributing to the conservation of biological resources of Uganda.

k). The Land Act, Cap 227, 2010

This Act introduces sustainable use of resources element in the property domain especially with regard to wildlife protection. Land users are enjoined by section 44 of the Act to use the land in an environmentally sustainable manner which includes a requirement to conform to the wildlife statute and other applicable laws. The Act provides for government and local government to protect natural lakes, rivers, ground water, natural ponds, natural streams, wetlands, forest reserves, national parks and any other land to be reserved for ecological and touristic purposes for the common good of the citizens of Uganda.

l). The Fish Act, Cap 197, 2011

This law regulates the fisheries sector. It imposes restrictions on fishing gears, waters among others. This law is very useful in regulating activities in waters especially that fall under wildlife protected areas and or have wildlife.

m). The Petroleum (Exploration, Development and Production) Act, 2013

Although oil and gas activities are not permissible under the Uganda Wildlife and Forestry Acts, it is important that harmonization of these

acts is done to avoid any future conflicts. Oil exploration, development and production have potential to escalate human wildlife conflicts, levels of illicit wildlife trade and trafficking. The Act regulates petroleum exploration, development and production in Uganda and provides among others for efficient and safe petroleum activities including conditions for the restoration of derelict lands.

n). The Plant Protection Act, 2015

The Plant Protection Act has provisions to help prevent the introduction and spread of diseases destructive to plants, including those in protected areas. The Commissioner for Agriculture is charged with the due administration of the Act, and the responsible Minister has power under section 9 to make rules for the prevention of spread of an introduced pests, among others.

CHAPTER III

CHAPTER 3: ETHODOLOGY

3.1 DATA COLLECTION

The development of the management plan was conducted through a consultative process, and utilized qualitative and quantitative data gathered through a mixed-methods approach from a selected range of sources as indicated below. The focus was to generate information that would provide evidence to sufficiently develop a reliable, detailed and up-to-date management plan. The methodology that was employed therefore included:

3.1.1 STAKEHOLDER IDENTIFICATION

The first stage involved the development of a detailed work plan, identification of key stakeholders and formulation of key data collection questions i.e. checklists and questionnaires. Respondents and participants in the development of the management plan were selected by simple stratified random sampling based on cluster groups. The cluster groups comprised of (i) communities living in and around the animal migratory routes (represented by Sub county Chiefs, Parish Chiefs, LCIII Chairpersons, LC1 Chairpersons, LC Councillors and a few community members, including community based organizations), (ii) district administrative, political and technical staff (LCV Chairpersons, Resident District Commissioners, Chief Administrative Officers, Cultural Leaders, District Environment Officers, District Community Development Officers, District Forest Officers, District Agricultural Officers), (iii) other line stakeholders (responsible for direct supervision of conservation in the area represented by NFA supervisors and sector managers, UWA field staff as well as NEMA KCL project staff), and (iv) national level staff in the responsible agencies (in NEMA, UWA, MWE-FSSD and NFA). A total of 362 stakeholders were involved in providing information (Appendix 12).

3.1.2 DESK REVIEWS

Management plans have been developed for wildlife corridors in several places of the world. The preparation of this management plan therefore utilized published case scenarios and best practices documented by organizations like USAID in the Queen Elizabeth National Park in Uganda under the Prime West project, the Tanzania Wildlife Research Institute for corridors in Tanzania, Jefferson Land Trust for the Quimper Wildlife Corridor in USA and many others. This management plan was also designed to be leveraged on the policy and legal environment in Uganda as well as that currently obtaining at the global scale. At the local level, various documents were utilized including district development plans, district state of the environment reports as well as project reports which were provided by the management of the KCL project.

3.1.3 FOCUS GROUP DISCUSSIONS, KEY INFORMANT AND SEMI-STRUCTURED INTERVIEWS

Data collection utilized key informant interviews, semi structured interviews and focus group discussions with all the stakeholders of the Kidepo Critical Landscape. A total of six (6) focus group discussions (FGDs) as well as community meetings were held, with one FGD in each of the six districts. Key informant interviews were also conducted with senior officials from NEMA, NFA, FSSD, UWA, the Prime Minister of Acholi kingdom and district technical staff. Discussions involving key informants mainly utilized semi-structured interviews while focus group discussions and community meetings employed a combination of semi-structured interviews and check lists. Discussions were held with a few community based organizations such as NYANAPO Environment Conservation Association.

3.2 VALUATION OF ECOSYSTEM SERVICES

Due to limited time and resources, the benefits transfer approach was used to estimate the economic value of identified critical dispersal blocks. The benefit transfer approach provides unit estimates of the value of particular ecosystem services based on estimates calculated

in more detailed studies in sites of similar environmental and natural capital, climate and economic status. Some analysts have argued that economic values of ecosystem services estimated by the benefit transfer approach have many shortcomings and limitations. They contend that the values are by definition context dependent, marginal and state dependent (Goulder and Kennedy, 1997; Baumgartner et al., 2006, Barbier et al., 2009, EPA., 2009). However, despite these fundamental issues in economic theory and practice, information about the monetary importance of ecosystem services is a powerful and essential tool to make better, more balanced decisions regarding trade-offs involved in land use options and resource use. The estimates are intended to provide an indicative value rather than a precise value. Even a primary valuation study may not offer a precise value for a non-traded ESS.

In this report, the unit values of ecosystem services and goods from savanna woodlands were derived from previous studies by Bush et al. (2004), Nix (1999), Emerton (1999) and Brenner-Guillermo (2007). For instance, Bush et al. (2004), determined economic value of different vegetation belts in Uganda based on a series of field surveys conducted around four focal areas, representing the four main forest types (Tropical High Forest (THF) in protected areas, THF on private land, Protected Savannah Woodland and Protected Afromontane Forest). They used the market price method to estimate the direct use values from the savanna woodland vegetation. Using this method, the economic value of direct use benefits was dependent on households' own reported values of quantities used and their prices.

Based on estimates of Bush et al. (2004) of the mean value derived per household from savanna woodlands in Uganda and the total number of households that are probable users of ecosystem goods and services around the dispersal blocks, it was possible to make an estimate of the total economic value of the dispersal blocks to local livelihoods. The users of ecosystem goods and services for purposes of this study were considered as those households resident within parishes (LCII) that lie in or share the boundary of the identified dispersal blocks. It was assumed that the residents of these parishes are in close proximity of the dispersal blocks and therefore can access the resources therein.

A total of 18,215 households in 21 parishes were found to lie in or share boundaries with the identified dispersal blocks. Based on household statistics, total demand for products harvested from the dispersal blocks was calculated. The annual benefit stream estimate from previous studies was adjusted for inflation to get the value at 2017 prices, using the formula below:

FV=PV*(1+r)^N

WHERE:

PV = value of annual benefit stream in 2004

FV = value of annual benefit stream in 2017

r = 0.064 (is the average inflation rate 2004 -2017)

N = 13 Years (2004 – 2017)

After establishing the total area of the dispersal blocks, it was then possible to calculate the average value of the dispersal block on a per hectare basis. The total annual economic values of the dispersal blocks were discounted into a present value over 10 years of the management plan (2018 – 2027), using a discount rate of 10% and 2017 constant prices (Gittinger, 1982; Graves, 2007). The net present value (NPV) was computed following the equation:

$$NPV = \sum_{t=0}^{t=n} \frac{B_t - C_t}{(1+p)^t}$$

Where:

B = Benefit

C = Cost

t = Production period or time in years

p = Discount rate

n = Rotation length in years

3.3 TRIANGULATION OF DATA

Triangulation is an important method in mixed-method data collection as it ensures that results are linked up into a coherent and credible evidence base. To clarify, supplement and triangulate information obtained from focus group discussions, key informant interviews, questionnaires and secondary data, face to face interviews were held with national level stakeholders (mentioned above) utilizing specific information generated from the previously mentioned methods.

3.4 LIMITATIONS

The development of this management plan relied heavily on qualitative information generated through secondary sources and a Rapid Rural Appraisal. Although all opportunities for triangulation were sought, the reliability of the information depended on full access to the required sources of such information and respondents. In addition, since the time schedule was rather limited, field visits were made only to a few areas especially where access depended so much on the weather and road conditions prevailing at the time. Quantitative data (including actual biodiversity inventories) as well as geographical information through satellite imagery would be useful in capturing the whole extent and biodiversity composition of the wildlife corridors. However, the information provided in this management plan is entirely reliable and wholly consistent with accepted understanding of management plans for wildlife corridors.

PART 2

CHAPTER I

PART 11: BIODIVERSITY AND SOCIO-ECONOMIC CONTEXT

CHAPTER 4: BIODIVERSITY STATUS AND ECOLOGICAL FUNCTIONS

4.1 BIODIVERSITY STATUS

Management plans for wildlife buffer/migration zones areas should be cognizant of the range of biodiversity present. Therefore, regardless of how small or large these wildlife corridors are, often times the plants and animals they contain are threatened directly or indirectly by various anthropogenic activities. The management plan should therefore strive to identify conservation targets, which, apart from the landscape level components such as rivers, wetlands, forests and mountains, include keystone species. This helps the management authorities to routinely target interventions to such important keystone species as elephants, shea butter trees, rare birds such as Nahan's francolin, rodents (Appendix 5), etc. Therefore, as a way of ensuring that this management plan takes care of issues to do with wildlife, it is imperative to give an overview of the range of biodiversity available in the corridors. The following sections provide summary lists of biodiversity that has been spotted or reported in the areas of the wildlife corridors of the Kidepo Critical Landscape. The lists provided may not be really complete as they are based on reports from key informants, focus groups and literature rather than a complete inventory.

4.2 LARGE MAMMALS

Animals are an important element of the KCL wildlife corridors on account of the very important role in driving ecological processes as well as attracting tourism. However, some animals are savvy in their

relationships with the human populations in that they may pose a direct danger to people, others are vermin. Many animals are also attractive to the human population to hunt for meat, horns and skins. The management plan authorities therefore need to be guided on the range of animals present in the corridor (Appendix 3). The following is therefore a summary list of animals that have been reported by key informants, focus groups and several members of the community as well as literature to be present within the wildlife corridors of the Kidepo Critical Landscape.

The animals that have been recorded in the area include: Cheetah (Acinonyx jubatus), Golden Jackal (Canis aureus), Black-backed Jackal (Canis mesomelas), Caracal (Caracal caracal), Heart-nosed Bat (Cardioderma cor), Spotted Hyaena (Crocuta crocuta), Rufous Elephant Shrew (Elephantulus rufescens), Rothschild's Giraffe (Giraffa rothschildi), Roan Antelope (Hippotragus equinus), Striped Hyaena (Hyaena hyaena), African Spot-necked Otter (Hydrictis maculicollis), De Winton's Long-eared Bat (Laephotis wintoni), Crested Rat (Lophiomys imhausi), African Elephant (Loxodonta africana), Hunting Dog (Lycaon pictus), Klipspringer (Oreotragus oreotragus), Bat-eared Fox (Otocyon megalotis), Lion (Panthera leo), Leopard (Panthera pardus), Aardwolf (Proteles cristatus), Bohor Reedbuck (Redunca redunca), East African Pouched Mouse (Saccostomus mearnsi), Ground Pangolin (Smutsia temminckii), Egyptian Tomb Bat (Taphozous perforatus), Common Eland (Taurotragus oryx), Greater Kudu (Tragelahpus strepsiceros), Lesser Kudu (Tragelaphus imberbis) and Sitatunga (Tragelaphus spekii)

4.3 BIRDS

Birds are the most motile of all animals as their migrations can traverse even continents. Therefore, birds that are sited in wildlife corridors do not represent part of the permanent resident biodiversity of the area. However, while corridors may provide good feeding grounds for many birds, sometimes they form part of the breeding areas of certain birds. Over 360 species of birds have been reported for the area covered by the Kidepo Critical Landscape (Appendix 7). Some of the birds are characteristic of savanna woodlands while others are the rarest and most sought after. The following list does not represent an inventory

of permanent or temporary birds of the Kidepo Critical Landscape. The list was, as is the case for animals above, drawn from reported sitings and literature.

The birds include: Egyptian Vulture (Neophron percnopterus), White-headed Vulture (Trigonoceps occipitalis), Pallid Harrier (Circus macrourus), Common Ostrich (Struthio camelus), Hooded Vulture (Necrosyrtes monachus), Fox Kestrel(Falco alopex), Black-rumped Button Quail (Turnix nanus), Hartlaub's Bustard (Eupodotis hartlaubii), Hemprich's Hornbill (Tockus hemprichii), Blue Swallow (Hirundo atrocaerulea), Karamoja Apalis (Apalis karamojae), Fox's Weaver (Ploceus spekeoides), Rufous-bellied Heron (Ardeola rufiventris), Ayres's Hawk Eagle (Hieraaetus aynesii), Secretary Bird (Sagittarius serpentarius), Lesser Kestrel (Falco naumanni), Ring-necked Francolin (Francolinus streptophorus), Hartlaub's Turaco (Tauraco hartlaubi), Black-breasted Barbet (Pogonornis rolleti), Red-billed Oxpecker (Buphagus erythrorhynchus), Rufous-breasted Sparrowhawk (Accipiter rufiventris), Greater Kestrel (Falco rupicoloides), Archer's Francolin (Scleroptila guttaralis), Quail Plover (Ortyxelos meiffreni), Corncrake (Crex crex), Kori Bustard (Ardeotis kori), Buff-crested Bustard (Eupodotis gindiana), Scarce Swift (Schoutedenapus myioptilus), African Black Swift (Apus barbatus), Pallid Honeyguide (Indicator meliphilus), Chestnut-backed Sparrow Lark (Eremopterix leucotis), Pygmy Batis (Batis perkeo), Steel-blue Whydah (Vidua hypocherina), Straw-tailed Whydah (Vidua fischeri), Lammergeyer (Gypaetus barbatus).

4.4 AMPHIBIANS AND REPTILES

Herpetofauna diversity provides information on habitat requirements since their composition and abundance can be influenced by a variety of environmental factors, such as vegetation zones (Allmon, 1991), elevation gradients (Fauth et al, 1989), and environmental seasonality (Vonesh, 2001). Human impacts, most especially those attached to landscape management greatly influences herpetile distributions. Herpetofauna can therefore be an early warning system signaling imbalances or degradation in the environment, thus providing an ultimate guide to ecosystem monitoring. These organisms can therefore be threatened if they are not prioritized in the management

of the Kidepo Critical Landscape since they are prone to almost all human activities. Therefore, based on a literature review, a summary of amphibians and reptiles that have ever been recorded in the Kidepo Critical Landscape is presented below and a detailed list is given in Appendix 6.

The amphibians and reptiles of the Kidepo ecosystem include: Boettger's two-headed snake (Micrelaps boettgeri), Edible bullfrog, (Pyxicephalus edulis), Ethiopian beaked-snake (Scaphiophis raffreyi), Jackson's centipede-eater (Aparallactus jacksonii), Peters' writhing-skink (Mochlus afer), Small-scaled stiletto snake (Atractaspis microlepidota), Southeastern savanna monitor (Varanus albigularis), Speke's sand-lizard (Heliobolus spekii), Sudanese garter-snake (Elapsoidea laticincta), West African crocodile (Crocodylus suchus), Western forest stiletto-snake (Atractaspis aterrima), Yellow-throated plated Lizard (Gerrhosaurus flavigularis), Chevron-throated dwarf gecko (Lygodactylus gutturalis), Burrowing skink (Scelotes sp.), Rainbow skink (Mabuya quinquetaeniata), Common stripped skink (Mabuya striata), Common agama (Agama agama), Chameleon (Chamaeleo sp.), Scrub-lizard (Nucrus sp.), Savannah monitor lizard (Varanus albigularis), African rock python (Python sebae), Puff adder (Bitis arietans), Water snake (Lycodonomorphus sp.).

4.5 BUTTERFLIES AND DRAGONFLIES

Butterflies are probably the best taxonomic group for assessing and monitoring patterns of terrestrial arthropods' diversity. Butterflies derive almost all their nutritional and some non-nutritional resources from plants. They therefore have a prominent place in conservation programmes and biodiversity assessments. The diversity and abundance of butterflies and dragonflies is seriously affected by spatial variation in vegetation structure as well as differences in plant species abundance and diversity. Based on a review of literature, the following butterfly and dragonfly species have been recorded in the areas of the Kidepo Critical Landscape. Although a detailed list is provided in Appendix 8, 9 and 10, the following are a few of the most common butterflies and dragonflies of the Kidepo Critical Landscape: African butterfly (Tetrarhanis diversa), Dusky dotted border (Mylothris sagala), Meru hawker (Pinheyschna meruensis),

Long slim dragonfly (Aciagrion heterostictum), Rock hooktail dragonfly (Paragomphus cognatus), Corkscrew hooktail dragonly (Paragomphus elpidius), Banded cruiser dragonflies (Phyllomacromia flavimitella, Phyllomacromia pseudafricana).

4.6 PLANTS

Plants offer potential advantages over other taxa as biodiversity indicators on account of their primary producer role. Due to their abundance and diversity, they are often most likely to influence the species richness of organisms belonging to higher trophic levels. As such, they provide a suitable measure of overall diversity of an ecosystem. This management plan has provided a number of plant species based on literature that have ever been recorded in the Kidepo landscape. Over 700 plant species have been recorded for the area covered by the Kidepo Critical Landscape. This may be particularly useful for evaluating the effectiveness of this Management Plan, especially where the species concerned are subject to harvesting, or other human activities.

Among others (Appendix 11), the plant diversity of Kidepo landscape includes: Encephalartos septentrionalis, Afzelia africana (Afzelia), Afrocarpus gracilior, Milicia excelsa (Iroko or African Teak), Khaya grandifoliola (Large-leaved mahogany), Khaya senegalensis (African mahogany, Dry zone mahogany), Aloe volkensii, Vitellaria paradoxa (Shea butter tree), Cordyla richardii, Dalbergia melanoxylon (African Blackwood, Mozambique Ebony), Tamarindus indica (Tamarind), Warburgia ugandensis (African green heart), Podocarpus latifolius (Podo), Prunus africana (Red Stinkwood), Combretum spp., Terminalia spp., Albizia coriaria, Bamboo, Grewia mollis, Piliostigma thorningii, Hymenocardia acida, Acacia spp., Combretum spp., Acacia spp., Ficus spp., Vitex doniana, Kigelia africana, Acacia spp.

CHAPTER V

CHAPTER 5: SOCIO-ECONOMIC ENVIRONMENT

5.1 POPULATION AND DEMOGRAPHICS

Plans for sustainable management of wildlife corridors in the Kidepo Critical Landscape need to be cognizant of the social and economic context within which prescribed intervention are to be implemented. Of particular importance in this regard, are demographic factors like population size, density, growth and spatial distribution, which undertow interactions between communities and wildlife and/or their habitats.

According to the 2014 population census, the six project districts had a total of 994,337 people, 52% of whom were female and 48% male. This population was distributed across 180,375 households with an average household size of about 6 persons per household. Of the six districts, Agago had the largest population standing at 227,486 persons, while Otuke district, on the contrary, had the smallest population at 105,617 persons. Generally, population density in the districts is about 45 persons/km2. Despite its relatively low population, Otuke is the most densely populated at 68 persons/km2, while Kaabong is the most sparsely populated at 23 persons/km2 (Tables 3 and 4).

TABLE 3: *Population characteristics of the six districts in Kidepo Critical Landscape (2014)*

DISTRICT	HOUSEHOLDS		POPULATION			
	NUMBER	AVARAGE SIZE	MALE	FEMALE	TOTAL	DENSIITY
Abim	18,297	5.9	52,963	56,076	109,039	46.4
Agago	43,274	5.2	110,095	117,391	227,486	65.1
Kaabong	29,725	5.6	79,932	89,342	169,274	23.4
Kitgum	39,959	5.1	98,438	105,574	204,012	51.6
Kotido	26,847	6.3	85,291	93,618	178,909	48.3
Otuke	22,273	4.7	51,444	54,173	105,617	68.2
Total	**180,375**	**5.47**	**478,163**	**516,174**	**994,337**	**44.6**

TABLE 4: *Population trends in the six districts of Kidepo Critical Landscape (1991-*

DISTRICT	1991*	2002*	2014*	Annual Growth Rate**	
				1991 - 2002	2002 – 2014
Agago	47,572	51,803	109,039	0.73	6.20
Kaabong	100,659	184,018	227,486	5.17	1.77
Kitgum	91,236	202,758	169,274	6.84	-1.50
Kotido	104,557	167,030	204,012	4.02	1.67
Otuke	57,198	122,541	178,909	6.53	3.15
Total	43,457	62,018	105,617	3.05	4.44
Total	**444,679**	**790,168**	**994,337**		

*014) *2016 Statistical Abstract*
**2014 Census Results*

From discussions with district technical staff, this was by and large, attributed to peace and reduction in raids by the Pokot. There is also marked improvement in health services which has reportedly reduced mortality. In addition, existence of fertile soils in areas in or adjacent to the wildlife corridors renders these locations conducive for agriculture, which is also considered to attract settlement there, and thus trigger increase in population.

The increase in human population has resulted in more pressure being exerted on the corridor land for livelihood activities and settlements. With communities established in close proximity to the wildlife corridors, hunting and poaching have become even more common activities. In the process, some wildlife species have been scared off by the heightened anthropogenic activities in the corridors. Efforts by UWA to redress this have in some instances precipitated conflict between UWA and local communities, especially as regards regulation of activities like hunting, poaching and cultivation.

5.2 ETHNIC COMPOSITION, CULTURE AND SOCIAL ORGANIZATION

The people in the Kidepo Critical Landscape are predominantly of Nilotic and Nilo-Hamitic ethnic groupings. The Nilotic speaking peoples are predominant in Kitgum, Agago, Otuke and parts of Abim, while Nilo-Hamitic people are in Kaabong, Kotido and parts of Abim. The major language in Kaabong and Kotido is Akarimojong while Luo is mainly spoken in Otuke, Agago and Kitgum. The people of Abim usually call themselves joAbwor (or sometimes Ethur) whose dialect seems to be a sect of the Nilotic Luo language. The major ethnic group of people found in Kotido district is the Jie from the Ngijie speaking group of the Karimojong of North Eastern part of Uganda who are mainly pastoralists. There are also traces of Luo speaking people among other tribes in the district.

The Kidepo Critical Landscape straddles as an area with very strong cultures consisting of intricate and exciting traditional customs and rituals. When norms and values are broken, the offender is subjected to a traditional justice and disciplinary mechanism consisting of a range of predetermined and sometimes random penalties and punishments. The norms and values are generally known and instilled into children while they are growing up.

Among the Akarimojong, the cultural institutions include the Manyatta leadership, which is usually headed by men who control a group of houses / households which are enclosed in a given area. These manyattas are divided into "ere" or "awii". The "ere" are those permanent structures in the villages and the "awii" are those created in the wild where people take livestock for pasture. The youths are organized in groups and are taken through a process of initiation called "Atha-pan" before they can be regarded as mature.

Of particular importance to this management plan are prospects for tourism in the landscape. There are also many aspects of the local way of life (e.g. cultural dances - for rains and insecurity, Liporo for martyrs – prayers always conducted in Wipolo every year) that would constitute strong attractions for cultural tourism.

5.3 LAND TENURE AND OWNERSHIP

The land tenure system in Karamoja region is mostly customary, while in Acholi is communal. Customary tenure in Karamoja is characterised along four lines of sub-tenures, the grazing lands and the shrine areas considered communal. Arable land and land used for homesteads, where manyattas are constructed considered to be individualized customary. Within the communal, authority rests at two tiers, the elders, whose position derives from the initiation of age-sets and groups, and the kraal commanders whose authority is based on the ability to predict likely adversity related to diseases or raids. On individual customary land, the family heads hold conclusive rights with authority to transact by way of sale, sharecropping or renting out and to transmit through inheritance or sub-division. Heads of household are also charged with the observance of rights to access for nucleus and extended family members.

The authority of elders is recognized on all types of land though in varying degrees. On grazing lands, elders' authority focuses on pastoral resource access issues like deciding pasture banks by delineating dry and wet season grazing areas. However, the kraal commanders decide herd numbers and day to day grazing locations. It is important to note that matters concerning gardens and manyatta locations are generally decided at family or clan level by patriarchs. Women play significant roles of assignment in use of land within the household on behalf of their spouses and in some instances may allot the inheritance rights over land, with the first priority assigned to their sons or male relatives of their spouses.

A complementary relationship accepting the position of elder exists between traditional and statutory land management institutions, with the decisions to solicit community support for use of land, resting on the blessings and sanctioning from elders before any formal systems such as Area Land Committees (ALCs) endorses any transactions. In essence, the statutory institutions only formalize decisions already made by the elders under the traditional institutions. However, this trend of events does not set aside the erosion of the power of elders as institution in the face of armament or guns, protected kraals and

forceful sales of land by the youth. With regard to dispute resolution a similar arrangement obtains since the land tribunals, which statutory bodies referred to in the Land Act 1998 and the Constitution 1995, were summarily discontinued by the Judiciary in 2006, reverting the responsibility to the ordinary court system.

Alienation of customary tenure into registered form, mostly in leasehold is still limited to gazetted urban centres and town councils. Whereas the Land Act 1998 and the Constitution 1995 provide avenues for obtaining Certificates of Customary Ownership (CCO) and communal holding of land under Communal Land Associations (CLA), both avenues have not been utilised in Karamoja, except for the likely benefits that will arise from the pilot titling project of Uganda Land Alliance (ULA) in Nabwal. This is due to low levels of awareness of the existence of these options and the non-staffing of district land office which would support such processes.

5.4: ECONOMIC ACTIVITIES

Subsistence cultivation, animal husbandry, charcoal burning and trade in assorted merchandise constitute the main economic activities (Table 5). Crops grown include cassava, millet, sorghum, simsim, sunflower, maize, beans, cotton, ground nuts, sweet potatoes and an assortment of vegetables e.g. boo, sukuma wiki, tomatoes and red pepper. The main livestock reared include cattle, goats, sheep, pigs and poultry that include chicken and guinea fowls. In some areas, bee keeping has been promoted under CFM and by civil society organizations (e.g. Together-We-Stand, World Vision and Caritas). Fishing (mud fish and cat fish) and fish farming is also carried out in parts of Kitgum, Agago and Otuke districts, although on a small scale.

There is also plenty of petty trading in general merchandise in addition to business in construction materials, motorcycle transportation, bakery and local brewing that are common. The industrial sector is still in nascent stages and is largely hinged on agro-processing of grain (e.g. maize, sorghum, millet, rice) and cassava.

TABLE 5: *Relative importance of economic activities in the Kidepo Critical Landscape*

Livelihood activities	Kitgum	Kaabong	Kotido	Abim	Agago	Otuke	Average
Crop cultivation	1	1	1	1	1	1	1.0
Livestock rearing	3	2	2	2	2	2	2.2
Charcoal burning	2	4	3	4	-	3	3.2
Trade	-	-	-	3	3	4	3.3
Mining	5	3	7	5	-	5	5.0
Apiary/Honey collection	4	6	6	6	5	6	5.5
Firewood business	6	5	5	-	-	8	6.0
Hunting	7	-	4	7	4	9	6.2
Fishing	-	-	8	-	6	7	7.0
Craft making	-	-	-	-	7	-	7.0
Fruit harvesting	-	7	-	-	-	-	7.0
Timber business	8	-	-	-	-	-	8.0

**Rankings generated during focused group discussions with district technical staff in each district. The numbers shown for each activity below the respective districts represent the level of importance (1=most important to 8=least important). The dashes (-) represent activities which were not ranked.*

Although charcoal was reportedly done on a small scale and largely for domestic purposes, charcoal burning is common livelihood activity in the landscape. Species used include Vitellaria paradoxa, Combretum spp., Terminalia spp., Piliostigma thorningii, Acacia spp., Grewia spp. and Ficus spp. These species are also used as firewood for domestic cooking.

Other sources of livelihood include mining and hunting. The major minerals are graphite and gold. Graphite mining is common in Orom sub-county in Kitgum, while gold is mined in Lolelia sub-county in Kaabong, Kacheri sub-county in Kotido, as well as Morulem, Alerek and Nyakwai sub-counties in Abim district. Stone quarrying is also common in the landscape.

Hunting is done for wild meat, sport and as a vermin control measure. Animals mostly hunted include edible rats, antelopes, wild pigs, warthogs, duikers, squirrels, water bucks, bush bucks, and birds like guinea fowls. Monkeys are hunted being vermin that are destructive to crops. Sport hunting licensed by UWA also occurs in parts of Kaabong district.

The timber industry in the region is small, given the type of housing in the region demands more of building poles than timber. Albizia coriaria, Terminalia spp. and Ficus spp. are the species occasionally used for timber. There is, however, increasing investment in Pine, Teak and Eucalyptus woodlots. On the other hand, Combretum spp. and Acacia spp. poles are highly preferred in local construction, especially in the building of manyattas. Bamboo poles are also used on other construction.

There is high tourism potential of the area, especially due to presence of wildlife in the Kidepo National Park and the associated wildlife dispersal corridors. In districts such as Abim, the tourist potential is, however, still virgin. Potential areas for tourism attraction include the beautiful mountain ranges/hills and cultural sites e.g. in Orom, Namokora, Omiya Anyima, Lagoro and Mucwini. The magnificent Labwor, Rwoth and Akur hills consist of beautiful sceneries, tall grass and natural woodland which are all alluring to the sight. In addition, there are many aspects of the local way of life that would constitute strong attractions for cultural tourism.

5.5 :STAKEHOLDERS, THEIR ROLES AND RESPONSIBILITIES IN THE KIDEPO CRITICAL LANDSCAPE

Stakeholder identification was based on an approach that takes into consideration the different roles and responsibilities that various institutions or players may be able to contribute to wildlife dispersal blocks in the Kidepo Critical Landscape. To assign these roles and responsibilities, key informant as well as focus group discussions were held to identify stakeholders. This resulted in a stakeholder matrix (Table 6) that included all possible arrays of stakeholders for the wildlife dispersal blocks in the Kidepo ecosystem.

TABLE 6: *Roles, rights and responsibilities of key stakeholders in the dispersal blocks*

Stakeholder	Roles/Rights
Local communities	• Put communal land to good use • Provide protection to wildlife that appear on communal land • Ensure no poaching and hunting • Report to local government any issues that emerge as far as corridor and wildlife is concern • Plan and decision making regarding movement of livestock herds • Conservation through tree planting and protection • Offer security in the area towards wildlife attacks. • Cultivate and graze in the corridor since it is their customary land (Right) • Superintend over land for cultivation / Right over land ownership (Right)
Local government	• Pass by-laws and ordinances in the induction of environmental degradation • Sensitize community about wild life conservation • License interested timber dealers • Control of Tsetse flies • Demarcate wild life corridors • Provide water points for residents and wild animals and protecting them from contamination • Coordinate government activities • Deliver services such as education and medical services • Arrest, impound and prosecute those involved in illegal activities • Monitor and inspect service provision • Constitute environmental committees • Carry out boundary opening • Document and reporte to UWA any case of crop damage by animals • Develop infrastructure in the respective districts.

Community Based Organizations (CBOs): e.g. Nyanapo Environmental Conservation Association **Kacheli Wildlife association, KAMKAN wild life association** **KAMKAN and Soroti Rural Development Agency; CBOs – founded by UNDP – FOKAPAWA-Forum for Kalongo Parish**	• Mobilize and organize local communities into groups • Build capacity of community groups in biodiversity conservation • Sensitize the community about conserving wildlife • Support the local communities around the corridors e.g. through apiary enterprises • Fire management training to control wildfires • Train scouts in handling wildlife sighted in the community (e.g. using vuvuzelas to chase away elephants). • Tree nursery establishment and planting (e.g. Pine, Eucalyptus and Grevillea). • Document whatever is happening in the corridor • Train the local leaders • Conduct exchange visits between districts that share experience in wildlife management.
Non-Government Organizations (NGOs): e.g. UNDP Mercy Corps, GIZ, UNDP, Trocaire **National Forestry Authority (NFA)**	• Support local communities through rural and infrastructural development projects (e.g. roads and hospitals) • Connect the village roads to markets • Promote trade through putting up community stalls • Promote CFM to conserve the ecosystem • Support alternative community livelihood projects e.g. bee keeping • Conduct community sensitization about forest conservation and tree planting • Undertake enforcement through arresting, impounding and prosecuting defaulters • Undertake community tree planting to restore vegetation cover in the corridor. • Issue licenses – DFO

Uganda Wildlife Authority	• Train wildlife scouts selected from the community • Prosecute illegal hunters and poachers • Sensitize community on conservation of wild life • Prevent wildlife from escaping to the locals • Recapture and returning of stray wild animals • Plan for conservation • Protection and conservation of wild life • Assessment and compensation for damages caused by wild animals to residents and their property • Cooperate social responsibility through funding women • Surveillance
Development partners	
Traditional leaders	• Assert ownership of the wildlife corridors as a right • Planning and decision making • Perform cultural dances • Community mobilization.
Religious leaders	• Sensitize the local communities • Report to local government officials • Mobilize local communities in these areas

5.6 COMMUNITY RELATIONS, THREATS AND CONFLICTS

There are no clear policy and legal mechanisms for wildlife conservation outside protected areas and mechanisms for resolving human/wildlife conflicts. As such it remains one of the aspirations of the National Land Policy (2013) for government to take measures to establish and implement an effective mechanism for the management of wildlife outside protected areas as well as develop mechanisms to resolve human/wildlife conflicts.

Whereas the purpose of a wildlife protected area is largely conservation of wildlife to generate economic benefits for the people of Uganda generally, wildlife management areas are also aimed at benefiting communities living in those management areas. Therefore, in addressing wildlife-human conflicts, Uganda's legislation and regulations attempt

to make provisions for community participation, land use and land tenure systems, compensation, tourism development, and access to dispute resolution mechanisms.

Section 19(2) of the Uganda Wildlife Act seeks to balance the interests of wildlife conservation with those of communities living with or near wildlife refuges. It is to the effect that wildlife should be managed in such a way as to ensure the co-existence of communities with wildlife; and protection of wildlife notwithstanding, the continued use of the land in the area by people and communities ordinarily residing there. Therefore, section 25(2) goes on to state that:

> "The Authority may establish guidelines for access of communities neighboring conservation areas to resources which are crucial to the survival of those communities. The Authority may study, identify and protect historical or cultural interests of any individual or class of persons resident in a wildlife conservation area not protected by any other law."

Apart from the human-wildlife conflicts, interface between wildlife and people in the Kidepo dispersal corridors is also faced with a number of threats. Discussions with key informants and information from focus group discussions revealed a number of threats as enumerated in Table 7 below.

TABLE 7: *Threat analysis of wildlife–human interaction and implications on conservation*

Threats	Who causes these threats	How do these threats affect the communities	How do these threats affect the wildlife corridors	What solutions do you suggest to address these threats
Climate change	• Humans, Natural disasters	• Low agricultural production • Food shortage • Poverty	• Drought resulting in water scarcity • Loss of values associated with the corridors	• Put in place Disaster Early Warning Systems • Promote tree planting
Increasing crop cultivation	• Local communities	• Increased competition for farmlands • Frequent wildfires	• Killing and displacement of wildlife • Reduction in grazing areas	• Make bye-laws and mutual agreements • Gazette areas as communal wildlife areas • Sensitize local communities on increased cultivation • Delineate boundaries for these corridors
Human settlement	• Returnees from camps	• Conflicts over land • Vulnerability to attack by wildlife	• Distortion of wildlife habitats • Reduction in the grazing ground for the wildlife.	• Delineate boundaries for these corridors • Relocate people residing in corridors • Sensitize local communities on expanded human settlement
Human population increase	• Local people	• Competition for resources • Conflicts over land	• Reduction in size of the corridors as result of clearance for settlement	• Delineate boundaries of wildlife corridors • Gazette wildlife corridors • Resettle some people elsewhere.
Encroachment on protected areas	• Local communities	• Escalated conflict between locals and conservation agencies (UWA and NFA) • Reduction in the resource value of the corridors	• Scares off wildlife from their habitats • Distorted habitat due to loss of flora and fauna.	• Community sensitization on dangers of encroachment • Delineate boundaries of the wildlife corridors.
Wildfires	• Hunters • Pastoralists	• Destruction of houses and crop gardens	• Reduction in wildlife populations • Destruction of wildlife habitats	• Enact bye-laws against burning of vegetation • Enforce existing laws (i.e. Burning of Grass Decree 1975)
Grazing of livestock	• Pastoralists • Local communities	• Competition for water and pastures • Conflicts between local people and UWA/NFA. • Conflicts between pastoralists and local communities.	• Increased competitions for water and pastures.	• Issue grazing licenses • Demarcate boundaries to avoid conflicts • Sensitize local communities on sustainable grazing • Improving relations and cooperation between

Threats	Who causes these threats	How do these threats affect the communities	How do these threats affect the wildlife corridors	What solutions do you suggest to address these threats
				grazers and UWA/NFA
Hunting and Poaching	• Local communities	• Scarcity of game meat • Imprisonment of culprits	• Reduction of wildlife populations and diversity • Extinction of some wildlife species	• Enact bye-laws against hunting/poaching • Enforce existing legislation (including the Uganda Wildlife Act) • Intensify patrols • Sensitize communities about hunting and poaching
Sport hunting	• UWA	• Scares the locals	• Competition from illegal hunters	• Notify communities about sport hunting • Ensure that all sport hunters are licensed
Mining	• Locals • Investors e.g. Consolidated Africa Ltd. • Government of Uganda	• Silting of rivers and streams • Drying of water channels • Lowering the valued of wildlife in the area.	• Scares wildlife away from their habitats • Pollution of wildlife water sources.	• Conduct EIAs before mining license is issued • Address issues of wildlife and human concern before license is issued • Ensure that there are adequate environmental safeguards before and during the mining processes (including waste management).
Soil erosion	• Animals through movement track • Local people through bad land management practices	• Siltation of rivers • Loss of soil fertility • Reduction of agricultural land • Reduction of grazing land	• Low water availability and grazing land leads to increased movement of animals • Increased human-wildlife conflicts	• Sensitize local communities on soil and water conservation • Encourage agroforestry • Promote tree planting
Deforestation (tree cutting)	• Pit sawyers • Timber and firewood sellers • Local communities	• Reduction in tree cover and species diversity • Reduction in availability of tree resources e.g. firewood and timber	• Distortion and shrinkage in habitats wildlife • Reduction in water availability • Reduction in food resources for wildlife	• Sensitize communities on the effects of deforestation • Enact bye-laws against tree cutting • License tree cutting to regulate it • Support local communities with alternative sources of income.

CHAPTER VI

CHAPTER 6: ECONOMIC VALUE OF ECOSYSTEM GOODS AND SERVICES

6.1 FLOW BENEFITS OF SAVANNA WOODLAND RESOURCES IN THE DISPERSAL BLOCK

The study focused on establishing qualitative as well as quantitative values of major direct and indirect use benefits derived from the dispersal blocks. Six major direct uses have been reported, namely: timber, non-timber forest products, water sources, forage, medicinal plants and social-cultural benefits. Similarly, two major indirect use benefits were reported.

6.2: DIRECT USE VALUES

Direct use values including tangible products were identified by respondents to be comprised of timber and non-timber products that are extracted by households or firms for own use, either for final consumption or as inputs into production. This category also included benefits of the resource such as recreation, which are enjoyed without consuming the physical stock.

6.2.1: TIMBER AND NON-TIMBER FOREST PRODUCTS

Focus group discussions and key informant interviews in this study revealed that households rely heavily on the savanna woodlands for fuel wood. Typically, charcoal was the most important commercial product from the savannah woodlands. The local communities sell the charcoal rather than use it, preferring to use firewood instead. Focus group discussions indicated that the preferred species for charcoal production included Vitellaria paradoxa, Combretum spp., Terminalia spp., Piliostigma thonningii, Acacia seyal and Grewia Mollis while the preferred species for timber production included Albizia coriaria, Ficus spp., Terminalia spp. and Vitellaria paradoxa. Hunting for animals such as edible rats, wild pigs, wild rabbits, squirrels and duikers for bush meat was also identified as one of the key economic activities in the dispersal blocks.

Bush et al. (2004) estimated the mean value of household income from non-timber forest products (NTFP) and timber products in Uganda's savanna woodlands at UGX 47,182 and 110,605 per annum respectively. The household income included income from goods sold and from household own-consumption. They also included firewood and charcoal under timber income while NTFPs included products such as handicrafts, bamboo, rattan and bush meat. Since the number of households in the identified dispersal blocks is estimated at 18,215 (UBOS, 2014), an annual benefit stream of UGX 859,420,130 per annum and UGX 2,014,670,075 per annum at 2004 prices for timber and non-timber forest products respectively can be computed. Therefore, assuming other factors constant, the inflation adjusted annual benefit stream estimate at 2017 prices for the areas in the dispersal blocks is UGX 1,925,070706 and 4,512,789,738 per annum for timber and non-timber forest products respectively.

6.2.2: DOMESTIC WATER SUPPLY

Savanna woodlands are an important source of water for local communities. Their integrity directly affects the quality and integrity of the water sources. According to Bush et al. (2004), 59.34% of all respondents indicated that their principal source of water came from surface water sources within or emanating from local forests. They estimated the value of the provision of clean water by forests to local communities by considering the cost of providing an alternative source of water should current supplies be made unavailable through the loss or degradation of the forests that sustains them. The mean value of water provision from savanna woodlands for both humans and livestock per household was estimated at UGX 30,928 per annum (Bush et al., 2004). In this report, the value of water provision from Kasagala CFR, which is relatively similar to the dispersal blocks was used. Therefore, multiplying the mean value of water provision of UGX 30,928 per annum by the number of households gives a total value of UGX 563,353,520 per annum at 2004 prices and the inflation adjusted annual mean value of water provision is UGX 1,261,891,967 per annum.

6.2.3: FORAGE VALUES

The forage value of grass is a significant part of the economics of savannah woodlands. Livestock production is the predominant type of agricultural activity in such vegetation. Nix (1999) equates the forage value per cattle head per annum to approximately 10.4% of the final value of the animal. A similar study by Bush et al. equated the forage value to 3.3% of the livestock value. Focus group discussions indicated that the average price of a Ugandan beef animal is approximately UGX 1,000,000. In their report, Bush et al. (2004) assume that one hectare of savannah woodland can support one beef cattle. Using the conservative estimate by Bush et al. (2004), the annual forage economic value of one hectare of savannah grassland is estimated at UGX 33,000. A digital map indicated that the 21 parishes in the dispersal block cover approximately 569,574 hectares. Thus the total annual forage value of the dispersal block is UGX 18,795,942,000 at 2004 prices and UGX 42,102,245,537 per annum at 2017 prices.

6.2.4: SOCIO-CULTURAL BENEFITS

The savanna woodlands are used to perform traditional and religious customs, which contribute significantly to the social and cultural welfare of the communities in the dispersal blocks. Focus group discussions revealed that elders in Karamoja camp in the savanna woodlands to perform rituals for bringing rain and stopping disease outbreaks. Additionally, the communities use various forest and woodland products such as plant leaves and roots in traditional and religious customs such as initiations, funerals and weddings.

6.2.5: MEDICINAL PLANTS

Reichhuber and Requate (2007) carried out a study on the economic contribution of medicinal plants to traditional health practitioners in Yayu and Sheko districts of south-west Ethiopia. They estimate US$ 3 and US$ 1.80 per hectare for Sheko and Yayu districts, respectively, after accounting for collection costs. Other studies by Pearce and Moran (1995) suggest a value of US$ 0.01-US$ 21 per hectare for medicinal plants in general. Simpson et al. (1994) estimate a value of US$ 1.10 per ha per annum for pharmaceutical genetic material in the

Ivory Coast forest areas. We draw on their results to value the benefits of forest resources to provide medicinal plants. In this study, we adopt the conservative value (US$ 1.10 per ha per annum) of Simpson et al. (1994) to avoid overestimation. The pharmaceutical value of the dispersal block is derived by multiplying its area by per hectare value. Accordingly, the total pharmaceutical value of the dispersal block at 2017 prices is UGX 2,192,859,900 per annum

6.2.6: CROP CULTIVATION

Crop cultivation was identified as one of the main economic activities in the dispersal blocks. The common crops grown include simsim, rice, beans, maize, sunflower, sorghum, cassava, millet, pigeon peas, ground nuts, cotton and Sweet potatoes. Crop field observations and focus group discussions indicated that large tracts of land in the dispersal blocks were under crop cultivation. According to Robert et al. (2014), 68.4% of net household income in rural Northern Uganda is derived from agriculture. The UBOS (2014) report also indicated that the average monthly household income in Northern Uganda was UGX 186,000. Therefore, the value of crop cultivation was derived by multiplying the number of households in the dispersal block by 68.4% of the average household income in Northern Uganda. Accordingly, the total crop cultivation value of the dispersal blocks is UGX 27,808,621,920.

6.3: INDIRECT USE VALUES

Indirect use values include environmental services, which are used as intermediate inputs into the production of other economic (owned and traded) goods and services. Since the value of such services of nature is included in the value of produced and traded economic goods and services, it is usually captured in the national measures of production and income. However, this value is normally not attributed to the forest sector. There is a hidden dimension to savanna woodlands in that they have a wider role in the maintenance of environmental quality such as soil/ water conservation and carbon sequestration. Such hidden benefits are public goods that benefit many people at a local, national and international level.

Two forest services were considered for inclusion under indirect use values category, namely: carbon sequestration services and watershed protection benefits. The carbon sequestration services were considered given their increasing importance in the climate change. Watershed protection benefits were considered given that the impacts of change in forest cover on watershed functions can encompass soil erosion, altered downstream water flows, flooding and sedimentation, and consequent damage to agriculture, fisheries, dam storage, and power generation.

6.3.1: CARBON STORAGE

Natural vegetation is an important carbon sink, thus reducing accumulation of greenhouse gases, which lead to global warming. According to Emerton (1999), savanna woodlands sequester approximately 10 tonnes of carbon (tC) per hectare. This is equivalent to 36 tonnes of carbon dioxide equivalent (tCO2e). The World Bank using its Bio-carbon fund purchased carbon at US$ 4.5 per tCO2e from a community in South Western Uganda (Kiyingi et al. 2016). The carbon monetary value is therefore derived by multiplying the physical carbon account per hectare by US$ 4.5 and the total area of the dispersal block (569,574 ha). Accordingly, the total value of carbon sequestered by the dispersal block is UGX 322,948,458,000. When amortized over a 20 year period, the annual carbon sequestration value is estimated at UGX 16,147,422,900 per annum.

6.3.2: WATERSHED PROTECTION

Typically, the functions forests play in watershed regulation include: soil conservation (siltation and sedimentation), water flow regulation (including flood and storm protection, water supply, water quality regulation – including nutrient outflow). According to Brenner-Guillermo (2007), the average values of soil conservation and water regulation ecosystem services in savanna woodlands are US$5 and US$7/ha/year. This translates into annual watershed protection values of US$12/ha/yr. Thus the annual watershed value for the dispersal blocks is UGX 19,326,258,000 per year.

6. 4: PRESENT AND FUTURE VALUE OF SELECTED ECOSYSTEM GOODS AND SERVICES

TABLE 8: *Economic value of ecosystem goods and services*

Benefit	Annual economic value – base year (2018) (UGX/year)	Inflation adjusted annual economic value (UGX/year)	Net Present value over 10 years (2018 – 2027) (UGX)
Direct use Values			
Timber	859,420,130	1,925,070,706	14,864,885,712
Non-timber forest product	2,014,670,075	4,512,789,738	34,846,566,148
Domestic water supply	563,353,520	1,261,891,967	9,743,995,278
Forage	18,795,942,000	42,102,245,537	325,102,000,000
Social -cultural	-	-	-
Medicinal Plants	-	2,192,859,900	16,932,682,885
Crop production	-	27,808,621,920	214,731,000,000
Indirect use values			
Carbon sequestration	-	16,147,422,900	124,686,000,000
Watershed protection	-	19,326,258,000	149,232,000,000
TOTAL	**-**	**115,277,160,668**	**890,139,130,023**

Table 8 clearly indicates that the local communities derive many direct and indirect benefits from the savanna woodland resources in the dispersal blocks. It also indicates the annual economic value for a number of major products and services of the woodlands. The total

value of the major direct and indirect use benefits from the dispersal blocks is estimated at UGX 115,277,160,668 per annum. The net present value of the dispersal block over 10 years of the management plan (2018 – 2027) was estimated at UGX 890,139,130,023. These values suggest that the communities adjacent to the dispersal blocks are highly reliant on these resources for their livelihood. It also indicates the massive value of woodland resources missing from the system of national accounts (SNA) in Uganda. We consider our estimates to be rather conservative as a number of other benefits derived by the local community from the woodlands have not been captured in this study. If one considers other indirect use values such as nutrients supply, pollination services and biodiversity this value will even be higher.

The failure of the current economic accounting systems to capture the value of woodland resources has been attributed to a number of factors. First, the system of national accounts (SNA) includes the value of produced outputs that are traded in the market. This immediately misses the value of the many timber and non-timber products that are usually harvested from open access resources and directly used for own consumption and hence escape trade and market exchange. Similarly, many indirect use benefits and ecological services of forests and woodlands do not pass through the market and their values are usually attributed to the wrong economic activities (recipient sectors).

PART 3

CHAPTER VII

PART 3: MANAGEMENT OBJECTIVES & PLANNED PRESCRIPTIONS

CHAPTER 7: PURPOSE AND OBJECTIVES

7.1 PREVIOUS MANAGEMENT PLANS

Apart from the Management Plans for the protected areas (PAs) i.e. National parks, wildlife conservation areas and central forest reserves within the corridor, there has been no previous management plans developed specifically for the management of wildlife in these dispersal areas outside PAs. These protected areas are managed by Uganda Wildlife Authority and National Forestry Authority respectively. Whereas UWA has a current management plan for Kidepo Valley National Park (2012-2022), the plan for managing CFRs in the Karamoja sub region is under preparation. Outside protected areas, each district has developed a district development plan, which is a general plan for development of the district. Kitgum district has a District Environment Action Plan (DEAP) (2016/17 – 2020/21) which was developed by the Natural Resources department. In addition, Kitgum district also has a District Development Plan (2010/11 – 2020/21). Apart from these, there are formal management plans for wildlife/biodiversity resources outside protected areas in the Kidepo Critical Landscape. There is no doubt therefore that the rate of degradation and loss of these resources has been very high, hence the urgent need for a management plan.

7.2: PREVIOUS MANAGEMENT OBJECTIVES

At the time of gazetting central forest reserves in the Kidepo Critical Landscape, the main management objectives were threefold. These were (a) for timber production (b) protection of fragile ecosystems and (c) for establishment of industrial plantations. In the current

management regime, only Kidepo Valley National Park (KVNP) and Kaabong Management Plan Areas (MPAs) have plans though the latter is still in draft form. The major objectives for managing the Kidepo Valley NP and Kaabong MPAs are to:

1. *Manage the natural vegetation so as to protect and conserve the ecological and productivity functions of forests and promote sustainable use of resources.*
2. *Maintain and extend plantations for production of general purpose timber, in the largest possible quantities, as cheaply and profitably as possible.*
3. *Involve and integrate the communities into participatory forest management as well as management of KVNP to improve peoples' livelihoods through increased tourism revenues.*
4. *Address cross border wildlife management challenges of the three countries of Uganda, Kenya and South Sudan.*
5. *Carry out research for promoting the productivity of the natural vegetation and biodiversity of the region.*
6. *Protect the water catchments of the rivers of Kaabong district and sustaining the settlements in the Management Plan Area.*

The immediate objectives of the Kitgum District Environment Action Plan are to halt and prevent ecosystem and environmental degradation and restore and preserve it for human health and other uses.

7.3: BASIS AND PURPOSE OF THE CURRENT MANAGEMENT PLAN

The Kidepo Critical Landscape is one of the most biodiverse landscapes in Uganda with many endemic and globally endangered species. Adjoining the different protected areas in the landscape, such as the KVNP and different forest reserves, are "wildlife corridors", comprising tracts of land previously designated as community hunting areas but presently interspersed with human settlements and utilized for agriculture as well as hunting. These corridors form the springboard of important buffers that play an important role in the functioning of the KCL ecosystem and in wildlife conservation as well as the protection of

key habitats. They provide connectivity that is not only important for species dispersal and gene flow, but also free movement of animals during periods of water or food scarcity.

These corridors, are however, under threat from increasing human populations and intensifying land utilization for agriculture and other economic activities such as charcoal burning, mining and hunting. For example, there is a lot of cultivation around the Karenga Communal Wildlife Area (CWA) and many of the central forest reserves have been severely encroached. The shea tree habitat that is predominant in the southern part of Karamoja as well as the districts of Acholi and Lango is facing unprecedented assault from various anthropogenic activities. Apart from the various human-wildlife conflicts, human livelihoods are also under stake due to a reduction in the diversity of plants which have potential to ameliorate nutritional and hunger vicissitudes.

This Management Plan has been developed to ensure the continued functioning of these critical but increasingly fragile wildlife corridors, by providing a framework for coordinating and focusing the efforts of conservation organizations and other agencies working in the area on these weak links in the protected area landscape. The main goal of this management plan is to ensure that the wildlife corridors of the Kidepo Critical Landscape are conserved to continue to play their pivotal role in ensuring the ecological integrity of the ecosystem. It will also contribute towards the reduction of human-wildlife conflicts and the improvement of sustainable livelihoods of communities living within the wildlife corridors, thereby working towards the reconciliation of conservation and human development needs.

7.4: OBJECTIVES OF MANAGEMENT

The objectives of management of the wildlife corridors in the KCL are:

7. *Identify and implement requirements for corridor conservation, restoration and management alternatives.*
8. *Promote sustainable natural resource use and management in the wildlife corridors.*
9. *Mitigate human-wildlife conflicts in and around corridors and*

strengthen community support for corridor conservation.

10. *Strengthen collaboration and support for management and conservation of wildlife corridors*
11. *Improve the skills of land owners to manage wildlife resources and livelihood improvement interventions in the corridors.*

7.5 PERIOD OF THE PLAN

This Management Plan is valid for a period of 10 years i.e. from January 2018 to December 2027. It will be reviewed after 5 years (by 2023) to take into account any emerging issues. A budget for the implementation of this plan is proposed in Appendix 2.

CHAPTER 8: PLANNED MANAGEMENT ACTIVITIES

8.1 MANAGEMENT OF WILDLIFE DISPERSAL CORRIDORS

In Uganda, many protected areas (PAs) are rapidly becoming isolated due to growing human population, new settlement in previously unpopulated areas, land use changes towards agriculture and changing infrastructure. The fragmentation of habitat into small patches is a major threat to terrestrial biodiversity as it can inhibit dispersal, reduce gene flow, decrease food availability, and increase the amount of edge effects. Fragmentation can impede range shifts, especially in those species that have trouble crossing gaps between patches to move to new habitats in the landscape. Yet the long term viability of PAs depends on watersheds outside the protected areas, on the ability of animals to disperse and return to their original habitat on an annual basis and on a flow of animals from other PAs. Unfortunately the opportunities for establishing, maintaining or managing corridors between PAs are rapidly diminishing, endangering the future of the ecosystem services and the biodiversity provided by PAs.

The Government of Uganda recognizes the fact that its people depend increasingly on PAs for the ecosystem services they provide such as clean and abundant water, revenues from tourism, and traditional and future medical products. It is important therefore, that vegetation remnants and vegetated corridors are maintained and enhanced as a network across all lands both private and public. In this way private landscapes can contribute to wider landscape conservation efforts by enhancing and linking existing reserves and conservation networks. A holistic approach is required across both public and private lands to protect and manage natural ecosystems and ensure connectivity between remaining habitats.

8.1.1 OVERVIEW OF WILDLIFE DIVERSITY IN THE KCL DISPERSAL BLOCKS

The wildlife corridors in the KCL are important migratory routes for wildlife, especially the big mammals such as elephants and buffaloes.

This is particularly critical during the dry seasons when there is a shortage of both food and water in the KVNP. This forces the animals to move southward eastwards to Karenga community wildlife corridor or further down south to areas as far as Otuke and Abim districts while others move southwestwards to Kitgum and Agago districts (Figure 4). In addition to the big mammals, there are also a number of small animals such as monkeys, warthogs, wild pigs, antelopes, duikers, wild rabbits, baboons, edible rats, bats, squirrels (Appendix 3, 4 and 5). There are also different types of birds including the rare ones such as ostriches. Whereas some of these animals come and return to the park (seasonally) when rains return, others are permanently resident in these areas. It is estimated that about 150 elephants live within this corridor permanently.

The corridors also consist of one of the biggest belts of shea (Vitellaria paradoxa) trees in Uganda especially in the districts of Agago, Abim, Kitgum and Otuke. This belt supports other forms of wildlife that depend on shea for food and other purposes. In itself, shea tree products, especially the fruits and oil have significant ecological and economic potential for improvement of the livelihoods of the local people. Apart from the income earned from the sale of shea oil extracted from the seeds, the fruits have enormous nutritional values hence making this shea belt a safety net during times of famine. However, the shea trees are threatened species due to the destruction it is facing for charcoal production and clearing for agricultural cultivation.

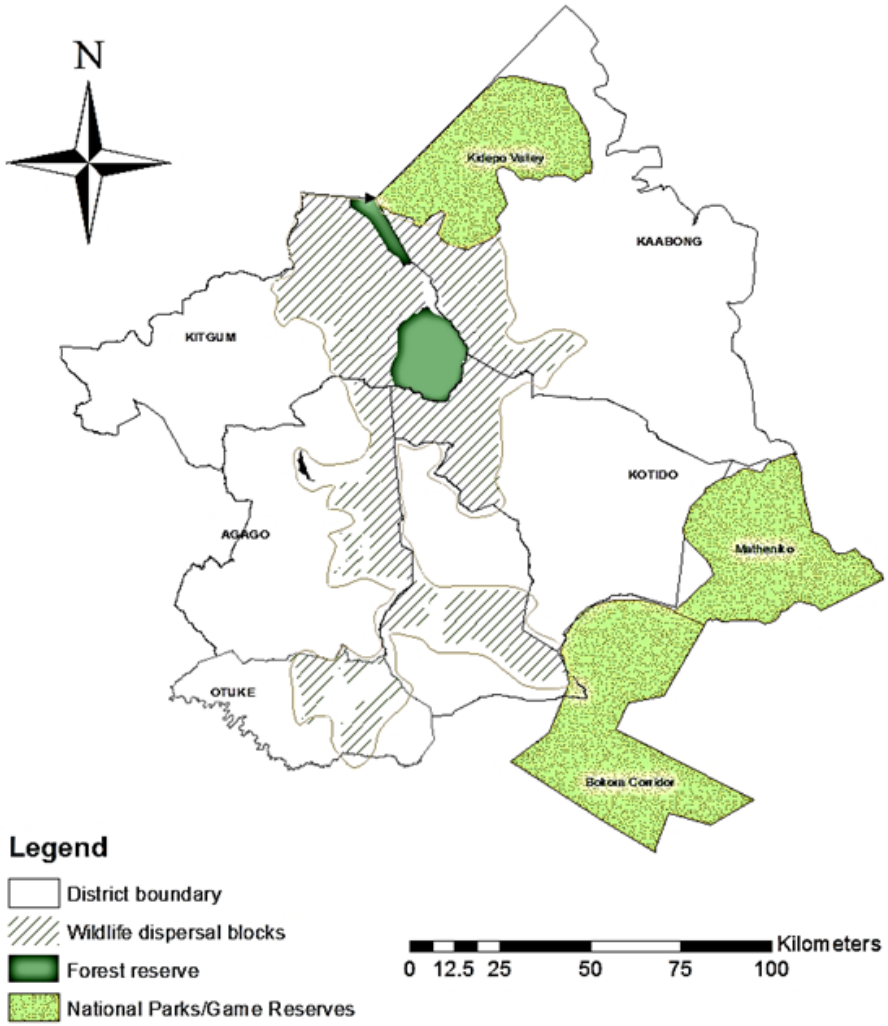


FIGURE 4. *Extent of wildlife dispersal blocks/corridors in Kidepo Critical Landscape*

8.1.2: DESCRIPTION OF THE WILDLIFE CORRIDOR IN THE KCL

Whereas broadly there are two types of corridors i.e. forest and savanna corridors, the KCL wildlife corridor is largely savanna. Such African savanna corridors are particularly important for enabling the movement of elephants, buffaloes and other large mammals within the Kidepo Critical Landscape. Elephants are not only internationally endangered species, but serve as keystone species for seed dispersal for flora diversity in the ecosystem. The protected areas that are found within these savanna corridors fall under the management responsibility of NFA and UWA since a number of CFRs and KVNP as well as the neighboring game reserves under their management mandate. Parts of the Nyangea, Morungole and Zulia CFRs are located within KVNP and are under dual management by both UWA and NFA. It also includes the Karenga Community Wildlife Area, a key wildlife corridor that links KVNP to the shea tree-dominated ongoing savannah habitat to the south. There are also 12 local forest reserves (LFRs) within the corridor, though most of them are heavily encroached, which are managed by the respective DLGs. The rest of the land is in the hands of communities and private individuals.

8.2: MANAGEMENT ACTIVITIES

During the stakeholder consultations, a number of management activities were cited for the sustainable management of the KCL corridor. The activities have been grouped under respective objectives that they help to address. These include but are not limited to the following:

OBJECTIVE 1:

Identify and implement requirements for corridor conservation, restoration and management alternatives

This objective looks at future threats as well as options for the restoration of the wildlife corridors so that their role as critical and integral components of the broader Kidepo Critical Landscape is sustained in the long term. For the viability of KCL corridors, the following activities have been identified:

1.1: MAP AND DEMARCATE THE MIGRATORY CORRIDORS AND DISPERSAL AREAS

Presently, the precise area of the KCL corridor is unknown, especially for the areas outside the PAs. This activity will enable the managers of these corridors to understand the area and biodiversity conservation hotspots such as areas with high threats, high concentration of keystone, threatened or vulnerable wildlife species and areas of high touristic values or potential including cultural sacred sites among others. Due to the sensitivity of land issues, the demarcation activity will be done at a later stage of the plan implementation once the level of awareness amongst the stakeholders is sufficient and the suspicions and fears of the local communities that government intends to grab their land have been demystified.

1.2: CONDUCT INVENTORIES/ASSESSMENTS OF KEY FAUNA AND FLORA IN THE CORRIDOR

Prudent and sustainable management of natural resources requires that the available stocks are known. Therefore resource inventories or assessments shall be undertaken to ascertain their populations in order to enable the managers and other stakeholders make informed management decisions and interventions. To this end various assessments will be carried out in the corridor including but not limited to the following:

- *forest/tree resources inventory*
- *wildlife census*
- *inventory of NTFPs*
- *impacts of fires on wildlife*

The results of these assessments will help in, for example, determining the off take levels for products such as timber, poles, firewood, charcoal, bamboo, craft materials, etc. The District Forest Officers (DFOs) can be able to determine Annual Allowable Cut (AAC) for timber in their districts within the corridor and hence guide in determining how many

licenses to issue, if any. It will also help guide the managers understand the restoration and other tree planting needs under their jurisdiction. In addition the results of such an inventory will help expose the type and extent of the threats in the landscape/corridors thereby enabling them to design appropriate interventions.

1.3: UNDERTAKE MEASURES TO ADDRESS THREATS FROM MINING INDUSTRY

Presently there is one main industrial threat in the landscape. This is the mining of gold, graphite, sand and stones. Development of measures to minimize the current and future threats to the KCL corridors posed by industrial-scale disturbance and pollution is the focus of this activity. The activity seeks to promote the development of a Strategic Environmental Assessment (SEA) for the KCL with regard to the mining within the corridor. The SEA will provide an overview of environmental considerations and potential impacts at the landscape level and will be used to influence high-level decision making concerning national economic policies, regional strategic plans and investment programmes in the KCL. A SEA facilitates the early consideration in the planning process of broader environmental impacts and alternatives, which would be too late to consider in an Environment Impact Assessment (EIA) of a specific development or project.

1.4: IDENTIFY AND EXPLORE POSSIBILITIES TO LEASE OR PURCHASE LAND CRITICAL FOR CORRIDOR RESTORATION

Where the results of corridor assessments will indicate that there are areas within the corridor where there has been fragmentation or total destruction or loss of wildlife habitat deemed very critical for wildlife migration or dispersal, possibilities of purchasing or leasing such land will be explored to restore the corridor to a more viable size and shape. This will involve negotiations with the affected communities and Local Governments (LGs). However, given the sensitivity of land issues in the region, this is bound to be politically contentious and will not be expected to be realized in the short run. However, later during the implementation of this MP, when the community attitude has improved

towards wildlife conservation, after sensitization, they may be willing to sell or lease their land for this purpose. UWA in conjunction with conservation organizations and development partners can source for funds for this purpose.

1.5: UNDERTAKE SPECIFIC CORRIDOR RESTORATION ACTIVITIES

In cases where the inventories or assessments of the corridor indicate that there are areas where the corridor has been totally fragmented or degraded and requires restoration, specific activities shall be undertaken to restore connectivity. Such activities can include the re-planting of appropriate indigenous trees that were formerly in that area and that are compatible with the wildlife in the area. This will be done in consultation with the private landholders, LGs, elders, UWA and NFA. A combination of local indigenous and scientific knowledge will be employed in this case. Innovative funding mechanisms such as carbon trade, Payment for Ecosystem Services (PES) and Reduction of Emissions from Deforestation and Desertification Plus (REDD+) will be explored to provide incentives for forests conservation. Where the restoration is to be undertaken in the PAs, particularly in the CFRs, LFRs and CWAs, this should be a bit obvious and less complicated. This will take various forms such as enrichment, encroachment and gap planting as well as afforestation. Domestication of some indigenous tree species such as shea trees, bamboo, medicinal and edible plants will be encouraged on-farm to reduce pressure in the corridor.

OBJECTIVE 2 :
Promote sustainable natural resource use and management in the critical wildlife corridors .

This objective addresses the degradation and loss of habitat in the KCL wildlife corridors. Habitat degradation and loss is widespread throughout the landscape especially on communal land and some areas within the CFRs and LFRs. This has been exacerbated by the increase in human population, search for land for farming and immigration which have been made possible with the return of peace to the region. The high levels of poverty in these natural resource dependent communities has led to unsustainable extraction of the wildlife corridor resources

such as timber, poles, firewood and charcoal. On the other hand, habitat loss in the corridors results from encroachment for agriculture, grazing and settlement.

Promoting and supporting corridor adjacent communities to practice more sustainable natural resource use and management together with provision of alternative income-generating activities will address the significant threat of habitat loss and degradation. Overall, this objective contributes to the improvement of the livelihoods of the communities adjacent to or dependent on the corridor resources. To this end, these initiatives shall be linked to existing local and national programmes such as Operation Wealth Creation. The following activities have been identified to promote sustainable and innovative natural resource management and use in the corridor:

2.1: SUPPORT APPROPRIATE COMMUNITY LIVELIHOOD IMPROVEMENT OR ECONOMIC ENTERPRISES THAT PROMOTE CORRIDOR CONSERVATION

Alternative livelihood activities and enterprises that will reduce dependence of the local communities surrounding the wildlife corridors on the natural resources shall be promoted. Establishment of private tree nurseries and woodlots could provide alternatives sources for timber, firewood, poles and stakes currently extracted from the corridors. In addition to providing materials for household needs, these woodlots could generate income through marketing locally or linking to carbon trading schemes. In addition, enterprises could be developed to sell energy or fuel wood saving stoves or innovative energy technologies (e.g. biogas).

The other major threat to the corridors is from encroachment for cattle grazing and agriculture. This threat will be addressed by promoting improved agricultural and livestock husbandry techniques and by promoting alternative livelihood enterprises that increase income at the household level and, wherever possible, linking the enterprise to the protection of the surrounding biodiversity. Therefore, this will entail identifying, promoting and supporting environmentally friendly and viable income generating enterprises that will have tangible

impacts to alleviate human induced pressure from the resources in the corridor. One potential enterprise is community ecotourism, which could be developed at appropriate sites that will be identified with support from UWA. Sport hunting in the corridor could be promoted so that the communities that own the land where the animals are hunted can directly benefit. This will further create a sense of ownership and desire to keep the animals on their land and ultimately conserving the wildlife and its habitat.

Closely linked to community tourism is the aspect of culture. The Intellectual Property Rights inherent in the Acholi and Karimojong cultures which in essence are still virgin or intact will be identified, registered and commercialized. Traditional music and dance, poetry, dress and decorations, crafts, etc. will be protected and promoted to attract cultural tourism in the area. With appropriate support and investment therefore, many areas in the KCL can become popular tourist destinations for wildlife and culture. Kotido district, for example, holds the largest preserved traditional village in East Africa, which could benefit from involvement in cultural tourism activities. The role of elders in this regard is very crucial. To this end, the active involvement of the council of elders will be emphasized.

Other potential livelihood enterprises that would reduce food insecurity and pressure on the wildlife corridors include planting high value crops (e.g. chili) in corridor buffer areas, or establishing poultry, piggeries and planting of fruit trees in corridor adjacent communities. Feasibility studies will be undertaken to identify viable alternative activities and enterprises that could be developed around the wildlife corridors. These assessments will build on the best practice and lessons learnt from similar initiatives undertaken in other parts of the country or region. The piloting of promising alternatives will focus on training and building the capacity of local entrepreneurs to take the lead in establishing and running the enterprises and ensuring proper financial management and sustainability is achieved. Where the pilot activities are successful, mechanisms will be put in place to enable scaling up and replication if appropriate. For enterprises such as shea oil, chili, etc., which might require access to national or international markets, it will be important to develop the enterprise in partnership with private companies and investors.

Communities will be supported in identifying premium markets for their products and services instead of them being exploited by unscrupulous middlemen who pay them pea nuts for the same. The communities could as well be organized into groups for marketing their goods so as to benefit from economies of scale in addition to having a higher and unified bargaining power. This will entail improving the quality of processing technologies, packaging and storage facilities to meet the tastes, preferences and standards of the various market segments locally and internationally. According to some key informants during the consultative process for preparing this Management Plan, the price of shea nut oil has increased from UGX 120,000 to UGX 450,000 per a 20 liter jerry can. This is due to the support offered by the KCL project and other players in the shea business, such as the Shea Project for Local Conservation and Development, Guru Nanak Oil Mills, Blessed Organic, Bead for Life, Nile Shea Butter Cream, Nile Botanical Resources Ltd and KfP International. This has encouraged the women particularly to jealously conserve the shea tree because of the way it has enabled them improve their livelihoods.

All community livelihood improvement interventions will have to be environmentally friendly to permit coexistence with the wildlife. This is consistent with the fact that there is a negative attitude to wildlife conservation among the communities owing to the fact that they do not think that they benefit much from the existence of the wildlife in their area but instead pay high costs through loss of property and life. Their view is that those involved in poaching are arrested, fined and sometimes killed either by the animals or shot by UWA.

2.2: IDENTIFY AND PROMOTE SUSTAINABLE NATURAL RESOURCE USE PRACTICES IN AND AROUND CORRIDORS

In a bid to reduce human induced pressure on the natural resources normally extracted by the communities from the corridor, there is need to promote more sustainable use of the same. Although co-management arrangements are already in place to enable communities to extract a variety of natural resources from KVNP and the CFRs, establishing and enforcing sustainable off-take levels has been difficult to implement. As these practices are especially destructive in the wildlife corridors, this

action will seek to provide guidance and an enforcement mechanism for achieving a sustainable off-take through the establishment of formal collaborative management agreements between PA authorities and the local communities at critical corridors. The action will also build on the collaborative forest management activities that are being piloted in a number CFRs in Kaabong Management Plan Areas by NFA.

Agricultural encroachment and cattle grazing are a threat to all the habitats and systems in the KCL corridors. Partnership with LGs, Operation Wealth Creation (OWC) and appropriate NGOs e.g. World Agroforestry Centre (ICRAF) to promote sustainable agricultural practices around all the corridor sites will be sought. This will include soil and water conservation and improved agricultural technologies to improve productivity on the corridor-adjacent land (e.g. construction of trenches, bunds, planting cover crops, and tree cover restoration to address soil degradation and fertility decline). Good livestock husbandry and stocking levels, will be promoted particularly in parts of the corridor where there is over grazing. The adoption of more sustainable agricultural and livestock keeping practices should be a requirement for those corridor communities receiving support for developing alternative livelihood improvement enterprises.

Promotion of better enforcement and management along the riverbanks, in particular the Narus, Nakalas, Lopirpir, Kulao and Kidepo Rivers that cross through the corridor shall be promoted. These rivers are under increased threat from charcoal production (depleting the riverine forests/woodlands) and sedimentation from poor agricultural practices (e.g. slash and burn, soil erosion, expansion of agricultural gardens close to the riverbanks).

Improved timber and charcoal production technologies will be introduced to the communities in order to increase on recovery thereby reducing the rate of destruction or cutting of trees in the corridor. Similarly environmentally friendly technologies for brick making such as hydro-foam will be introduced to minimize the excessive use of firewood for brick making. This will largely target the youth.

2.3: ENHANCE PRIVATE FOREST MANAGEMENT CAPACITY

Forests and woodlands on community land have traditionally formed important buffer areas to the wildlife corridors. However, these important corridor buffers have been either cut down or mismanaged. Although the District Forest Services (DFS) under the DLGs are mandated to provide technical support to these communities in managing such forests and woodlands, they have been too under-resourced and over-stretched to provide such support. Opportunities to strengthen private forest management around the savanna woodland forest corridors through cooperation between the NFA and DLGs will be sought. This will involve providing technical support for the establishment and management of woodlots/ plantations that were identified as potential new sources for generating income for the communities and alternatives to natural resources in the corridors

2.4: IMPLEMENT MECHANISMS TO REDUCE THE IMPACT OF FIRES IN CORRIDOR AREAS

Key informants for the preparation of this MP identified fire as a major threat impacting on the biodiversity in the corridors. In order to reduce the impact of fires, the LGs will be supported to enact or strengthen bye-laws and their enforcement. In addition, NFA and UWA will be required to develop and implement simple fire management plans for corridors, including the establishment and maintenance of firebreaks (fire lines) in the fire sensitive areas of corridors, the development of schedules/procedures for early burning, and agreed roles and responsibilities for forest fire fighting. This will require the active participation of the corridor-adjacent communities in fire management, particularly regarding the maintenance of firebreaks and participation in firefighting.

OBJECTIVE 3:

Mitigate human-wildlife conflicts in and around corridors and strengthen community support for corridor conservation

The focus of this objective is to address conflicts between wildlife and neighboring communities. The main cause of these conflicts is crop raiding by monkeys, elephants and buffaloes and retaliation and wildlife killings by the affected communities. Mitigation of human-wildlife conflicts is important from two main perspectives. Firstly, these conflicts have a direct impact on the status of the respective wildlife species, both in the short-term through death or injury, and in the longer term through the prevention of traditional migration and dispersal movements. Secondly, these conflicts have an equally profound impact on the livelihoods, and sometimes the lives, of community members. Mitigating human-wildlife conflicts will not only improve the well-being of the communities, but also bring about a "peace dividend" with more stable communities practicing sustainable land-use, and with stronger support for both the wildlife species and the corridors themselves. A prosperous community at peace with wildlife is less likely to work to eliminate the wildlife species concerned and the corridors themselves.

Building on this peace dividend, this objective will seek to strengthen community support for corridor conservation, through targeted sensitization about corridor values, developing opportunities and incentives for community-involved law enforcement and working with communities to resolve long-running corridor boundary disputes. In order to address the conflicts impacting on the corridors and to garner community support for corridor conservation, the following activities have been identified:

3.1: CARRY OUT MASSIVE AND CONTINUOUS MOBILIZATION AND SENSITIZATION PROGRAMMES TO RAISE COMMUNITY AWARENESS OF CORRIDOR VALUES AND IMPORTANCE

This activity is aimed at reducing human-wildlife conflicts and creating attitude change towards wildlife conservation amongst the people living within and adjacent to the corridors. The communities will therefore be sensitized about the negative impacts of degrading or losing the corridors on the broader ecosystem and the community livelihoods. The sensitization efforts will include reaching out to LGs

and elders/traditional chiefs, who have responsibility for supporting the local communities to sustainably manage the land bordering or within the corridors. Establishment or revamping of wildlife clubs in the schools within and outside the corridors will be promoted in order to raise awareness in a generation of young people who ought to be passionate about protecting and conserving wildlife. Music, dance and drama clubs will be formed in the local communities with messages all tailored to conservation of wildlife in the landscape. Radio talk shows, regular meetings and workshops will be organized to address wildlife related issues.

3.2: ESTABLISH AND MAINTAIN ELEPHANT BARRIERS AT CORRIDOR CONFLICT HOTSPOTS

One proven strategy that has been employed in other NPs to reduce human-elephant conflict is to establish barriers between community land and protected areas. This strategy is especially relevant for wildlife corridors, firstly because the barriers prevent elephants from venturing into adjacent community land, which is usually the event that initiates the human-elephant conflict cycle and secondly because the barriers discourage human encroachment and other illegal activities in the corridor areas. Consequently, the barriers help to maintain the corridors and increase the chances of elephants utilizing these narrow tracts of land.

The construction of barriers along prioritized corridor boundaries neighboring human populations and agricultural land, especially in human-elephant conflict hotspot zones will be undertaken. Depending on the terrain and geography, this may entail trenches and/ or valley fences. In addition, the action will ensure that mechanisms are in place to regularly maintain the barriers to ensure their continued effectiveness. In the case of elephant trenches, maintenance involves the regular cutting of the surrounding vegetation and digging out any mud to maintain the trench walls. One approach to enhance the effectiveness of elephant trenches is to grow Mauritius thorn (Caesalpinea decapetala) along the top of the trenches. Barrier maintenance and enhancement practices will involve giving the local communities ownership of the barriers, in conjunction with the PA

authorities, and for long-term financing to pay those tasked with maintenance

3.3: SUPPORT PROBLEM ANIMAL CONTROL MECHANISMS TO DETER CROP RAIDING WHILST EARNING INCOME FOR CORRIDOR-ADJACENT COMMUNITIES

Besides barriers, a variety of problem animal control (PAC) mechanisms have been tested in western Uganda and elsewhere in Africa designed to deter elephant crop raiding. Selected problem animal control methods that have been successfully used elsewhere, in order to complement and strengthen the elephant barriers shall be developed. These include scare shooting and fire crackers. Additional innovative PAC measures that can also generate income for the corridor adjacent communities such as the use of chilli pepper as a deterrent to keep elephants off the community land and safely in the corridors since it contains the irritant Capsicum, which is strongly disliked by elephants. In addition, farmers have used the chillies to make olfactory elephant repellents, such as chilli-based grease on rope.

The major additional benefit of the chilli pepper scheme is that the chilli can be sold as a cash crop and thereby can bring in additional revenue to the farmers, which can increase their tolerance to future human-elephant conflicts. The Elephant Pepper Development Trust (www.elephantpepper.org) has been at the forefront of successfully promoting and supporting such initiatives. The commercial side of the Trust, the Elephant Pepper Company (www.elephantpepper.com), has successfully created a global market for chilli and so is able to pay the chilli farmers a fair price.

3.4: TARGET PARK-COMMUNITY BENEFIT SHARING SCHEMES AT CORRIDOR-ADJACENT COMMUNITIES

In a bid to improve park-community relationships at these corridor sites by encouraging the KVNP benefit sharing schemes, an affirmative action targeting corridor-adjacent communities that incur a disproportionate share of the costs of living with wildlife shall be taken. Such benefit-

sharing schemes will help to encourage local support for corridor conservation and increase community tolerance and acceptance of elephants, buffaloes and other wildlife that use these corridors.

3.5: IDENTIFY AND IMPLEMENT INNOVATIVE, COMMUNITY-INVOLVED LAW ENFORCEMENT MECHANISMS IN CORRIDOR AREA

Community-based law enforcement is important for creating local ownership and responsibility for corridor conservation, as well as being a practical approach to policing these corridors, which are located far from ranger posts on the edges of the protected areas. Presently UWA has recruited wildlife scouts that are based within the communities in the corridors and whose roles are to gather information on wildlife movements and report cases of wildlife human conflicts including crop raids as well as cases of poaching. Whereas UWA pays the scouts a token facilitation allowance, this may not be sustainable especially after the close of the project that is funding this activity. Consequently, there is need to streamline the activities of these scouts into the DDPs so that they become district employees and receive salaries from the district.

3.6: ENCOURAGE LGS TO RECRUIT VERMIN CONTROL OFFICERS (VCOS)

Other than the issue of problem animal control, the farmers also incur heavy crop losses due to damage occasioned by vermin. Whereas ideally it is the mandate of UWA to manage wildlife nationally, the fact is that they are constrained both in terms of financial and human resources. Therefore, LGs will be encouraged to employ VCOs to control vermin in the affected areas within the corridors.

OBJECTIVE 4:

Strengthen collaboration and support for management and conservation of wildlife corridors

As earlier mentioned, the corridor consists of lands managed by communities as well as three different agencies i.e. UWA, NFA and the

LGs. Each authority has different priorities, resulting in inadequate coordination and allocation of responsibilities in corridor conservation. This objective seeks to facilitate the development of an effective collaboration framework for these authorities to jointly conserve the corridors. This in turn will raise the awareness of the value of these corridors, strengthen support for their conservation, and help in the effective coordination of joint law enforcement. In order to address the inadequate institutional collaboration mechanisms in corridor conservation, the following activities have been proposed:

4.1: DEVELOP FORMAL COLLABORATION AGREEMENTS BETWEEN THE DIFFERENT AGENCIES MANAGING THE KCL CORRIDOR.

Management agreements between UWA, NFA and local governments for coordinated management and conservation of the KCL wildlife corridors will be developed. Once the nature of the collaboration has been agreed upon, efforts will be made to formalize the roles and responsibilities in appropriate Memoranda of Understanding. The development of MoUs will provide the basis for drawing up annual work plans for collaboration. It is important to note that the involvement of the council of elders and traditional chiefs as key institutions for Karamoja and Acholi sub regions respectively in this collaborative arrangement is paramount. This is because of the role they play both in the administration of communal land and management of various issues in their communities including wildlife conservation.

4.2: ENHANCE JOINT LAW ENFORCEMENT IN CORRIDOR CONSERVATION

This will support the implementation of joint law enforcement patrols and information sharing between UWA, NFA, LGs and communities through the council of elders/traditional chiefs. This support will involve developing collaboration protocols for law enforcement and installing communication systems that enable effective communication channels between the different authorities. These communication channels will be important for coordinating joint patrols and for facilitating timely intelligence gathering and information sharing.

4.3: CARRY OUT SENSITIZATION OF LAW ENFORCEMENT OFFICERS AND THE JUDICIARY REGARDING THE IMPORTANCE OF WILDLIFE AND THE THREAT POSED BY ILLEGAL HUNTING AND RESOURCE EXTRACTION

In addressing the challenges of poaching and other illegal activities affecting the wildlife in the corridors, it is important to raise awareness amongst the responsible agencies about the importance of wildlife, their dependence on functioning corridors and the detrimental impact of illegal hunting and unsustainable resource extraction. The sensitization of law enforcers (including UWA, NFA, police, customs and immigration) and the judiciary will clearly articulate what the laws of Uganda state regarding these illegal activities and what their responsibilities are concerning upholding the law.

4.4: STRENGTHEN THE EXISTING COMMUNITY WILDLIFE AND COLLABORATIVE FOREST MANAGEMENT ASSOCIATIONS IN THE CORRIDOR.

This will entail equipping them with the basic skills such as managing forests, wildlife, land use planning, records keeping, leadership, fundraising, negotiation and conflict management. In addition, the different community wildlife associations could be assisted to form a network that will help coordinate and promote their activities including lobbying for support from government and non-government organizations. In the PAs, NFA and UWA will be supported to promote participatory or co-management arrangements to create a true sense of ownership and responsibility of the wildlife amongst the communities in these areas. These responsible bodies will be encouraged to clarify and address thorny issues of benefit sharing with communities to match their roles and responsibilities in managing the forests and wildlife. Co-management agreements shall be regularly reviewed to incorporate any emerging issues or rectifying areas of contention between or among the concerned parties. Pro-active mobilization of communities and their organizations in seeking formal management arrangements including Memorandums of understanding (MoUs) with

NFA and UWA is an area that needs capacity to be built for and explored for beneficial interest and use by the local communities.

OBJECTIVE 5:

Improve the skills of landholders to manage wildlife resources in the corridor.

The private and communal land owners, community wildlife association leaders, the beneficiary community members including the elders will need basic skills to effectively manage the resources (such as grow trees or manage the natural forests and other income generating enterprises such as bee keeping, poultry etc.) in the corridor. This Management Plan proposes that an umbrella body, the network of community wildlife associations, will be formed and take lead in identifying the needed skills and make arrangements for conducting skills-improvement activities. The same body will as well lobby and source for funding to undertake the activity.

The activities that are needed to achieve this objective are:

1.1: CONDUCT APPROPRIATE TRAINING FOR THE BENEFICIARY COMMUNITIES.

This will involve identifying training needs through a needs assessment. But such skills could include land use planning, records keeping, leadership, fundraising, conflict management and silvicultural practices and management of the various economic enterprises. The training will then be site-specific rather than general i.e. targeting the specific skills gap identified in the area.

1.2: UNDERTAKE STUDY VISITS

In order to appreciate the value of wildlife and the importance of wildlife corridors, the LG leaders, CWAs, elders, religious leaders and selected community members (including women and youth) need to visit areas of best practices within and outside the country so that they can be motivated to borrow a leaf from such success cases for implementation in their own areas. Some of the best practices could as well be for the livelihood improvement interventions.

1.3: UNDERTAKE RESEARCH

Appropriate research will be undertaken and promoted so as to attain the desired products and services from the KCL. The universities and research institutes, such as NaFORRI already have MoUs with both UWA and NFA to undertake research in the KCL. Together with various NGOs working in the area, these organizations will conduct research and provide scientific advice in various areas which include but not limited to:

- *Shea processing techniques, postharvest handling and marketing*
- *Economic valuation of the PAs and wildlife dispersal corridors in KCL*
- *Inventory of resources and their uses*
- *Wildlife – human conflicts, lessons and their resolution*
- *Development of tools and options and tools for pre breeding of shea nut tree*
- *Agroforestry practices*
- *Soil and water conservation technologies*
- *Organic farming*
- *Energy saving technologies*
- *Forest and wildlife conservation*

CHAPTER 9: MITIGATION OF ENVIRONMENTAL AND SOCIAL IMPACTS

The implementation of this Management Plan will lead to positive and negative environmental as well as social impacts on communities living within or adjacent to the wildlife corridors. Therefore appropriate mitigation measures shall be taken to minimize the negative effects while enhancing the positive effects.

9.1: ENVIRONMENTAL IMPACTS

9.1.1: POSITIVE IMPACTS

The Kidepo landscape is a provider of ecosystem goods and services in addition to being a store of biomass. The vegetation acts as carbon sinks absorbing excess atmospheric carbon dioxide emissions, the bulk of which is methane that is produced by animals. Already there are efforts to protect the existing natural vegetation, especially in Kidepo Valley National Park as well as the central forest reserves. The NFA is in the process of preparing a management plan for the forests in Kaabong Working Plan Area. Eco-tourism is being promoted as one of the conservation activities in most of the districts in the Kidepo landscape.

9.1.2: ACTIONS TO BE TAKEN TO ENHANCE POSITIVE IMPACTS

- *During the implementation of this management plan, measures shall be taken to make sure that the positive impacts are maintained and even improved.*
- *In the case of tree planting, there will be selection of right species to be planted using approved standard procedures*
- *In case implementation of this management plan triggers a management decision to designate certain areas of the corridors as specifically set aside for ecological and biodiversity purposes, these shall be managed as such.*
- *In areas where there are streams and rivers, the recommended distance of 30-100 meters from the stream or river respectively shall not be put under monoculture*

crop as per NEMA regulations but shall be enriched with suitable indigenous species.

- *Tourist numbers shall be controlled to match with the carrying capacity of the ecosystem.*

9.1.3: NEGATIVE IMPACTS

a). Clearing of vegetation for plantation establishment and restoration planting

IMPACTS

Most of the Central Forest Reserves in the Kidepo landscape have been degraded. Forest degradation has led to reduction and loss of biodiversity. There has also been use of fire in bush clearing. The slash and burn method of land preparation for cultivation is common and is detrimental to vegetation resulting into destruction of tree and grass species, which in turn makes the soils susceptible to erosion.

MITIGATION

- *The boundaries of the forest reserves shall be clearly defined and marked so that peculiar species of flora and fauna are well conserved.*
- *The slash and burn method of land preparation for cultivation shall be limited, and whenever used, strict control measures shall be put in place under close supervision.*
- *In cases of tree planting, the process shall be monitored to ensure that the limits specified in the guidelines and licenses are not violated.*
- *Collaborative management involving elders, local leaders and communities living within and adjacent to the wildlife dispersal blocks shall be promoted to reduce on illegal and degrading activities.*

b). Soil erosion and degradation

IMPACT

Vegetation clearance (including for cultivation, mining, road construction, etc.) and bush burning expose soil to erosion and degradation. Soil degradation and pollution may also occur due to herbicide/pesticide application as well as from mining waste.

MITIGATION

- *Vegetation clearing on unstable slopes or highly erosive/ fragile soils shall be avoided.*
- *The use of heavy machinery and equipment for road construction and mining shall be limited to only specified areas under close supervision.*
- *In case of any degradation, fast growing species and intermediate tree crops and/or grass shall be planted on exposed soils.*
- *Use of hazardous chemicals in mining and agriculture, including herbicides/pesticides shall be avoided or where inevitable, used under supervision with utmost caution to the environment.*

c). Wildlife displacement

IMPACT

Land use changes especially encroachment, deforestation and degradation of natural vegetation lead to reduction in the number of plant and animal species (biodiversity) due to loss of habitat. Loss of habitat may be evidenced in the ever increasing human-wildlife conflicts caused through crop damage by vermin. In the past, large mammals such as elephants, buffaloes, leopards, lions, bush pigs, duikers and hyenas were not conflicting with humans owing to abundance and availability of their habitat. Today, wandering animals are chased and/ or hunted thereby contributing to the depletion of these animals.

MITIGATION

- *Activities which lead to degradation of wildlife habitat shall be minimized.*
- *Hunting (except for vermin control and under the control of UWA) shall not be allowed.*
- *Control of problem animals and management of vermin.*

d). Mining, road Construction and maintenance

IMPACT

The impacts of mining and road construction include acceleration of soil erosion and loss of flora & fauna and habitats. In addition, mining works and road construction breaks the connectivity of ecosystems which is critical to species reproduction and survival. Road excavation loosens soils that end up being washed into wetlands and streams thereby causing siltation and affecting the water quality. Other impacts are modification of the natural drainage pattern and formation of uncontrolled gullies along the roads.

MITIGATION

- *Mining dumps, road cuts and banks shall be stabilized with grass vegetation. In addition, proper drainage shall be constructed and roads shall be regularly maintained.*
- *Tree lines shall be planted at the outer edge of the mining works and road reserves. Where the mining and road construction activities require the removal of some vegetation in order to proceed, there shall be immediate replanting after the activities are implemented.*
- *EIAs and enforcing compliance to EIA approval conditions.*

e). Wetlands and stream banks

IMPACT

Vegetation clearing up to the bank of a river or a stream causes erosion and may cause exposure of the underlying rocks which don't support vegetation growth.

MITIGATION

- *All the wetlands and wildlife dispersal blocks within the Kidepo landscape shall be mapped and demarcated.*
- *A prescribed buffer zone of undisturbed area as per regulations on wetlands shall be observed along streams and rivers.*
- *Awareness and enforcement.*

e). Eco-tourism development

IMPACT

The development of ecotourism infrastructure such as houses for accommodation, road networks, roads, water treatment plants can cause damage to the environment if not properly handled. In addition, if the tourist numbers are not matched adequately with the carrying capacity of the site, it can negatively impact on the ecosystem. Poor waste disposal from mining sites can also affect the environment.

MITIGATION

- *The use of heavy machinery and equipment for road construction and mining shall be limited to only specified areas under close supervision.*
- *In case of any degradation, fast growing species and intermediate tree crops and/or grass shall be planted on exposed soils.*
- *Use of hazardous chemicals in mining and agriculture, including herbicides/pesticides shall be avoided or where inevitable, used under supervision with utmost caution to the environment.*
- *Tourist visitor numbers shall be regulated and shall be encouraged to adhere to the eco-site regulations.*

9.2: SOCIAL IMPACTS

9.2.1: POSITIVE IMPACTS

The proper management of the resources in the Kidepo landscape will provide goods and services in addition to creating employment. Wages paid to local people and commodities bought by employees will bring income to the communities living within and adjacent to the dispersal blocks. Enhancement of incomes will also mean that local governments will get revenues in form of taxes from the employees and other goods and services produced within the landscape.

9.2.2: ACTIONS TO BE TAKEN TO ENHANCE POSITIVE IMPACTS

- *Local people including women and youth living in and adjacent to the dispersal blocks shall be given support to establish income generating projects and priority in employment.*
- *Investments that are accommodative and compatible with government policies shall be promoted through private public partnerships (PPP). For example, the Paimol Caves and Kalongo Hills in Agago, Kidepo Valley NP and several CFRs and Wildlife Reserves (WRs), which hold a wide variety of bird and mammal species, can provide a strong attraction for wildlife tourists and would be suitable for development through PPPs.*
- *UWA, NFA, DLGs and NGOS shall together ensure that water sources used by communities are protected and where there are possible gravitational sources, they are developed in an environmentally friendly way.*
- *An inter-district coordinating committee shall be formed to oversee wildlife management activities in the districts within the landscape. This committee should consist of community representatives, politicians, technocrats as well as representatives of NFA and UWA.*

9.2.3: NEGATIVE IMPACTS

Since the area where these wildlife blocks exist is by and large mainly community lands, in a predominantly agricultural area, implementation of this management plan will be seen as at odds with land ownership and deprivation of rights. It will be perceived as consideration of the rights of animals and ignoring the rights of people. There may even be increased human-wildlife conflicts, as people will want to live in exclusion of wildlife. Moreover, there are protected areas in the landscape where people are not and automatically able to access the goods and services therefrom.

9.2.4: MITIGATION MEASURES

- *Whenever licenses are given for use of the natural resources of the landscape, consideration shall be given to the local communities, including women and youth, to compete with outsiders for fair participation.*
- *Implementation of any aspects of this Management Plan shall be done in a collaborative arrangement with the communities living in and adjacent to the wildlife dispersal blocks.*
- *UWA, NFA DLG and NGO frontline staff shall undertake in-service courses on how to manage the relevant stakeholders as well as the communities living in and adjacent the dispersal blocks.*
- *There shall be constant sensitization of elders, leaders and communities about peaceful coexistence with wildlife and appropriate management of the wildlife dispersal blocks.*

CHAPTER X

CHAPTER 10: MONITORING & EVALUATION

10.1: IMPORTANCE OF MONITORING AND EVALUATION

Monitoring and evaluation should be a continuous activity to track the progress of this Management Plan (MP) against planned tasks and targets. Monitoring and evaluation are important because of their benefits in:

- *Establishing whether planned results are achieved or not, and the reasons;*
- *Improving and supporting management through lessons learnt;*
- *Generating shared understanding amongst the stakeholders or partners*
- *Generating new knowledge and support learning*
- *Building the capacity of the implementing partners;*
- *Motivating stakeholders; and*
- *Ensuring accountability*

10.2: MONITORING OF ACTIVITIES AND IMPACT

The schedule of activities for this management plan as described in Chapter 8 shall be the basis for monitoring. To operationalize this plan, each respective districts will be required to domesticate and mainstream these activities in their annual work plans. This will be done in consultation with all the stakeholders. Routine monitoring will then be undertaken on a quarterly basis to determine the progress of achievement of these activities. Regular visits by elders, community leaders, technical people at the district and those of UWA/NFA will be made to the dispersal blocks to assess the progress of work compared to planned targets. Timely and appropriate action will be taken for any required improvements.

10.3: EVALUATION OF ACTIVITIES AND ACHIEVEMENTS

Evaluation shall represent a systematic and objective assessment of on-going or completed components and/or activities of this management plan, in terms of their design, implementation and results. During preparation of annual work plans, the activities undertaken in the previous year will be evaluated in a participatory manner in order to inform the next annual plan. The whole implementation of this management plan and achievements scored shall be evaluated every five (5) years to take care of any emerging management issues that may require to be included or any adjustments to be made.

10.4: REPORTING PROCEDURE

In order to score achievements in the prescribed objectives and activities in this management plan, a clear reporting and implementation structure requires to be put in place. It is proposed that the District Environment Officers shall be the focal points at the districts. These officers shall coordinate with the District Forest Officers, officers from UWA and NFA, as well as other responsible officers at the districts to implement this plan. Monthly reports shall be prepared by the District Environment Officers (DEOs) to the Chief Administrative Officers (CAOs). The Chief Administrative Officer shall inform the respective ministries or government departments of the progress, achievements and challenges in the implementation of the activities of this management plan. It is proposed that UWA, NEMA and NFA headquarters are kept abreast with progress of implementation of this plan. All monthly reports shall be structured in a way that conforms to the district reporting requirements and management standards. Situational reports dealing with emergency situations like serious encroachment and illegal harvesting shall be prepared and submitted immediately to the appropriate person responsible for dealing with the situation.

CHAPTER 11: SUMMARY OF MANAGEMENT RECOMMENDATIONS

Chapters 7 – 10 of this management plan deal with actions that will require implementation for effective management and conservation of the wildlife dispersal blocks. For ease of reference, these are summarized below:

11.1: CONSERVATION AND RESTORATION

1.1 Map and demarcate the dispersal areas so as understand the area and locate areas with high threats, high concentration of keystone, threatened or vulnerable wildlife species and areas of high touristic values or potential including cultural sacred sites.

1.2 Conduct inventories/assessments of key fauna and flora to ascertain their populations for informed management decisions and interventions.

1.3 Undertake measures to address threats from mining so as to minimize the current and future threats to the dispersal blocks posed by industrial-scale disturbance and pollution.

1.4 Identify and explore possibilities to lease or purchase land critical for restoration of degraded dispersal blocks and thereby enhance conservation and livelihood enhancement efforts.

1.5 Undertake specific restoration activities in degraded parts of the dispersal blocks by re-planting of appropriate indigenous trees and domestication of some indigenous tree species such as shea trees, bamboo, medicinal and edible plants.

11.2: SUSTAINABLE NATURAL RESOURCE USE

2.1 Support appropriate alternative livelihood enterprises such as tree nurseries, innovative energy technologies, improved agricultural and livestock husbandry techniques, ecotourism, cultural tourism, high value crops e.g. shea oil and chilli, premium markets, in order to reduce dependence of the local communities on the wildlife dispersal blocks.

2.2 Promote sustainable natural resource use practices such as co-management, soil and water conservation, improved agricultural technologies, construction of trenches, grass bunds, cover crops, good livestock husbandry and stocking levels, river bank protection, etc.

2.3 Enhance private forest management capacity through technical support and training.

2.4 Reduce the occurrence of fires which impact on biodiversity by developing simple fire management plans and enforcing relevant laws such as the Burning of Grass Decree.

11.3: HUMAN-WILDLIFE CONFLICT MANAGEMENT

3.1 Carry out massive and continuous mobilization and sensitization programmes through wildlife clubs, Music, dance and drama clubs Radio talk shows, regular meetings and workshops to raise community awareness on the importance of peaceful co-existence with wildlife.

3.2 Establish and maintain elephant barriers such as trenches, valley fences, planting Mauritius thorn (Caesalpinea decapetala) at corridor conflict hotspots.

3.3 Support Problem Animal Control (PAC) mechanisms such as construction of barriers, scare shooting, fire crackers, planting of chilli pepper, use of chilli-based grease on ropes, to deter crop raiding whilst earning income for corridor-adjacent communities.

3.4 Implement benefit sharing schemes with communities that live inside or adjacent to wildlife dispersal blocks as a means to encourage local support for conservation and enhance community tolerance and acceptance of wildlife.

3.5 Implement innovative, community-involved law enforcement mechanisms such as joint patrols, streamlining of activities in district development and annual plans, paying token appreciation for community participation in conservation of the dispersal blocks.

3.6 Recruit Vermin Control Officers (VCOs) at all the respective districts so as to support the efforts of UWA and NFA in management of problem animals in the dispersal areas.

11.4: COLLABORATIVE MANAGEMENT AND CONSERVATION

4.1 Develop formal collaboration agreements including memoranda of understanding between the different agencies, district authorities as well as communities (councils of elders and traditional chiefs/ kingdoms) to provided coordinated management of the dispersal blocks.

4.2 Enhance the implementation of joint law enforcement patrols and information sharing between UWA, NFA, LGs and communities through the council of elders/traditional chiefs, and install communication systems that enable effective communication between the different authorities and agencies.

4.3 Sensitize law enforcement officers (Police, Customs and Immigration) and the judiciary (Judges and Magistrates) about the importance of wildlife, their dependence on functioning corridors and the detrimental impact of illegal hunting and unsustainable resource extraction.

4.4 Strengthen existing community wildlife and CFM associations by equipping them with the basic skills such as forest management, wildlife and land use planning, records keeping, leadership, fundraising, negotiation and conflict management.

11.5: TRAINING AND CAPACITY DEVELOPMENT

5.1 Conduct appropriate training in land use planning, records keeping, leadership, fundraising, conflict management and silvicultural practices and management of the various economic enterprises for the beneficiary communities.

5.2 Organize study visits by LG leaders, CWAs, elders, religious leaders and selected community members (including women and youth) to areas of best practices within and outside the country to help them appreciate the value of wildlife and conservation.

5.3 Promote appropriate applied research on relevant issues such

as wildlife-human conflicts, shea nut processing, marketing and post-harvest handling, soil and water conservation, etc.

11.6: ENVIRONMENT AND SOCIAL SAFEGUARDS

6.1 Encourage communities to protect streams and rivers by maintaining the recommended no cultivation buffer of 30-100 meters from the stream or river bank.

6.2 Eliminate or limit the slash and burn method of land preparation for cultivation, and if used, enforce strict control measures.

6.3 Closely supervise and limit the use of heavy machinery and equipment for road construction and mining in only specified areas. Where the mining and road construction activities require the removal of some vegetation in order to proceed, immediately replant and stabilize mining dumps, road cuts and banks with grass vegetation.

6.4 Avoid or limit the use of hazardous chemicals in mining and agriculture, including herbicides/pesticides, and where inevitably used, take utmost precaution for the good of the environment.

6.5 Avoid or limit hunting (except for vermin control, sport hunting or prescribed hunting under the control of UWA).

6.6 Promote public-private-partnerships to secure areas such as the Paimol Caves and Kalongo Hills in Agago for cultural tourism.

6.7 Establish an inter-district coordinating committee comprising of community representatives, district politicians and technocrats as well as representatives of NFA and UWA to oversee wildlife management activities in the districts within the landscape.

11.7: MONITORING AND EVALUATION

7.1 Domesticate and mainstream this management plan in respective district annual work plans to ensure that due attention is given to activities contained in this management plan.

7.2 Systematically and objectively evaluate all on-going or completed components and/or activities of this management plan, in terms of design, implementation and results, at the end of every year during the preparation of the subsequent annual work plans.

7.3 Evaluate and revise this management plan every five (5) years to take care of any emerging management issues that may require to be included or any adjustments to be made.

11.8: REPORTING

Establish a clear reporting mechanism and implementation structure for this management plan as outlined below:

a). The District Natural Resource Officers (DNRO) should provide overall coordination in each district.

b). The officers responsible for forestry and environment at the district will work together to implement this management plan and report to the DNRO.

c). The responsible officers will prepare monthly, quarterly and annual reports on activities implemented under this management plan, in conformity with the district reporting requirements and management standards. The DNRO will collect these reports and submit to the CAO

d). Situational reports dealing with emergency situations like serious encroachment and illegal harvesting shall be prepared and submitted immediately to the appropriate person responsible for dealing with the situation.

e). The CAO will consider the submitted reports on achievements, progress and challenges faced during implementation of the management plan, and share them with the responsible ministries, agencies and organizations outside the district.

f). Specialized agencies such as NFA and UWA will report to their immediate supervisors but coordinate with the district officers in implementation of this management plan.

CHAPTER XII

CHAPTER 12: INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION

12.1: INTRODUCTION

The wildlife dispersal blocks in the Kidepo Critical Landscape transcend the boundaries of six districts that include Abim, Agago, Kaabong, Kitgum, Kotido and Otuke. Proper management of these areas therefore requires consensus and coordination between the various administrative units in view of the multiplicity of spill-over effects that render piecemeal interventions grossly inappropriate. As part of the implementation strategy for this management plan, it is therefore important to establish a mechanism that will facilitate cooperation through (1) engagement between the six districts and all stakeholders, and (2) support to actions by public-private partnerships (including public authorities, private sector, civil society, donors as well as the local communities), cooperation platforms and exchanges of best practices.

A broad array of institutions in the country are involved in natural resources management. As already identified in the stakeholder analysis in Chapter 3, successful management of natural resources in the wildlife dispersal blocks in the Kidepo landscape can only be achieved through collaboration of many actors. The roles and responsibilities of the major institutions in the implementation of this management plan are varied. These roles and responsibilities are outlined below:

12.2.1: NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

The National Environment Management Authority is the principal agency which is charged with the responsibility of coordinating, monitoring, regulating and supervising environmental management in the country. It advises government and spearheads the development of environmental policies, laws, regulations, standards and guidelines; and guides government on sound environmental management in Uganda. NEMA's development objective is to create, establish and maintain an efficient mechanism for sustainable environment and

natural resources management at the national, district and community levels. Given NEMA's national mandate and objectives, it is proposed that it (NEMA) plays the role of national coordination for implementation of this management plan.

12.2.2: UGANDA WILDLIFE AUTHORITY

Uganda Wildlife Authority is mandated to ensure sustainable management of wildlife resources and supervise wildlife activities in Uganda both within and outside the protected areas. The main objective of UWA is to conserve, economically develop, and manage sustainably the wildlife and protected areas of Uganda in partnership with neighbouring communities and stakeholders for the benefit of the people of Uganda and the global community. Given its mandate and national objective, it is proposed that UWA provides a national coordination role on issues of wildlife in the implementation of this management plan.

12.2.3: NATIONAL FORESTRY AUTHORITY (NFA)

The National Forest Authority is responsible for managing the country's Central Forest Reserves. It is responsible for the management of, especially tree resources but also general biodiversity within the central forest reserves in the country. Given its mandate and objectives, it is proposed that NFA shall have a national coordination role on issues regarding central forest reserves during the implementation of this management plan.

12.2.4: FOREST SECTOR SUPPORT DEPARTMENT (FSSD)

The Forestry Sector Support Department (FSSD) is responsible for management of forest resources outside the ambit of NFA. The department works very closely with the District Forestry Services for the management of local forest reserves and forest/tree resources outside reserved areas. In the implementation of this management plan, it is proposed that FSSD will coordinate closely with the District Forest Services.

12.2.5: DISTRICT FOREST SERVICES (DFS)

The District Forestry Services are established by the National Tree and Planting Act (2003). At the helm of the District Forest Services is the District Forest Officer. The District Forest Office is established in accordance with the Local Governments Act, Cap 243. At district level therefore, the DFO is responsible for, among others, in advising the district authorities on all matters relating to forestry. These include awareness creation, tree planting, management of local forest reserves and provision of advisory services. The District Forest Services shall therefore be central in the implementation of this management plan at district and community levels.

12.2.5: DISTRICT ENVIRONMENT OFFICE

The District Environment Office is created by the National Environment Act, Cap 153. This office is responsible for liaising with and providing advice to the district authorities on all matters relating to environment. In addition, the District Environment Office is responsible for promoting environment awareness and, gathering and managing information on environment at the district. The District Environment Office shall therefore be central in the implementation of this plan at district and community levels.

12.2.6: DISTRICT NATURAL RESOURCES OFFICE

This office is responsible for liaising with and providing advice to the district authorities on all matters relating to natural resources. In addition, the District Natural Resources Office is responsible for promoting awareness on sustainable natural resource use, gathering and managing information on natural resources as well as advising on the management or utilisation of natural resources at the district. In line with the roles of the District Natural Resources Office, it is therefore proposed that the District Natural Resources Officer (DNRO) shall coordinate the implementation of this management plan at the district and community level in each respective district.

12.2.7: INTER-DISTRICT COORDINATION FORUM

Successful implementation of this Management Plan can best be achieved through a district level coordination mechanism since service provision in Uganda has constitutionally been devolved to district levels. It therefore makes sense that coordination for implementation of this management plan is made effective at the district level through an Inter-District Coordination Forum (IDCF). The proposed IDCF will be a "network of networks" going beyond district activities and highlighting inter-district opportunities and challenges in the management of wildlife dispersal blocks. The forum will be a hub for gathering knowledge on all wildlife outside protected areas and a platform for enabling dialogue between stakeholders.

However, such a governance mechanism is far more likely to be effective if it has political support and authority to act, if it is accountable and if it has dedicated funds to operate. In instances where any of the following prerequisites is not in place at the time of formation, it should be enshrined in the plan of activities so that work can begin:

- *Political support: As human livelihood is the ultimate concern of activities in the wildlife dispersal blocks, joint leadership by an inter-district coordination forum shall have the blessing of the district councils and all respective lower councils.*
- *Authority to act: The inter-district coordination forum shall be given sufficient authority to ensure that its recommendations and plans are implemented.*
- *Accountability: The forum shall be accountable to the Chief Administrative Officer of the chairing district for all its actions and function during each respective year.*
- *Dedicated funds: The availability of dedicated funds will increase the operational effectiveness of the forum. Each district will mainstream the activities of this management plan and set aside funds for its implementation so as to increase the likelihood of its sustainability.*

The IDCF will therefore form a governance mechanism for managing wildlife outside protected areas in the Kidepo Critical Landscape. The strategies that follow in subsequent sections are aimed at empowering district structures to implement this management plan for the good of the human as well as wildlife population. These terms of reference therefore describe the detailed strategy and mechanisms for implementation of this management plan using structures at districts. As such, all districts in the landscape are advised to use these Terms of Reference for reaching management decisions regarding wildlife outside protected areas.

12.2: PURPOSE

The purpose of the Inter-District Coordination Forum is to provide a platform for formal and regular dialogue between stakeholders so as to enhance the implementation of this management plan. The forum is established in response to the need for stakeholders to strengthen management of wildlife dispersal corridors and to complement ongoing efforts of NEMA, NFA, UWA and district local governments.

12.3: OBJECTIVES

i). To establish contact with international, national, district and lower level stakeholders engaged in wildlife management.

ii). To strengthen vertical and horizontal information exchange with all stakeholders of wildlife corridors in the area.

iii). To ensure that the implementation of the management plan is reflective of the views of a broader range of stakeholders, including national, regional and international actors.

iv). To improve the effectiveness, accountability and transparency of local government wildlife management through sharing of best practices and open discussion of challenges.

v). To develop joint advocacy for the efficient and effective implementation of this management plan.

12.4: SCOPE OF WORK

The IDFC shall address all activities related to the management of wildlife dispersal blocks in the Kidepo Critical Landscape. The scope of the Forum can therefore be categorised into four broad responsibility areas:

a) Leadership: The Forum shall be expected to lead the facilitation and coordination of activities for the management and conservation of wildlife dispersal blocks in the KCL. Its leadership may take the form of officially delegated authority, with more formal procedures and official monitoring, evaluation and reporting. The difficulty of building and achieving a coordinated system should not be underestimated. Political support and selection of a chairperson with appropriate status and leadership skills are critical factors.

b) Information sharing: The Forum shall provide a structure for information-sharing to mutually reinforce activities for the management and conservation of wildlife dispersal blocks among stakeholders. The Forum should build a collaborative, cooperative, supportive environment for sharing knowledge, information and experience.

c) External interactions: Collaboration with external stakeholders, agencies and organizations is essential for the efficient and effective implementation of this management plan. The district administrations are encouraged to support the Forum in identifying and facilitating relations with external stakeholders, agencies and organisations. In addition, the Forum should be supported to participate in any existing district, national and international initiatives for environment management.

d) Internal interactions: For this forum to be successful, it must interact with sister district programmes, such as health, agriculture, social development, etc. The nature of these internal interactions will be constructed by the Forum itself since it will be composed of several district technical staff. Since many of the district departments have responsibilities in the KCL, a guiding principle of the Forum will be to find the most appropriate ways to facilitate and provide synergy with new or existing work of the sister departments so

that the overall objectives of the Forum are achieved. Furthermore, the Forum must be appropriately integrated and have clearly defined roles and responsibilities in existing district initiatives. The cross-cutting nature of the Forum should add value to the district departments and programmes.

The work of the IDCF will therefore specifically cover the following:

i) Provide guidance to the district administrations on the implementation of this management plan;

ii) Assist the district administrations in the planning and holding of forum coordination meetings (may include developing agendas, leading technical working groups, meeting minutes, etc.)

iii) Assist the district administrations and line government ministries with information sharing (may include circulating meeting minutes/information to other agencies in the District and with National agencies). This will reinforce interaction between stakeholders active in the field of wildlife and local government management;

iv) Represent district wildlife sector in inter-sector meetings and meetings with national or international agencies

v) Support development of solutions for emerging issues by providing technical assistance

vi) Advocate with NGOs partners at the district level to engage and support the district level coordination mechanism

vii) Provide input and suggestions to the district administrations to strengthen coordination meetings

viii) Support and foster the collaboration and engagement of both the community and wildlife sector in the coordination meetings

ix) Supervise and facilitate the district on exchange and mapping of capacities and/or activities of good practices for wildlife dispersal management strategies;

x) Foster discussion on issues related to wildlife dispersal corridors and identify approaches that could help in removing obstacles that are inhibiting successful management, by

liaising with existing policy initiatives, government as well as non-government agencies and other forums relating to wildlife dispersal area management. The forum shall help strengthen the cooperation among government agencies and stakeholders and prevent overlapping activities that often rely on individual, non-structured initiatives. The work of the forum will be supported by the district administrations.

12.5: STRUCTURE

Based on the exchange of views by key informant interviews, focus group discussions and key opinion leaders, the Inter-District Coordination Forum will be an open platform structured to operate along two pillars:

- *Pillar 1 – Policy dialogue: The purpose of policy dialogue is to gather stakeholders' input and views. The forum will hold an annual engagement with all stakeholders, including all the respective districts, to appraise the members of the successes and challenges achieved/faced during the year. In addition, other meetings with private sector, civil society and public authorities may also be organised on an ad hoc basis to collect additional information on good practices and stakeholder views on specific topics.*
- *Pillar 2 - Coordination: The coordination of the activities of the forum will be ensured by an annual rotating chairperson of the Chief Administrative Officer of a district elected at the annual engagement. At each district, there will be a District Focal Point who shall be the District Environment Officer.*

The District Focal Point will coordinate the Forum activities and tasks. In view of the importance of a comprehensive approach to addressing wildlife dispersal blocks at district level, the focal point should have convening power and resources. The focal point will be the primary contact for all issues related to Forum in the district. The duties of the

District Focal Point shall therefore include:

- *Building sustained partnerships in environmental management within the wildlife dispersal blocks.*
- *Identifying stakeholders and facilitate formation of an inclusive Forum*
- *Leading and coordinating the drafting of a district action plan for management of wildlife dispersal blocks;*
- *Facilitating and overseeing implementation, M&E of the management plan through the Forum;*
- *Ensuring regular data collection and information sharing by instituting effective communication and coordination among all stakeholders, the members of Forum and other district departments;*
- *Coordinating district activities for establishment of Forum surveillance systems; and*

12.6: MEMBERSHIP

The IDCF shall be composed of members representing the relevant stakeholders and departments at the district, notably the environment, agriculture, community development, trade, youth and gender. While it is important to have sufficient representation of the key stakeholders, the Forum should remain large enough to be functional, striking a balance between full representation and its functionality.

The IDCF at the Kidepo landscape level shall be comprised of 29 members consisting of:

(i) Six (6) LCV Chairpersons (one from each district),
(ii) Six (6) Resident District Commissioners (one from each district),
(iii) Six (6) Chief Administrative Officers (one from each district),
(iV) Six (6) District Natural Resource Officers (one from each district),
(vi) One (1) representative of the Community Based/Non-Government Organizations;
(vii) One (1) representative of the Uganda Wildlife Authority;

(ix) One (1) representative of the National Forestry Authority;
(x) One (1) representative of Faith based organizations; and
(xi) One (1) representative of Local community/opinion leaders.

At the district level, the IDCF shall comprise 12 members in total (Figure 5) i.e.

(i). Chief Administrative Officer (who shall be the District IDCF chairperson)
(ii). LCV chairperson,
(iii). Resident District Commissioner,
(iv). District Natural Resource Officer (who shall be the District Focal Point)
(v). A representative from the Education department,
(vi). A representative from the Health department,
(vii). A representative from the Population department,
(viii). A representative from the Planning department,
(ix). A representative from the Community Development department,
(x). A representative from the Faith-based organizations,
(xi). A representative from the Community Based/Non-Government Organizations,
(xii). A representative from the Local communities/Opinion leaders.

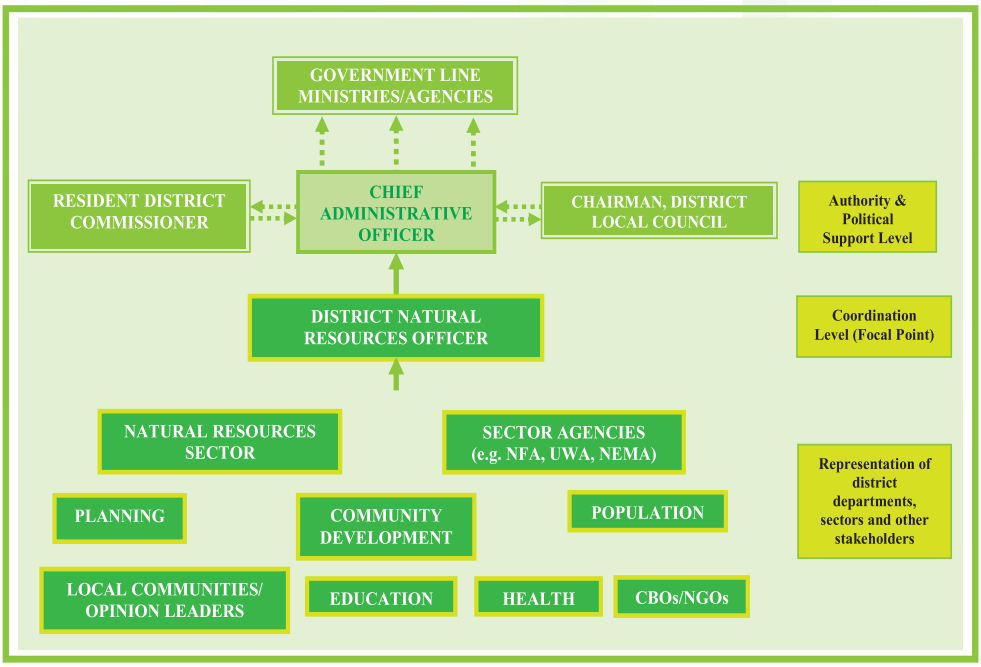


Figure 5. Organization/reporting chart for the Inter-District Coordination Forum

12.7: FUNCTIONING

a). The Forum will hold an annual general meeting to discuss issues for consideration for the subsequent year.

b). The Forum will be chaired by one of the Chief Administrative Officers on an annual rotational basis. Election of the subsequent chair shall be conducted during the annual meeting.

c). The forum will develop the 'rules of procedure' for its meetings. The 'rules of procedure' will be based on the views expressed by the members of the forum. These 'rules of procedure' will apply to elements such as the organisation and follow-up of meetings and the preparation of the agenda, background documents, memos, reports and minutes. The District Environment Officer at the chairing district shall make available all relevant documents, including the agenda, the minutes and the submissions from all the members.

d). The meeting format and rules shall conform to national norms. Standard operating procedures may be elaborated, transparently and according to the principles of best practice, to guide the activities of the Forum.

e). Ongoing communication in between meetings will be ensured through emails and, where relevant, conference calls.

f). Members will receive no remuneration for their duties. It is assumed that since the forum will be established based on the need to foster livelihood opportunities and effectively and efficiently manage wildlife dispersal areas, members will be committed to participating proactively in the forum's activities.

g). Each district shall meet travel and subsistence expenses of its members during the annual meetings of the forum, provided such a budget has been included and approved in the district budget.

h). If the Forum is deemed too large or requires specific expertise or input, it shall form either ad hoc or standing committees. Any committee shall have a clearly defined mandate and an appointed chairperson. In addition, technical working groups can be established and mandated for tasks that include providing technical input for Forum decision-making.

i). The Forum should be appropriately resourced through the District Environment Office to ensure logistics of meetings, minute-taking, preparation and circulation of documents (e.g. background papers, reports and advisory notes) as well as storage and archiving.

j). There should be a mechanism (with appropriate records) to ensure that members have no conflicts of interests and that the work of the Forum is in the public interest. Failure to ensure these elements could undermine the credibility and limit the effectiveness of the Forum.

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APPENDIX 1. IMPLEMENTATION PLAN

Activity	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Responsibility
Objective 1: Identify and implement requirements for corridor conservation and restoration and management alternatives											
1. Map and demarcate migratory and dispersal areas											UWA, NFA, LGs, NEMA
2. Conduct inventories of key corridor resources											NFA, UWA, DFS/LGs, NEMA
3. Undertake measures to address threats from mining industry											NEMA, MEMD,NFA,UWA
4. Identify and explore possibilities of leasing or purchasing land critical for corridor restoration											UWA, NEMA, NGOs, LGs
5. Undertake specific corridor restoration activities											NFA, UWA, LGs
Objective 2: Promote sustainable natural resource use and management in the critical wildlife corridors											
1. Support appropriate community livelihood improvement or economic enterprises that promote corridor conservation											NEMA, LGs, NGOs, OWC, NFA,UWA
2. Identify and promote sustainable natural resource use practices in and around corridors											NEMA, NFA, UWA, NGOs LGs
3. Enhance private forest management capacity											NFA, NEMA, NGOs, LGs/DFS
4. Implement mechanisms to reduce the impact of fires in corridor areas											LGs, UWA, NFA
Objective 3: Strengthen collaboration and support for management and conservation of wildlife corridors											
1. Carry out massive and continuous mobilization and sensitization programmes to raise community awareness of corridor values and importance											NFA, UWA, NGOS, LGs
2. Establish and maintain elephant barriers at corridor conflict hotspots											LG, Community, UWA

Activity	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Responsibility
3. Support PAC schemes to deter elephant crop raiding whilst earning income for corridor-adjacent communities											OWC, UWA, LGs, NEMA
4. Target park-community benefit sharing schemes at corridor-adjacent communities											UWA, LGs
5. Identify and implement innovative, community-involved law enforcement mechanisms at corridor areas											UWA, NFA, LGs
6. Encourage LGs to recruit Vermin Control Officers (VCOs)											NEMA, LGs, UWA
Objective 4: Mitigate human-wildlife conflicts in and around corridors and strengthen community support for corridor conservation											
1. Develop formal collaboration agreements between the different agencies managing the KCL corridor											UWA, NFA, LGs, Elders, Religious leaders
2. Enhance joint law enforcement in corridor conservation											NFA, UWA, LGs, CWA
3. Carry out sensitization of law enforcement officers and the judiciary regarding the importance of wildlife and the threat posed by illegal hunting and resource extraction											NFA, UWA, NEMA
4. Strengthen the existing community wildlife and collaborative forest management associations in the corridor											UWA, NFA, NEMA, NGOs, LGs
Objective 5: Improve the skills of land owners to manage wildlife resources and livelihood improvement interventions in the corridor											
1. Conduct appropriate trainings for the beneficiary communities											UWA, NEMA, NGOs
2. Undertake study visits											

APPENDIX 2. PROPOSED IMPLEMENTATION BUDGET

EXPENDITURE BUDGET (UGX:'000)										
Activity	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Objective 1: Identify and implement requirements for corridor conservation and restoration and management alternatives										
1. Map and demarcate migratory and dispersal areas								50,000	50,000	50,000
2. Conduct inventories of key corridor resources	50,000	50,000	50,000						50,000	50,000
3. Undertake measures to address threats from mining industry	30,000	30,000								
4. Identify and explore possibilities of leasing or purchasing land critical for corridor restoration								2,000,000	2,000,000	2,000,000
5. Undertake specific corridor restoration activities		80,000	80,000	80,000	80,000	80,000				
Objective 2: Promote sustainable natural resource use and management in the critical wildlife corridors										
1. Support appropriate community livelihood improvement or economic enterprises that promote corridor conservation	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
2. Identify and promote sustainable natural resource use practices in and around corridors	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
3. Enhance private forest management capacity	80,000	80,000	80,000	70,000	60,000	50,000	30,000	40,000	20,000	30,000
4. Implement mechanisms to reduce the impact of fires in corridor areas	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Objective 3: Strengthen collaboration and support for management and conservation of wildlife corridors										
1. Carry out massive and continuous mobilization and sensitization programmes to raise community awareness of corridor values and importance	50,000	50,000	40,000	40,000	40,000	30,000	30,000	20,000	15,000	10,000
2. Establish and maintain elephant barriers at corridor conflict hotspots	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
3. Support PAC schemes to deter elephant crop raiding whilst earning income for corridor-adjacent communities		90,000	90,000	90,000	90,000	90,000	80,000	70,000	60,000	50,000
4. Target park-community benefit sharing schemes at corridor-adjacent communities	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000

EXPENDITURE BUDGET (UGX:'000)										
Activity	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
5. Identify and implement innovative, community-involved law enforcement mechanisms at corridor areas	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
6. Encourage LGs to recruit Vermin Control Officers (VCOs)	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Objective 4: Mitigate human-wildlife conflicts in and around corridors and strengthen community support for corridor conservation										
1. Develop formal collaboration agreements between the different agencies managing the KCL corridor	10,000	10,000	10,000	10,000						
2. Enhance joint law enforcement in corridor conservation	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
3. Carry out sensitization of law enforcement officers and the judiciary regarding the importance of wildlife dispersal blocks	25,000	25,000				25,000	25,000			25,000
4. Strengthen the existing community wildlife and collaborative forest management associations in the corridor	10,000	10,000	10,000	10,000						
Objective 5: Improve the skills of land owners to manage wildlife resources and livelihood improvement interventions in the corridor										
1. Conduct appropriate trainings for the beneficiary communities	150,000	150,000			150,000	150,000			150,000	150,000
2. Undertake study visits	80,000	80,000				80,000	80,000			

APPENDIX 3: LARGE MAMMALS OF KIDEPO CRITICAL LANDSCAPE

Acinonyx jubatus (Cheetah)

Alcelaphus buselaphus (Hartebeest)

Atelerix albiventris (Four-toed hedgehog)

Canis aureus (Golden Jackal)

Canis mesomelas (Black-backed Jackal)

Caracal caracal (Caracal)

Cephalophus monticola (Blue duiker)

Cercopithecus aethiops (Vervet monkey)

Civettictis civetta (East African civet)

Crocuta crocuta (Spotted hyaena)

Damaliscus lunatus (Topi)

Equus burchelli (Plains zebra)

Erythrocebus patas (Patas monkey)

Felis serval (Serval)

Felis silvestris (African wild cat)

Gazella granti (Grant's gazelle)

Giraffa camelopardalis (Giraffe)

Giraffa rothschildi (Rothschild's Giraffe)

Heterohyrax brucei (Yellow-spotted rock hyrax)

Hippotragus equinus (Roan Antelope)

Hyaena hyaena (Striped Hyaena)

Hydrictis maculicollis (African Spot-necked Otter)

Hystrix cristata (Crested porcupine)

Ichneumia albicauda (White-tailed mongoose)

Kobus ellipsiprymnus (Waterbuck)

Kobus kob (Uganda kob)

Lepus sp. (Hare)

Loxodonta africana (African Elephant)

Lycaon pictus (Hunting Dog)

Madoqua guentheri (Gunther's dik-dik)

Oreotragus oreotragus (Klipspringer)

Orycteropus afer (Ant bear)

Otocyon megalotis (Bat-eared Fox)

Ourebia ourebi (Oribi)

Panthera leo (Lion)

Panthera pardus (Leopard)

Papio anubis (Olive baboon)

Phacochoerus africanus (Warthog)

Potamochoerus porcus (Bushpig)

Proteles cristatus (Aardwolf)

Redunca fulvorufula (Mountain reedbuck)

Redunca redunca (Bohor reedbuck)

Smutsia temminckii (Ground Pangolin)

Sylvicapra grimmia (Common duiker)

Syncerus caffer (African buffalo)

Taurotragus oryx (Common eland)

Tragelahpus strepsiceros (Greater Kudu)

Tragelaphus imberbis (Lesser Kudu)

Tragelaphus scriptus (Bushbuck)

Tragelaphus spekii (Sitatunga)

APPENDIX 4: BATS OF KIDEPO CRITICAL LANDSCAPE

Cardioderma cor (Heart-nosed Bat)
Chaerophon pumila (Little free-tailed bat)
Epomophorus labiatus (Little epauletted fruit bat)
Epomophorus minimus (Pygmy epauletted fruit bat)
Laephotis wintoni (De Winton's Long-eared Bat)
Nycteris hispida (Hairy slit-faced bat)
Scotophilus nigrita (African giant house bat)
Taphozous perforatus (Egyptian Tomb Bat)

APPENDIX 5: RODENTS OF KIDEPO CRITICAL LANDSCAPE

Acomys cineraceus
Aethomys hindei
Arvicanthis testicularis
Crocidura fuscomurina
Crocidura jacksoni
Crocidura nanilla
Crocidura pasha
Dasymys incomtus
Deomys ferrugineus
Grammomys rutilans
Lemniscomys barbarus
Lophiomys imhausi
Mastomys hildebrandtii
Myomys fumatus
Praomys jacksoni
Sylvisorex megalura
Tatera valida
Acomys percivali
Aethomys kaiseri
Cricetomys emini
Crocidura gracilipes
Crocidura luna
Crocidura olivieri
Crocidura planiceps
Dendromus melanotis
Elephantulus rufescens
Graphiurus murinus
Lemniscomys macculus
Lophuromys flavopunctatus
Mus minutoides
Otomys tropicalis
Saccostomus campestris
Tatera leucogaster
Taterillus emini
Acomys wilsoni
Arvicanthis niloticus
Cricetomys gambianus
Crocidura hildegardeae
Crocidura macarthuri
Crocidura parvipes
Crocidura turba
Dendromus mystacalis
Grammomys dolichurus
Hylomyscus stella
Lemniscomys striatus
Lophuromys sikapusi
Mus triton
Otomys typus
Saccostomus mearnsi
Tatera nigricauda
Uranomys ruddi

APPENDIX 6: AMPHIBIANS AND REPTILES OF KIDEPO CRITICAL LANDSCAPE

Python sebae (African rock python)
Scelotes sp. (Burrowing skink)
Lygodactylus gutturalis (Chevron-throated dwarf gecko)
Mabuya striata (Common stripped skink)
Scaphiophis raffreyi (Ethiopian beaked-snake)
Mochlus afer (Peters' writhing-skink)
Mabuya quinquetaeniata (Rainbow skink)
Nucrus sp. (Scrub-lizard)
Heliobolus spekii (Speke's sand-lizard)
Lycodonomorphus sp. (Water snake)
Atractaspis aterrima (Western forest stiletto-snake)
Micrelaps boettgeri (Boettger's two-headed snake)
Chamaeleo sp. (Chameleon)
Agama agama (Common agama)
Pyxicephalus edulis (Edible bullfrog)
Aparallactus jacksonii (Jackson's centipede-eater)
Bitis arietans (Puff adder)
Varanus albigularis (Savannah monitor lizard)
Atractaspis microlepidota (Small-scaled stiletto snake)
Elapsoidea laticincta (Sudanese garter-snake)
Crocodylus suchus (West African crocodile)
Gerrhosaurus flavigularis (Yellow-throat plated Lizard)

APPENDIX 7: BIRDS OF KIDEPO CRITICAL LANDSCAPE

Accipiter badius (Shikra)
Accipiter minullus (Little Sparrowhawk)
Accipiter tachiro (African Goshawk)
Acrocephalus scirpaceus (Reed Warbler)
Alethe poliocephala (Brown-chested Alethe)
Andropadus latirostris (Yellow-whiskered Greenbul)
Anthreptes collaris (Collared Sunbird)
Apalis cinerea (Grey Apalis)
Apalis jacksoni (Black-throated Apalis)
Apalis porphyrolaema (Chestnut-throated Apalis)
Aplopelia larvata (Lemon Dove)
Apus affinis (Little Swift)
Apus caffer (White-rumped Swift)
Apus niansae (Nyanza Swift)
Accipiter melanoleucus (Great Sparrowhawk)
Accipiter rufiventris (Rufous-breasted Sparrowhawk)
Acrocephalus baeticatus (African Reed Warbler)
Alcippe abyssinica (African Hill Babbler)
Anaplectes rubriceps (Red-headed Weaver)
Andropadus virens (Little Greenbul)
Anthreptes orientalis (Eastern Violet-backed Sunbird)
Apalis flavida (Yellow-breasted Apalis)
Apalis karamojae (Karamoja Apalis)
Apaloderma narina (Narina's Trogon)
Apus aequatorialis (Mottled Swift)
Apus barbatus (African Black Swift)
Apus melba (Alpine Swift)
Aquila verreauxi (Verreaux's Eagle)

Aquila wahlbergi (Wahlberg's Eagle)
Ardeola rufiventris (Rufous-bellied Heron)
Ardeotis kori (Kori Bustard)
Bathmocercus cerviniventris (Black-faced Rufous Warbler)
Batis molitor (Chin-spot Batis)
Batis orientalis (Grey-headed Batis)
Batis perkeo (Pygmy Batis)
Bradornis microrhynchus (Grey Flycatcher)
Bradornis pallidus (Pale Flycatcher)
Bradypterus alfredi (Bamboo Warbler)
Bradypterus cinnamomeus (Cinnamon Bracken Warbler)
Bubo africanus (Spotted Eagle Owl)
Bucorvus abyssinicus (Abyssinian Ground Hornbill)
Buphagus erythrorhynchus (Red-billed Oxpecker)
Buteo augur (Augur Buzzard)
Buteo tachardus (Mountain Buzzard)
Bycanistes subcylindricus (Black and White Casqued Hornbill)
Camaroptera brachyura (Grey-backed Camaroptera)
Camaroptera chloronota (Olive-green Camaroptera)
Camaroptera simplex (Grey Wren Warbler)
Campephaga flava (Black Cuckoo Shrike)
Campephaga phoenicea (Red-shouldered Cuckoo Shrike)
Campethera abingoni (Golden-tailed Woodpecker)
Campethera nubica (Nubian Woodpecker)
Caprimulgus clarus (Slender-tailed Nightjar)
Caprimulgus fossii (Gabon Nightjar)
Caprimulgus poliocephalus (Montane Nightjar)
Caprimulgus tristigma (Freckled Nightjar)
Centropus senegalensis (Senegal Coucal)
Centropus superciliosus (White-browed Coucal)
Cercotrichas leucophrys (White-browed Scrub Robin)
Chloropeta natalensis (Yellow Warbler)
Chloropeta similis (Mountain Yellow Warbler)
Chrysococcyx caprius (Didric Cuckoo)
Chrysococcyx cupreus (Emerald Cuckoo)
Chrysococcyx klaas (Klaas' Cuckoo)
Cichladusa guttata (Spotted Morning Thrush)
Ciconia abdimii (Abdim's Stork)
Cinnyricinclus leucogaster (Violet-backed Starling)
Cinnyricinclus sharpii (Sharpe's Starling)
Circus macrourus (Pallid Harrier)
Cisticola aberrans (Rock-loving Cisticola)
Cisticola brachyptera (Siffling Cisticola)
Cisticola cantans (Singing Cisticola)
Cisticola chiniana (Rattling Cisticola)
Cisticola erythrops (Red-faced Cisticola)
Cisticola troglodytes (Foxy Cisticola)
Cisticola woosnami (Trilling Cisticola)
Clamator jacobinus (Black and White Cuckoo)
Clamator levaillantii (Levaillant's Cuckoo)
Clytospiza dybowskii (Dybowski's Twinspot)
Clytospiza monteiri (Brown Twinspot)
Colius striatus (Speckled Mousebird)
Columba arquatrix (Olive Pigeon)

Columba delegorguei (Bronze-naped Pigeon)
Columba guinea (Speckled Pigeon)
Columba unicincta (Afep Pigeon)
Coracias abyssinica (Abyssinian Roller)
Coracias garrulus (Eurasian Roller)
Coracias naevia (Rufous-crowned Roller)
Coracina caesia (Grey Cuckoo Shrike)
Corvinella corvina (Yellow-billed Shrike)
Corvus albicollis (White-necked Raven)
Corvus albus (Pied Crow)
Corvus rhipidurus (Fan-tailed Raven)
Corythaeola cristata (Great Blue Turaco)
Corythaixoides leucogaster (White-bellied Go-away Bird)
Cossypha caffra (Robin Chat)
Cossypha cyanocampter (Blue-shouldered Robin Chat)
Cossypha heuglini (White-browed Robin Chat)
Cossypha natalensis (Red-capped Robin Chat)
Cossypha niveicapilla (Snowy-headed Robin Chat)
Cossypha poliopterus (Grey-winged Ground Robin)
Creatophora cinerea (Wattled Starling)
Crex crex (Corncrake)
Crinifer zonurus (Eastern Grey Plantain Eater)
Cryptospiza reichenovii (Red-faced Crimson-wing)
Cryptospiza salvadorii (Abyssinian Crimson-wing)
Cuculus clamosus (Black Cuckoo)
Cuculus gularis (African Cuckoo)
Cuculus solitarius (Red-chested Cuckoo)
Cursorius temminckii (Temminck's Courser)
Cypsiurus parvus (Palm Swift)
Delichon urbica (House Martin)
Dendropicos fuscescens (Cardinal Woodpecker)
Dicrurus adsimilis (Drongo)
Dinemellia dinemelli (White-headed Buffalo Weaver)
Dryoscopus gambensis (Northern Puffback)
Egretta garzetta (Little Egret)
Elanus caeruleus (Black-shouldered Kite)
Emberiza flaviventris (Golden-breasted Bunting)
Emberiza tahapisi (Cinnamon-breasted Rock Bunting)
Empidornis semipartitus (Silverbird)
Ephippiorhynchus senegalensis (Saddle-billed Stork)
Eremomela flavicrissalis (Yellow-vented Eremomela)
Eremomela icteropygialis (Yellow-bellied Eremomela)
Eremopterix leucopareia (Fischer's Sparrow Lark)
Eremopterix leucotis (Chestnut-backed Sparrow Lark)
Estrilda astrild (Waxbill)
Estrilda melanotis (Yellow-bellied Waxbill)
Estrilda nonnula (Black-crowned Waxbill)
Estrilda paludicola (Fawn-breasted Waxbill)
Estrilda rhodopyga (Crimson-rumped Waxbill)
Euplectes albonotatus (White-winged Widowbird)
Euplectes capensis (Yellow Bishop)
Euplectes franciscanus (Northern Red Bishop)
Euplectes gierowii (Black Bishop)
Euplectes hordeaceus (Black-winged Red Bishop)
Euplectes macrourus (Yellow-mantled Widowbird)
Eupodotis gindiana (Buff-crested Bustard)

Eupodotis hartlaubii (Hartlaub's Bustard)
Eupodotis ruficrista (Buff-crested Bustard)
Eupodotis senegalensis (White-bellied Bustard)
Eurocephalus rueppelli (White-crowned Shrike)
Eurystomus glaucurus (Broad-billed Roller)
Falco alopex (Fox Kestrel)
Falco naumanni (Lesser Kestrel)
Falco peregrinus (Peregrine Falcon)
Falco rupicoloides (Greater Kestrel)
Falco tinnunculus (Kestrel)
Ficedula semitorquata (Semi-collared Flycatcher)
Francolinus leucoscepus (Yellow-necked Spurfowl)
Francolinus levaillantii (Red-winged Francolin)
Francolinus levaillantoides (Smith's Francolin)
Francolinus sephaena (Crested Francolin)
Francolinus squamatus (Scaly Francolin)
Francolinus streptophorus (Ring-necked Francolin)
Gymnobucco bonapartei (Grey-throated Barbet)
Gypaetus barbatus (Lammergeyer)
Halcyon chelicuti (Striped Kingfisher)
Halcyon leucocephala (Chestnut-bellied Kingfisher)
Halcyon senegalensis (Woodland Kingfisher)
Heliolais erythroptera (Red-winged Warbler)
Hieraaetus aynesii (Ayres's Hawk Eagle)
Hirundo abyssinica (Striped Swallow)
Hirundo aethiopica (Ethiopian Swallow)
Hirundo atrocaerulea (Blue Swallow)
Hirundo daurica (Red-rumped Swallow)
Hirundo fuligula (African Rock Martin)
Hirundo semirufa (Rufous-chested Swallow)
Hirundo senegalensis (Mosque Swallow)
Hylia prasina (Green Hylia)
Hypochera chalybeata (Red-billed Firefinch Indigobird)
Indicator exilis (Least Honeyguide)
Indicator indicator (Black-throated Honeyguide)
Indicator meliphilus (Pallid Honeyguide)
Indicator minor (Lesser Honeyguide)
Indicator variegatus (Scaly-throated Honeyguide)
Ispidina picta (Pygmy Kingfisher)
Ixobrychus sturmii (Dwarf Bittern)
Kaupifalco monogrammicus (Lizard Buzzard)
Lagonosticta rara (Black-bellied Firefinch)
Lagonosticta rhodopareia (Jameson's Firefinch)
Lagonosticta rubricata (African Firefinch)
Lamprotornis chalybaeus (Blue-eared Glossy Starling)
Lamprotornis purpuropterus (Ruppell's Long-tailed Glossy Starling)
Lamprotornis splendidus (Splendid Glossy Starling)
Laniarius barbarus (Black-headed Gonolek)
Laniarius ferrugineus (Tropical Boubou)
Laniarius funebris (Slate-coloured Boubou)
Laniarius luehderi (Luhder's Bush Shrike)
Lanius collaris (Fiscal)
Lanius excubitorius (Grey-backed Fiscal)
Lonchura bicolor (Black and White Mannikin)

Lonchura cucullata (Bronze Mannikin)
Lonchura fringilloides (Magpie Mannikin)
Lophaetus occipitalis (Long-crested Eagle)
Luscinia megarhynchos (Nightingale OM)
Lybius bidentatus (Double-toothed Barbet)
Lybius diadematus (Red-fronted Barbet)
Lybius guifsobalito (Black-billed Barbet)
Lybius lacrymosus (Spotted-flanked Barbet)
Lybius leucocephalus (White-headed Barbet)
Lybius melanocephalus (Black-throated Barbet)
Lybius rolleti (Black-breasted Barbet)
Macrodipteryx longipennis (Standard-winged Nightjar)
Macrodipteryx vexillarius (Pennant-winged Nightjar)
Macronyx croceus (Yellow-throated Longclaw)
Malaconotus blanchoti (Grey-headed Bush Shrike)
Malaconotus sulfureopectus (Sulphur-breasted Bush Shrike)
Malimbus rubricollis (Red-headed Malimbe)
Mandingoa nitidula (Green-backed Twinspot)
Melaenornis chocolatina (White-eyed Slaty Flycatcher)
Melaenornis edolioides (Black Flycatcher)
Melierax metabates (Dark Chanting Goshawk)
Melierax poliopterus (Pale Chanting Goshawk)
Merops apiaster (Eurasian Bee-eater)
Merops hirundineus (Swallow-tailed Bee-eater)
Merops oreobates (Cinnamon-chested Bee-eater)
Merops pusillus (Little Bee-eater)
Mesopicos goertae (Grey Woodpecker)
Milvus migrans (Black Kite)
Mirafra africanoides (Fawn-coloured Lark)
Mirafra hypermetra (Red-winged Bush Lark)
Monticola rufocinerea (Little Rock Thrush)
Motacilla aguimp (African Pied Wagtail)
Muscicapa adusta (Dusky Flycatcher)
Musophaga rossae (Ross's Turaco)
Necrosyrtes monachus (Hooded Vulture)
Nectarinia amethystina (Amethyst Sunbird)
Nectarinia cuprea (Copper Sunbird)
Nectarinia erythroceria (Red-chested Sunbird)
Nectarinia famosa (Malachite Sunbird)
Nectarinia habessinica (Shining Sunbird)
Nectarinia mariquensis (Mariqua Sunbird)
Nectarinia olivacea (Olive Sunbird)
Nectarinia preussi (Northern Double-collared Sunbird)
Nectarinia pulchella (Beautiful Sunbird)
Nectarinia senegalensis (Scarlet-chested Sunbird)
Nectarinia tacazze (Tacazze Sunbird)
Nectarinia venusta (Variable Sunbird)
Nectarinia verticalis (Green-headed Sunbird)
Neophron monachus (Hooded Vulture)
Neophron percnopterus (Egyptian Vulture)
Nilaus afer (Brubru)
Numida meleagris (Helmeted Guineafowl)
Oena capensis (Namaqua Dove)
Onychognathus morio (Red-winged Starling)

Onychognathus salvadorii (Bristle-crowned Starling)
Oriolus auratus (African Golden Oriole)
Oriolus brachyrhynchus (Western Black-headed Oriole)
Oriolus larvatus (Black-headed Oriole)
Ortyxelos meiffreni (Quail Plover)
Otus senegalensis (African Scops Owl)
Parisoma lugens (Brown Parisoma)
Parus afer (Grey Tit)
Parus albiventris (White-bellied Tit)
Passer griseus (Grey-headed Sparrow)
Petronia dentata (Bush Petronia)
Petronia pyrgita (Yellow-spotted Petronia)
Phoeniculus bollei (White-headed Wood Hoopoe)
Phoeniculus cyanomelas (Scimitarbill)
Phoeniculus minor (Abyssinian Scimitarbill)
Phoeniculus purpureus (Green Wood Hoopoe)
Phyllastrephus cabanisi (Cabanis' Greenbul)
Phyllastrephus strepitans (Northern Brownbul)
Phyllolais pulchella (Buff-bellied Warbler)
Phylloscopus budongoensis (Uganda Woodland Warbler)
Phylloscopus trochilus (Willow Warbler)
Phylloscopus umbrovirens (Brown Woodland Warbler)
Picoides obsoletus (Brown-backed Woodpecker)
Platysteira cyanea (Wattle-eye f)
Plocepasser mahali (White-browed Sparrow Weaver)
Plocepasser superciliosus (Chestnut-crowned Sparrow Weaver)
Ploceus baglafecht (Stuhlmann's Weaver)
Ploceus cucullatus (Black-headed Weaver)
Ploceus intermedius (Masked Weaver)
Ploceus jacksoni (Golden-backed Weaver)
Ploceus luteolus (Little Weaver)
Ploceus melanogaster (Black-billed Weaver)
Ploceus nigerrimus (Vieillot's Black Weaver)
Ploceus ocularis (Spectacled Weaver)
Ploceus rubiginosus (Chestnut Weaver)
Ploceus spekeoides (Fox's Weaver)
Ploceus velatus (Vitelline Masked Weaver)
Pogoniulus bilineatus (Yellow-rumped Tinkerbird)
Pogoniulus pusillus (Red-fronted Tinkerbird)
Pogonocichla stellata (White-starred Forest Robin)
Pogonornis rolleti (Black-breasted Barbet)
Poicephalus meyeri (Brown Parrot)
Polihierax semitorquatus (Pygmy Falcon)
Polyboroides radiatus (Harrier Hawk)
Prinia leucopogon (White-chinned Prinia)
Prinia somalica (Pale prinia)
Prinia subflava (Tawny-flanked Prinia)
Prionops plumata (Helmet Shrike)
Prodotiscus insignis (Cassin's Honeybird)
Psalidoprocne albiceps (White-headed Rough-wing)
Psalidoprocne pristoptera (Black Rough-wing)
Pseudonigrita arnaudi (Grey-headed Social Weaver)
Ptilopachus petrosus (Stone Partridge)
Ptilostomus afer (Piapiac O)

Pycnonotus barbatus (Common Bulbul)
Pytilia afra (Orange-winged Pytilia)
Pytilia melba (Green-winged Pytilia)
Pytilia phoenicoptera (Red-winged Pytilia)
Quelea cardinalis (Cardinal Quelea)
Quelea erythrops (Red-headed Quelea)
Quelea quelea (Red-billed Quelea)
Remiz musculus (Mouse-coloured Penduline Tit)
Sagittarius serpentarius (Secretary Bird)
Sarothrura elegans (Buff-spotted Pygmy Crake)
Sarothrura pulchra (White-spotted Pygmy Crake)
Saxicola rubetra (Whinchat)
Schoenicola platyura (Fan-tailed Warbler)
Schoutedenapus myoptilus (Scarce Swift)
Scleroptila guttaralis (Archer's Francolin)
Scopus umbretta (Hamerkop)
Serinus atrogularis (Yellow-rumped Seed-eater)
Serinus burtoni (Thick-billed Seed-eater)
Serinus canicollis (Yellow-crowned Canary)
Serinus citrinelloides (African Citril)
Serinus dorsostriatus (White-bellied Canary)
Serinus gularis (Streaky-headed Seed-eater)
Serinus mozambicus (Yellow-fronted Canary)
Serinus striolatus (Streaky Seed-eater)
Serinus sulphuratus (Brimstone Canary)
Speculipastor bicolor (Magpie Starling)
Spermophaga ruficapilla (Red-headed Bluebill)
Sphenoeacus mentalis (Moustached Warbler)
Sporopipes frontalis (Speckle-fronted Weaver)
Spreo superbus (Superb Starling)
Streptopelia capicola (Ring-necked Dove)
Streptopelia decipiens (Mourning Dove)
Streptopelia lugens (Dusky Turtle Dove)
Streptopelia semitorquata (Red-eyed Dove)
Streptopelia senegalensis (Laughing Dove)
Strix woodfordii (African Wood Owl)
Struthio camelus (Common Ostrich)
Sylvia atricapilla (Blackcap FM)
Sylvia borin (Garden Warbler)
Sylvietta brachyura (Northern Crombec)
Sylvietta whytii (Red-faced Crombec)
Tauraco hartlaubi (Hartlaub's Turaco)
Tauraco leucolophus (White-crested Turaco)
Tchagra australis (Brown-headed Tchagra)
Tchagra minuta (Marsh Tchagra)
Tchagra senegala (Black-headed Tchagra)
Terathopius ecaudatus (Bateleur)
Terpsiphone viridis (Paradise Flycatcher)
Thamnolaea cinnamomeiventris (Cliff Chat)
Thripias namaquus (Bearded Woodpecker)
Tockus alboterminatus (Crowned Hornbill)
Tockus erythrorhynchus (Red-billed Hornbill)
Tockus flavirostris (Yellow-billed Hornbill)
Tockus hemprichii (Hemprich's Hornbill)

Tockus jacksoni (Jackson's Hornbill)
Tockus nasutus (Grey Hornbill)
Trachyphonus darnaudii (d'Arnaud's Barbet)
Trachyphonus erythrocephalus (Red and Yellow Barbet)
Treron australis (Green Pigeon)
Treron waalia (Bruce's Green Pigeon)
Trichastoma fulvescens (Brown Illadopsis)
Trigonoceps occipitalis (White-headed Vulture)
Turdoides plebejus (Brown Babbler)
Turdoides rubiginosus (Rufous Chatterer)
Turdus abyssinicus (Northern Olive Thrush)
Turdus pelios (African Thrush)
Turnix nanus (Black-rumped Button Quail)
Turtur afer (Blue-spotted Wood Dove)
Turtur chalcospilos (Emerald-spotted Wood Dove)
Turtur tympanistria (Tambourine Dove)
Upupa epops (Hoopoe)
Uraeginthus bengalus (Red-cheeked Cordon-bleu)
Uraeginthus ianthinogaster (Purple Grenadier)
Urocolius macrourus (Blue-naped Mousebird)
Vidua fischeri. (Straw-tailed Whydah)
Vidua hypocherina (Steel-blue Whydah)
Vidua macroura (Pin-tailed Whydah)
Zoothera piaggiae (Abyssinian Ground Thrush)
Zosterops senegalensis (Yellow White-eye)

APPENDIX 8: BUTTERFLIES AND DRAGONFLIES OF KIDEPO CRITICAL LANDSCAPE

Abantis paradisea (Paradise Skipper)
Abantis tettensis (Spotted Velvet Skipper)
Aciagrion heterostictum (Long slim dragonfly)
Acleros mackenii (Macken's Skipper)
Acleros ploetzi (Ploetz's Skipper)
Acraea acerata (Falls Acraea)
Acraea braesia
Acraea cabira (Yellow Banded Acraea)
Acraea caecilia
Acraea caldarena (Black Tip Acraea)
Acraea chilo (Chilo Acraea)
Acraea encedana (Pierre's Acraea)
Acraea encedon (Encedon Acraea)
Acraea eponina (Orange Acraea)
Acraea equatorialis
Acraea johnstoni (Johnston's Acraea)
Acraea leucographa
Acraea lycoa
Acraea natalica (Natal Acraea)
Acraea neobule (Wandering Donkey)
Acraea oreas
Acraea poggei (Pogge's Wanderer)
Acraea pseudegina
Acraea pseudolycia
Acraea pudorina (Kenyan Fiery Acraea)
Acraea sotikensis (Sotik Acraea)
Acraea viviana
Acraea zetes (Large Spotted Acraea)
Actizera lucida (Rayed Blue)
Actizera stellata (Clover Blue)
Amauris echeria (Chief)
Amauris niavius (Friar)

Amauris tartarea (Monk)

Antanartia dimorphica (Dimorphic Admiral)

Antanartia schaenia (Long Tail Admiral)

Anthene amarah (Leaden Ciliate Blue)

Anthene butleri (Butler's Ciliate Blue)

Anthene contrastata (Tiny Ciliate Blue)

Anthene crawshayi (Crawshay's Ciliate Blue)

Anthene definita (Common Ciliate Blue)

Anthene indefinita

Anthene larydas (Spotted Ciliate Blue)

Anthene lunulata (Red Spot Ciliate Blue)

Anthene otacilia (Trimen's Ciliate Blue)

Anthene princeps

Aphniolaus pallene (Saffron Sapphire)

Appias epaphia (African Albatross)

Appias sabina (Sabine Albatross)

Ariadne pagenstecheri (Pagenstecher's Castor)

Aterica galene (Forest Glade Nymph)

Axiocerces amanga (Bush Scarlet)

Axiocerces tjoane (Eastern Scarlet)

Azanus jesous (African Babul Blue)

Azanus mirza (Pale Babul Blue)

Azanus moriqua (Black-Bordered Babul Blue)

Azanus natalensis (Natal Babul Blue)

Azanus ubaldus (Desert Babul)

Belenois aurota (Caper White)

Belenois calypso (Calypso Caper White)

Belenois creona (African Caper)

Belenois gidica (Pointed Caper)

Belenois raffrayi (Raffray's White)

Belenois solilucis

Belenois subeida

Belenois thysa (False Dotted Border)

Belenois victoria (Victoria White)

Belenois zochalia (Forest Caper White)

Bicyclus angulosus

Bicyclus anynana (Squinting Bush Brown)

Bicyclus campinus

Bicyclus ena (Grizzled Bush Brown)

Bicyclus funebris

Bicyclus jefferyi (Jeffery's Bush Brown)

Bicyclus mandanes

Bicyclus milyas

Bicyclus pavonis

Bicyclus safitza (Common Bush Brown)

Bicyclus sandace

Bicyclus vulgaris

Borbo borbonica (Olive Haired Swift)

Borbo fallax (False Swift)

Borbo fatuellus (Foolish Swift)

Borbo gemella (Twin Swift)

Byblia anvatara (African Joker)

Byblia ilithya (Joker)

Cacyreus lingeus (Common Bush Blue)

Cacyreus palemon (Water Geranium Blue)

Cacyreus virilis (Eastern Bush Blue)

Caprona pillaana (Ragged Skipper)

Catacroptera cloanthe (Pirate)

Catopsilia florella (African Emigrant)

Celaenorrhinus galenus (Orange Sprite)

Celaenorrhinus intermixtus

Charaxes achaemenes (Bush Charaxes)

Charaxes acuminatus (Mountain Pearl Charaxes)
Charaxes baumanni (Baumann's Charaxes)
Charaxes boueti (Red Forest Charaxes)
Charaxes brutus (White Barred Charaxes)
Charaxes candiope (Green Veined Charaxes)
Charaxes castor (Giant Charaxes)
Charaxes cedreatis
Charaxes epijasius (Sahel Charaxes)
Charaxes etesipe (Savannah Charaxes)
Charaxes eupale (Common Green Charaxes)
Charaxes fulvescens (Forest Pearl Charaxes)
Charaxes hansalii (Cream Banded Charaxes)
Charaxes jahlusa (Pearl Spotted)
Charaxes kirki (Kirk's Charaxes)
Charaxes lucretius (Violet Washed Charaxes)
Charaxes numenes
Charaxes picta (Viola Charaxes)
Charaxes pollux (Black Bordered Charaxes)
Charaxes smaragdilis (Western Blue)
Charaxes tiridates
Charaxes varanes (Pearl Charaxes)
Charaxes virilis
Charaxes zoolina (Club Tailed Charaxes)
Chondrolepis niveicornis (Snow Horned Skipper)
Coeliades anchises (One Pip Policeman)
Coeliades forestan (Striped Policeman)
Coeliades pisistratus (Two Pip Policeman)
Colias electo (African Clouded Yellow)
Colotis amata (Small Salmin Arab)
Colotis antevippe (Large Orange Tip)
Colotis aurigineus (African Golden Arab)
Colotis calais (Topaz Arab)
Colotis celimene (Magenta Tip)
Colotis chrysonome (Golden Arab)
Colotis daira (Black Marked Orange Tip)
Colotis danae (Scarlet Tip)
Colotis elgonensis (Elgon Crimson)
Colotis eris (Banded Gold Tip)
Colotis eucharis (Sulphur Orange Tip)
Colotis evagore (Tiny Orange Tip)
Colotis evenina (Orange Tip)
Colotis evippe (Round Winged Orange Tip)
Colotis hetaera (Coast Purple Tip)
Colotis ione (Purple Tip)
Colotis protomedia (Yellow Splendour)
Colotis rogersi (Roger's Orange Tip)
Colotis vesta (Veined Golden Arab)
Danaus chrysippus (African Queen)
Deudorix antalus (Brown Playboy)
Deudorix livia (Pomegranite Playboy)
Dixeia orbona
Dixeia pigea (Antheap White)
Eagris leucetia
Eagris sabadius
Eicochrysops nandianus (Cupreous Blue)
Eretis lugens
Eretis melania
Eretis umbra (Small Marbled)
Eronia cleodora (Vine Leaf Vagrant)
Eronia leda (Autumn Leaf Vagrant)

Euchrysops barkeri

Euchrysops brunneus (Brown Cupid)

Euchrysops cyclopteris

Euchrysops kabrosae

Euchrysops malathana (Smoky Bean Cupid)

Euchrysops osiris (African Cupid)

Eurema brigitta (Small Grass Yellow)

Eurema desjardinsi (Angled Grass Yellow)

Eurema floricola (Malagasy Grass Yellow)

Eurema hapale (Marsh Grass Yellow)

Eurema hecabe (Common Grass Yellow)

Eurema regularis (Regular Grass Yellow)

Eurema senegalensis (Forest Grass Yellow)

Eurytela dryope (Golden Piper)

Eurytela hiarbas (Pied Piper)

Euxanthe eurinome (Western Forest Queen)

Freyeria trochilus (Grass jewel)

Gegenes hottentota (Hottentot Skipper)

Gegenes niso (Plain Hottentot)

Gegenes pumilio (Pygmy Skipper)

Gomalia elma (African Mallow Skipper)

Graphium antheus (Large Striped Swordtail)

Graphium leonidas (Veined Swordtail)

Graphium policenes (Small Striped Swordtail)

Hamanumida daedalus (Guineafowl)

Henotesia perspicua (Swamp Patroller)

Henotesia phaea

Hypolimnas anthedon (Variable Eggfly)

Hypolimnas misippus (Diadem)

Hypolycaena philippus (Common Hairstreak)

Iolaus bowkeri (Bowker's Marbled Sapphire)

Iolaus jacksoni (Jackson's Sapphire)

Junonia chorimene (Golden Pansy)

Junonia hierta (Yellow Pansy)

Junonia oenone (Dark Blue Pansy)

Junonia orithya (Blue Pansy)

Junonia terea (Soldier Commodore)

Kedestes rogersi (Rogers' Ranger)

Lachnocnema brimo (Western Woolly Legs)

Lachnocnema durbani (D'Urban's Woolly Legs)

Lampides boeticus (Pea Blue)

Lepidochrysops neonegus

Lepidochrysops victoriae

Leptomyrina gorgias (Common Black-Eye)

Leptosia alcesta (African Wood White)

Leptosia nupta (Immaculate Wood White)

Leptotes sp.

Libythea labdaca (African Snout)

Mallika jacksoni (Jackson's Leaf Butterfly)

Melanitis leda (Common Evening Brown)

Melanitis libya

Metisella quadrisignatus (Four-spot Sylph)

Metisella trisignatus (Three Spot Sylph)

Monza cretacea

Mylothris agathina (Eastern Dotted Border)

Mylothris chloris (Western Dotted Border)

Mylothris jacksoni (Jackson's Dotted Border)

Mylothris rubricosta (Eastern Swamp Dotted Border)

Mylothris rueppelli (Ruppell's Dotted)

Mylothris sagala (Dusky dotted border)

Neocoenyra gregorii
Nepheronia argia (Large Vagrant)
Nepheronia thalassina (Cambridge Vagrant)
Neptis alta
Neptis morosa (Morose Sailer)
Neptis penningtoni (Pennington's Sailer)
Neptis saclava (Small Spotted Sailer)
Neptis serena (River Sailer)
Netrobalane canopus (Buff Tipped Skipper)
Papilio bromius (Broad G-Banded Swallowtail)
Papilio dardanus (Mocker Swallowtail)
Papilio demodocus (Citrus Swallowtail)
Papilio mackinnoni (MacKinnon's Swallowtail)
Papilio nireus (Narrow G-Banded Swallowtail)
Papilio nobilis (Noble Swallowtail)
Papilio phorcas (Green Patch Swallowtail)
Papilio zoroastres (Zoroaster Swallowtail)
Paragomphus cognatus (Rock hooktail dragonfly)
Paragomphus cognatus (Rock hooktail dragonfly)
Paragomphus elpidius (Corkscrew hooktail dragonly)
Pardopsis punctatissima (Polka Dot)
Pelopidas mathias (Lesser Millet Skipper)
Pelopidas thrax (Millet Skipper)
Pentila pauli (Spotted Pentila)
Phalanta eurytis (African Leopard Fritillary)
Phalanta phalantha (Common Leopard Fritillary)
Phyllomacromia flavimitella (Banded cruiser dragonflies)
Phyllomacromia pseudafricana (
Pinacopteryx eriphia (Zebra White)
Pinheyschna meruensis (Meru hawker)
Pontia glauconome (Desert White)
Precis antilope (Darker Commodore)
Precis archesia (Garden Inspector)
Precis ceryne (Marsh Commodore)
Precis coelestina
Precis limnoria (White-spotted Commodore)
Precis octavia (Gaudy Commodore)
Precis pelarga (Fashion Commodore)
Precis tugela (Eared Commodore)
Pseudacraea boisduvali (Trimen's Acraea)
Pseudacraea lucretia (False Diadem)
Pseudonacaduba sichela (African Line Blue)
Salamis anacardii (Clouded Mother-of-Pearl)
Salamis parhassus (Forest Mother-of-Pearl)
Sallya boisduvali (Brown Tree Nymph)
Sallya garega
Sarangesa laelius
Sarangesa lucidella (Marbled Elfin)
Sarangesa maculata
Sarangesa motozi (Elfin Skipper)
Sarangesa phidyle (Small Elfin)
Spialia colotes (Transvaal Grizzled Skipper)
Spialia dromus (Dromus Grizzled Skipper)
Spialia mangana (Arabian Grizzled Skipper)
Spialia spio (Spio Grizzled Skipper)
Tagiades flesus (Clouded Flat)
Tarucus grammicus (Black Pierrot)
Tarucus rosacea (Mediterranean Pierrot)

Tarucus theophrastus (African Pierrot)
Tetrarhanis diversa (African butterfly)
Tuxentius calice
Tuxentius margaritaceus
Uranothauma delatorum
Uranothauma nubifer (Black Heart)
Ypthima albida (Silver Ringlet)
Ypthima asterope (Common Three Ring)
Zenonia zeno (Bellboy)
Zizeeria knysna (African Grass Blue)
Zizula hylax (Tiny Grass Blue)
Tarucus ungemachi (Ungemach's Pierrot)
Tirumala petiverana (African Blue Tiger)
Tuxentius cretosus
Uranothauma antinorii
Uranothauma falkensteini
Vanessa cardui (Painted Lady)
Ypthima antennata
Ypthimomorpha itonia (Swamp Ringlet)
Zintha hintza (Blue Pied Pierrot)
Zizina antanossa (Dark Grass Blue)

APPENDIX 9: HAWKMOTHS OF KIDEPO CRITICAL LANDSCAPE

Acherontia atropos
Callosphingia circe
Coelonia mauritii
Falcatula falcata
Hippotion celerio
Hippotion osiris
Hippotion roseipennis
Leucophlebia neumanni
Macropoliana ferax
Nephele accentifera
Nephele peneus
Polyptychoides grayi
Pseudoclanis postica
Temnora fumosa
Theretra jugurtha
Andriasa contraria
Celerio lineata
Deilephila nerii
Herse convolvuli
Hippotion eson
Hippotion rebeli
Hippotion sp.
Leucostrophus hirundo
Macropoliana natalensis
Nephele comma
Nephele vau
Praedora marshalli
Rufoclanis numosae
Temnora pseudopylas
Theretra orpheus
Basiothia medea
Ceridia heuglini
Euchloron megaera
Hippotion balsaminae
Hippotion moorei
Hippotion rosae
Leucophlebia afra
Lophostethus demolini
Neopolyptychus prionites
Nephele funebris
Platysphinx piabilis
Pseudoclanis molitrix
Rufoclanis rosea
Theretra capensis

APPENDIX 10: SILKMOTHS OF KIDEPO CRITICAL LANDSCAPE

Aurivillius triramis
Bunaeopsis licharbas
Epiphora antinorii
Goodia smithi
Holocerina angulata
Imbrasia emini
Imbrasia krucki
Lobobunaea christyi
Micragone nenia
Pseudimbrasia deyrollei
Bunaea alcinoe
Cirina forda
Epiphora bauhiniae
Gynanisa festa
Holocerina smilax
Imbrasia epimethea
Imbrasia sp.
Ludia arguta
Parusta thelxinoe
Pseudobunaea epithyrena
Bunaeopsis hersilia
Decachorda rosea
Epiphora rectifascia
Heniocha dyops
Imbrasia belina
Imbrasia hecate
Lobobunaea angasana
Ludia hansali
Pseudaphelia apollinaris/simplex
Pseudobunaea sp.

Pseudobunaea tyrrhena
Tagaropsis flavinata
Tagaropsis genoviefae/rougeoti
Usta terpsichore

APPENDIX 11: PLANTS OF KIDEPO CRITICAL LANDSCAPE

Abutilon africana	*Abutilon ramosum*
Abutilon hirtum	*Acacia abyssinica*
Acacia albida	*Acacia brevispica*
Acacia drepanolobium	*Acacia elatior*
Acacia gerrardii	*Acacia hockii*
Acacia kirkii	*Acacia macrothyrsa*
Acacia mellifera	*Acacia nilotica*
Acacia nubica	*Acacia persiciflora*
Acacia polyacantha	*Acacia reficiens*
Acacia senegal	*Acacia seyal*
Acacia sieberiana	*Acacia tortilis*
Acalypha acrogyna	*Acalypha bipartita*
Acalypha cilicata	*Acalypha fruticosa*
Acalypha neptunica	*Acalypha ornata*
Acalypha racemosa	*Acalypha villicaulis*
Acalypha volkensii	*Acanthus arborescens*
Acanthus eminens	*Acokanthera friesiorum*
Acokanthera schimperi	*Afrocarpus gracilior*
Afrocrania volkensii	*Afzelia africana (Afzelia)*
Agauria salicifolia	*Aidia micrantha*
Alangium chinense	*Albizia adianthifolia*
Albizia amara	*Albizia coriara*
Albizia coriaria	*Albizia glaberrima*
Albizia grandibracteata	*Albizia gummifera*
Albizia isenbergiana	*Albizia malacophylla*
Albizia schimperiana	*Albizia zygia*
Alchornea floribunda	*Alchornea hirtella*
Alchornea laxiflora	*Allanblackia kimbiliensis*
Allophylus abyssinicus	*Allophylus africanus*
Allophylus chaunostachys	*Allophylus dummeri*
Allophylus ferruginea	*Allophylus macrobotrys*
Allophylus rubifolius	*Aloe amudatensis*
Aloe dawei	*Aloe lateritia*
Aloe volkensii	*Aloe wilsonii*
Aloe wrefordii	*Alstonia boonei*
Andropogon sp.	*Aningeria adolfi-friederici*
Aningeria altissima	*Annona senegalensis*
Anthocleista zambesiaca	*Anthospermum usambarense*
Antiaris toxicaria	*Antidesma venosum*
Aphania senegalensis	*Apodytes dimidiata*
Argomuellera macrophylla	*Aristida adscensionis*
Arundinaria alpina	*Asparagus buchannii*
Asparagus flagellaris	*Asparagus racemosa*
Asparagus setaceus	*Aspilia kotschyi*
Aspilia latifolia	*Astripomoea malvacea*
Asystasia gangetica	*Baikiaea insignis*
Balanites aegyptiaca	*Balanites orbicularis*
Balanites pedicellaris	*Balanites pedicillaris*
Balanites wilsoniana	*Bamboo*

Baphia wollastonii
Barleria diffusa
Bequaertiodendron oblanceolatum
Berchemia discolor
Bidens pilosa
Blighia unijugata
Boehmeria macrophylla
Boscia salicifolia
Bothriochloa insculpta
Brachiaria serrata
Bridelia atroviridis
Bridelia micrantha
Bridelia schleroneura
Bridelia setenere
Brillantisia kirungae
Canthium crassum
Canthium schimperianum
Capparis erythrocarpos
Capparis tomentosa
Carpabolia alba
Cassia didymobotrya
Cassia mannii
Cassia petersiana
Cassia sieberiana
Cassine aethiopica
Cassipourea gummiflua
Cassipourea ruwensorensis
Catharanthus roseus
Celtis africana
Celtis integrifolia
Celtis wightii
Chaetacme aristata
Choris virgata
Chrysophyllum gorungosanum
Chrysophyllum pruniforme
Cissus quandragularis
Cleome monophylla
Clerodendrum myricoides
Clitandra cymulosa
Clutia abyssinica
Cochorus hochstetteri
Coffea eugenioides
Cola gigantea
Combretum collinum
Combretum hereroense
Combretum paniculatum
Commelina benghalensis
Commelina erecta
Commelina sp.
Commiphora africana
Commiphora samharensis
Convolvulus sagittatus
Cordia millenii
Cordia quarcifolia
Craibia brownii
Barkheya spekeana
Baseline Surveys
Berberis holstii
Bersama abyssinica
Bidens sp.
Blighia welwitschii
Borassus aethiopum
Boswellia papyrifera
Brachiaria brizantha
Brachiaria sp.
Bridelia brideliifolia
Bridelia ndellensis
Bridelia scleroneura
Brillantisia arborescensis
Calotropis procera
Canthium euryoides
Canthium vulgare
Capparis sepiaria
Carissa edulis
Casearia battiscombei
Cassia kirkii
Cassia obtusifolia
Cassia siamea
Cassia singueana
Cassine buchananii
Cassipourea malosana
Catha edulis
Cayratia ibuensis
Celtis durandii
Celtis mildbraedii
Celtis zenkeri
Choris sp.
Chrysophyllum albidum
Chrysophyllum muerense
Cissus petiolata
Clausena anisata
Clerodendrum cordifolium
Clerodendrum rotundifolium
Clitoria ternatea
Cnestis ugandensis
Coffea canephora
Coffea liberica
Combretum aculeatum
Combretum fragrans
Combretum molle
Commelina africana
Commelina bracteosa
Commelina latifolia
Commelina subulata
Commiphora habessinica
Commiphora schimperi
Cordia africana
Cordia monoica
Cordyla richardii
Craibia laurentii

Crassocephalum afromontanum
Crateva adansonii
Crossopteryx febrifuga
Crotalaria cleomifolia
Crotalaria lachnocarpoides
Crotalaria natalitia
Crotalaria sp.
Croton macrostachyus
Croton sylvaticus
Cussonia arborea
Cussonia spicata
Cyathea manniana
Cymbopogan sp.
Cynodon sp.
Dalbergia lactea
Dichrostachys cinerea
Digitaria sp.
Diospyros mespiliformis
Discopodium penninervium
Dissotis trothae
Dolichos kilimandsharicus
Dombeya burgessiae
Dombeya goetzenii
Dombeya nairobensis
Dovyalis abyssinica
Dracaena afromontana
Dracaena fragrans
Dracaena steudneri
Drypetes ugandensis
Ectadiopsis oblongifolia
Ekebergia capensis
Encephalartos septentrionalis
Ensete ventricosum
Entada abyssininca
Entandrophragma angolense
Eragrostis superba
Eriocoelum foliolosum
Erythrina abyssinica
Erythrococca bongensis
Erythrophleum suaveolens
Euclea divinorum
Euclea schimperi
Euphorbia candelabrum
Euphorbia glomerifera
Euphorbia sp.
Euphorbia tirucalli
Faurea saligna
Ficus amadiensis
Ficus craterostoma
Ficus dicranostyla
Ficus glumosa
Ficus lutea
Ficus natalensis
Ficus ovata
Ficus polita
Crassocephalum mannii
Crossonephelum africanus
Crotalaria brevidens
Crotalaria keniensis
Crotalaria lebrunii
Crotalaria pycnostachya
Croton dichogamus
Croton megalocarpus
Ctenium concinnum
Cussonia holstii
Cyanotis sp.
Cymbopogan pospischilii
Cymbopogon validus
Cyperus rotundus
Dalbergia melanoxylon
Digitaria rivae
Diospyros abyssinica
Diospyros natalensis
Dissotis speciosa
Dodonea viscosa
Dombeya bagshawei
Dombeya dawei
Dombeya mukole
Dombeya rotundifolia
Dovyalis macrocalyx
Dracaena deremensis
Dracaena laxissima
Drypetes gerrardii
Durania rapens
Ehretia cymosa
Ekebergia senegalensis
Enneapon anchioides
Entada abyssinica
Entada africana
Eragrostis sp.
Erica arborea
Erlangea cordifolia
Erythrina excelsa
Erythrococca trichogyne
Erythroxylum fischeri
Euclea latidens
Euphorbia breviarticulata
Euphorbia dawei
Euphorbia obovalifolia
Euphorbia teke
Fagaropsis angolensis
Faurea speciosa
Ficus asperifolia
Ficus cyathistipula
Ficus exasperata
Ficus ingens
Ficus mucuso
Ficus ottoniifolia
Ficus platyphylla
Ficus pseudomangifera

Ficus sansibarica
Ficus stuhlmannii
Ficus sycomorus
Ficus trichopoda
Ficus variifolia
Ficus verruculosa
Fleuggea virosa
Funtumia africana
Galinsoga parviflora
Garcinia livingstonei
Gardenia ternifolia
Gnidia glauca
Grewia bicolor
Grewia floribunda
Grewia mollis
Grewia similis
Grewia trichocarpa
Hagenia abyssinica
Hannoa longipes
Harrisonia occidentalis
Heinsenia diervilleoides
Hexalobus monopetalus
Hibiscus calyphylus
Hibiscus fuscus
Hippocratea adongensis
Hymenocardia acida
Hyparrhenia dissoluta
Hyparrhenia madaropoda
Hypericum lanceolatum
Hypericum roeperianum
Imperata cylindrica
Indigofera arrecta
Indigofera sp.
Indigofera volkensii
Irvingia gabonensis
Jasminum eminii
Juniperus procera
Justicia flava
Kalanchoe lanceolata
Khaya grandifoliola
Kigelia afrianca
Kigelia africana
Kosteletskya grantii
Kotschya strigosa
Lannea barteri
Lannea fruticosa
Lannea humilis
Lannea schweinfurthii
Lantana sp.
Lasiodiscus mildbraedii
Lepisanthes senegalensis
Leptaulus daphnoides
Linociera nilotica
Lonchocarpus laxiflorus
Loranthus dschellensis
Ficus saussureana
Ficus sur
Ficus thonningii
Ficus vallis-choudae
Ficus vasta
Flacourtia indica
Flueggea virosa
Galiniera saxifraga
Garcinia buchananii
Gardenia erubescens
Glyphaea brevis
Greenwayodendron suaveolens
Grewia calymmatosepala
Grewia mildbraedii
Grewia pubescens
Grewia tenax
Grewia villosa
Halleria lucida
Harrisonia abyssinica
Harungana madagascariensis
Helichrysum schimperi
Hibiscus aponeurus
Hibiscus canabinus
Hibiscus sp.
Huslondia opposita
Hymenodictyon floribundum
Hyparrhenia filipendula
Hyparrhenia mobukensis
Hypericum revolutum
Ilex mitis
Indigofera ambelacensis
Indigofera emarginella
Indigofera spicata
Ipomoea spathulata
Jasminum bussei
Jasminum floribundum
Justicia exigua
Justicia sp.
Khaya anthotheca
Khaya senegalensis
Kigelia africana
Klainedoxa gabonensis
Kotschya africana
Lactuca capensis
Lannea edulis
Lannea fulva
Lannea schimperi
Lannea triphylla
Lantana trifolia
Lepidotrichilia volkensii
Leptadenia pyrotechnica
Linociera johnsonii
Lobelia giberroa
Loranthus curviflorus
Loranthus fischeri

Loranthus fyffei
Loranthus uhehensis
Lychnodiscus cerospermus
Maerua angolensis
Maerua triphylla
Maesopsis eminii
Manilkara butugi
Manilkara multinervis
Margaritaria discoideus
Maytenus arquata
Maytenus gracilipes
Maytenus ovata
Maytenus serratus
Melanodiscus sp
Mildbraediodendron excelsum
Milicia excelsa
Mimulopsis solmsii
Mimusops kummel
Monanthotaxis littoralis
Mussaenda arcuata
Myrica salicifolia
Neoboutonia macrocalyx
Newtonia buchananii
Nuxia floribunda
Ochna afzelii
Ochna holstii
Ochna membranacea
Ocimum suave
Olax gambecola
Olea hochstetteri
Olea welwitschii
Oncoba routledgei
Ormocarpum trichocarpum
Ouratea densiflora
Oxytenanthera abyssinica
Ozoroa obovata
Pachystela brevipes
Panicum maximum
Pappea capensis
Parinari excelsa
Paropsia guineensis
Pavetta crassipes
Pavetta oliveriana
Pavetta ternifolia
Pennisetum sp.
Pentas lanceolata
Phoenix reclinata
Phyllanthus fischeri
Phyllanthus nummulariifolius
Phytolacca dodecandra
Piliostigma thonningii
Piper capensis
Pistacia aethiopica
Pittosporum mannii
Pittosporum viridiflorum
Loranthus ugogensis
Loranthus usuiensis
Macaranga kilimandscharica
Maerua crassifolia
Maesa lanceolata
Mallotus oppositifolius
Manilkara dawei
Manilkara obovata
Markhamia platycalyx
Maytenus buxifolia
Maytenus heterophylla
Maytenus senegalensis
Maytenus undata
Memecylon jasminoides
Milicia excels
Millettia dura
Mimusops bagshawei
Monanthotaxis buchananii
Morus mesozygia
Myrianthus arboreus
Myrsine africana
Neoboutonia melleri
Nuxia congesta
Obetia radula
Ochna bracteosa
Ochna inermis
Ochna ovata
Ocotea kenyensis
Olea chrysophylla
Olea mildbraedii
Olinia rachetiana
Oncoba spinosa
Osyris abyssinica
Oxyanthus speciosus
Ozoroa insignis
Ozoroa sp.
Panicum hochstetteri
Panicum sp.
Parinari curatellifolia
Parkia filicoidea
Pavetta abyssinica
Pavetta molundensis
Pavetta subcana
Peddiea fischeri
Pennisetum sphacelatum
Pentas schimperana
Phragmanthera refuscena
Phyllanthus maderaspatensis
Phyllanthus ovalifolius
Piliostigma thoningii
Piliostigma thorningii
Piptadeniastrum africanum
Pittosporum lanatum
Pittosporum spathicalyx
Pleurostylia africana

Pleurostylia capensis
Podocarpus gracilior
Podocarpus milanjianus
Premna angolensis
Protea madiensis
Pseudarthria confertiflora
Pseudocedrela kotschyi
Pseudospondias microcarpa
Psychotria mahonii
Psychotria schweinfurthii
Pterolobium stellatum
Rapanea melanophloeos
Rauvolfia oxyphylla
Rawsonia lucida
Rhus longipes
Rhus ruspolii
Rhyncelytrum repens
Rhytigynia beniensis
Rhytigynia rwenzoriensis
Rinorea ilicifolia
Ritchiea albersii
Rubus apetalus
Rubus steudneri
Ruellia sp.
Rutidea fuscescens
Schefflera abyssinica
Schrebera arborea
Sclerocarya caffra
Scutia myrtina
Sesbania sesban
Setaria incrassata
Setaria sphacelata
Sida ovata
Sida ternata
Solanum albicaule
Solanum giganteum
Solanum indicum
Spaerocyperus erinaceus
Steganotaenia araliacea
Sterculia setigera
Strombosia scheffleri
Strychnos innocua
Strychnos sp.
Suregada procera
Syzygium cordatum
Syzygium owariense
Tapianthus burumae
Tarenna graveolens
Teclea grandifolia
Tephrosia aequilata
Tephrosia linearis
Terminalia brownii
Terminalia laxiflora
Terminalia mollis
Thetvia peruviana
Plumbago zeylanica
Podocarpus latifolius
Polyscias fulva
Prosopsis africana
Prunus africana
Pseudarthria hoockeri
Pseudomussaenda flava
Psorospernum febrifugum
Psychotria orophila
Pterocarpus lucens
Pterygota mildbraedii
Rauvolfia caffra
Rauvolfia vomitoria
Rhamnus prinoides
Rhus natalensis
Rhus vulgaris
Rhynchosia totta
Rhytigynia butanguensis
Ricinodendron heudelotii
Rinorea oblongifolia
Rothmannia urcelliformis
Rubus freisiorum
Ruellia patula
Rumex usambarensis
Sapium ellipticum
Schrebera alata
Sclerocarya birrea
Scolopia rhamniphylla
Senecio sp.
Setaria holstii
Setaria sp.
Sida alba
Sida rhombifolia
Solanum aculeastrum
Solanum campylacanthum
Solanum incanum
Sonchus oleraceus
Spathodea campanulata
Sterculia rhynchocarpa
Stereospermum kunthianum
Strychnos henningsii
Strychnos mitis
Strychnos spinosa
Symphonia globulifera
Syzygium guineense
Tamarindus indica
Tapura fischeri
Tarenna pavettoides
Teclea nobilis
Tephrosia interrupta
Tephrosia sp.
Terminalia glaucescens
Terminalia macroptera
Tetrapleura tetraptera
Toddalia asiatica

Trema orientalis
Tricalysia niamniamensis
Trichilia prieureana
Trichocladus ellipticus
Trimeria grandifolia
Triumfetta flavescens
Triumfetta rhomboidea
Turraea fisheri
Turraea holstii
Turraea vogelii
Uraria picta
Uvaria welwitschii
Vangueria apiculata
Vepris glomerata
Vernonia adolfi-freiderici
Vernonia auriculifera
Vernonia conferta
Vernonia purpurea
Vigna parkeri
Vitellaria paradoxa
Vitex doniana
Warburgia ugandensis
Ximenia caffra
Zanha golungensis
Zanthoxylum gilletii
Zanthoxylum mildbraedii
Ziziphus mauritiana
Tricalysia bagshawei
Trichilia dregeana
Trichilia rubescens
Trilepisium madagascariensis
Triumfetta cordifolia
Triumfetta macrophylla
Triumfetta tomentosa
Turraea floribunda
Turraea robusta
Turraea vogelioides
Uvaria angolensis
Vangueria acutiloba
Vangueria linearisepala
Vernonia adoensis
Vernonia amygdalina
Vernonia brachycalyx
Vernonia infundibularis
Vernonia syringiodes
Viscum tuberculatum
Vitex amboniensis
Vitex madiensis
Ximenia americana
Xymalos monospora
Zanthoxylum chalybeum
Zanthoxylum leprieurii
Ziziphus abyssinica
Ziziphus mucronata

APPENDIX 12: LIST OF PERSONS CONSULTED

a) National Level Consultations

Name	Institution	Designation
1) Mr. Levi Etwodu	NFA	Director, Natural Forests
2) Mr. James Okiria Ateker	NEMA	Project Manager, KCL project
3) Mr. Francis Ogwal	NEMA	NRM Specialist (Biodiversity and Rangelands)
4) Ms. Agnes Atwongo	NEMA	Project Field Officer, KCL project
5) Mr. Richard Kamya	NEMA	Project Support Officer, KCL project
6) Mr. Ambrose Oola	Acholi Kingdom	Right Honourable Prime Minister
7) Mr. Issa Katwesige	MWE - FSSD	Senior Forest Officer
8) Mr. Augustine Masereka	UWA	Conservation Area Manager, Kidepo NP
9) Dr. Adonia K. Bintoora	UWA	Senior Manager, Community Benefits & Wildlife Enterprises
10) Mr. Frederick Wanyama	UWA	Senior Monitoring and Research Officer

b) District Level Consultations

i). Abim Distict

Names	Designation	Phone contact
1) Akena Onega John	Assistant Engineering Officer	0772 988960
2) Boniface Opio	ADWO - MOBILIZATION	0782 788418
3) Gracious Aguti	Forest Supervisor	0772 665376
4) John Peter Okello	For Chief Finance Officer	0782 886890
5) Leonard Ongom	Internal Auditor	0772 866622
6) Martin Areudi	Head of Department (HOD) - Works	0772 560634
7) Oscar Obia	Transport Assistant	0774 227616
8) Richard Achilla	For District Community Development Officer	0774 143283
9) Ronald Odongo	District Surveyor	0773 807504
10) Theopista Akullo	Principal Human Resources Officer (PHRO)	0772 672140

ii). Agago District

Names	Designation	Phone contact
1) Agnes Atim	For District Community Development Officer	0772 670166
2) Bosco Kofi	Transport Assistant	0774 009842
3) J. Otto Okidi	For Chief Administrative Officer	0782 364538
4) John Omwony	For District Natural Resources Officer	0782 480440
5) Mary Akello	For Record Officer	0773 203920
6) Paska Achan	For District Planner	0776 841316
7) Peter Ojok	Ag. District Accountant	

iii). Kaabong District

Names	Designation	Phone contact
1) Alfred Odong	Transport Assistant	0782 872339
2) Ben Koryang Baatom	District Community Development Officer	0772 472607
3) Benjamin Emuge	District Internal Security Officer	0775 230179
4) Christine Achii Lodou	Senior Community Development Officer (SCDO/G)	
5) Daniel Egaru	Veterinary Officer	
6) Daniel Lochan Loron	Land Surveyor	
7) Dr. Fredrick Eladu	DPMO	0772 647276
8) Franco Ongom	For District Engineer	0778 047850
9) James Ngorok Erick	MEOL	0786 557482
10) Jino Jesmiem Lokol	For Chief Administrative Officer	0782 045304
11) John Bosco Okongo	Ag. DW	0782 715771
12) Moses Pisto Lopeyok	Planner	0772 037530
13) Patrick Nyeko	NFA Supervisor	0774 351132
14) Richard Kamya	Project Support officer	
15) Simon Peter Engor	Office Supervisor	0777 181430
16) Thomas Lukyamu	District Information Officer	
17) Vicky Lokel	For District Natural Resources Officer	0789 578557

iv). Kitgum district

Names	Designation	Phone contact
1) Agnes Aparo	District Support Officer	-
2) Alfred Omony	District Fisheries Officer	-
3) Courage Oola Allan	Information Officer	-
4) David Wany Oyok	Senior Environment Officer	-
5) Deo Isingoma	Transport Assistant	-
6) Derocon Obonyo	Extension Officer	-
7) Dr. Alfred Otto Best	Principal Veterinary Officer	-
8) Esther Nekesa	Sector Manager	-
9) George Oola Allan	Information Officer	-
10) Godfrey Oboni Oloya	Senior Entomologist	-
11) Hannington Ochan	Forest Officer	-
12) Jackson Omona	District Chairperson	-
13) Martin Anywar	District Forest Officer	-
14) Muhamad Mukula	Human Resource Officer	-
15) Paul Auda	Rep. RAC	-
16) Rhoda Oroma	Principal Assistant Secretary (For CAO)	-
17) Sirayo Torach	Forest Guard	-
18) W. Bongomin	Resident District Commissioner	-

v). Kotido District

Names	Designation	Phone contact
1) Hellen Longoli Zakiya	For DPO	0784 133671
2) Joel Olal	Forestry Officer	0773 730420
3) Joseph Kiyonga	Environment Officer	0772 859759
4) Julius Locheng Lotyakatau	Speaker	-
5) Lawrence Oqwaria	Ag. District Comminity Development Officer	0782 126227
6) Patrick Kiggundu	For District Planner	0776-579059
7) Peter Logiro	Resident District Commissioner	0782 305250
8) Robert Okuda Kennedy	Senoir Agriculture Officer	0772 356128
9) Sarah Narem	Principal Assistant Secretary	0772 838448
10) Scovia Nelly Chepkurui	Sector Manager	0782 578691

vi). Otuke District

Names	Designation	Phone contact
1) Denis Kiptum	APL	-
2) Patrick Ogwete	Assistant Accontant	-
3) Patrick Onyanga	District Forest Officer	0774 478860
4) Richard Nyengo	PL	-
5) Sylivester Ocen	District Community Development Officer	-
6) Thomas Anyuru	District Veterinary Officer	-
7) Tonny Odongo Okonye	Agriculture Officer	-
8) Tonny Ojok	District Agriculture Officer	0782 510546
9) Walter Omara	Assistant District Community Development Officer	0794 674207

c) Community Level Consulations

i). Kitgum District

Names	Designation	Institution	Phone contact
1) Abina Auma Okuti	Secretary for Education	Orom Sub county	-
2) Alex Owich	Farmer	Orom Sub county	-
3) Alfred Otim	Farmer	Orom sub county	-
4) Alice Abeja	Trader	Orom Sub county	-
5) Ben Ocan	Farmer	Orom sub county	0778 467262
6) Bett Okello	Subcounty Councillor	Orom Sub county	-

Names	Designation	Institution	Phone contact
7) Charles Obwona	Farmer	Orom sub county	0777 223473
8) Christone Abalo	Farmer	Orom sub county	-
9) Dalmaco Olwoch	Chairperson	Orom Sub County	-
10) Derah Auma	Trader	Orom Sub county	-
11) Esther Acio	Farmer	Orom Sub county	-
12) Eunice Apio	Farmer	Orom Sub county	-
13) Francis Oloya Banya	Farmer	Orom sub county	0782 592203
14) Hannington Akaka	Councillor	Orom Sub county	-
15) Hesater Abur	Subcounty Councillor	Orom sub county	-
16) Irene Auma	Farmer	Orom sub county	0774 530267
17) James Kilama	Secretary for Production	Orom Sub county	-
18) Jimmy Acaye	Vice Chairperson III	Orom Sub county	-
19) John Aul	Farmer	Orom Sub county	-
20) Joseph Odongkara	Councillor	Orom Sub County	-
21) Mary Atimango	Councillor	Orom Sub county	-
22) Michael Owiny	Farmer	Orom sub county	0783 952459
23) Modesto Lokii	Parish Chief	Orom sub county	-
24) Paul Ouma	Farmer	Orom Sub county	-
25) Peter Ebong	Trader	Orom Sub county	-
26) Rebeka Okello	Subcounty Councillor	Orom sub county	-
27) Rehema Anyek	Subcounty Chief	Orom Sub county	-
28) Richard Oketto	Parish Chief	Orom Sub County	-
29) Romano Ogaba	Secretary for Finance	Orom Sub County	-
30) Ronald Oponya	Farmer	Orom Sub county	-
31) Rony Olara	Peasant	Orom Sub county	-
32) Solomon Ekwang	Farmer	Orom Sub county	-
33) Steven Obwaja	Farmer	Orom Sub county	-
34) Tom Okongo Thomas	Farmer	Orom sub county	0759 102963
35) Velentino Ojara	Farmer	Orom sub county	0776 645393
36) Wiilliam Ekuka	Trader	Orom Sub county	-

ii). Kaabong District

Names	Designation	Institution	Phone contact
1) Akello Ogwang	Community member	Loyoro Napore	0777 186234
2) Amos Ariko	Nyanapo Member	Nyanapo ECA	0781 851416
3) Andrew Komol	Trader	Karenga Subcounty	-
4) Andrew Lokeris	Farmer	Karenga Subcounty	-
5) Andrew Lokiru	Trader	Karenga Subcounty	-

Names	Designation	Institution	Phone contact
6) Barnabas Loduk	Farmer	Karenga Subcounty	-
7) Ben Lokutu	Farmer	Karenga Subcounty	-
8) Benson Opio Senega	Senior Assistant Secretary	Karenga Subcounty	-
9) Betty Adong	Councillor	Karenga Subcounty	-
10) Biroh Nalya	Trader	Karenga Subcounty	-
11) Celestina Amony	Trader	Karenga Subcounty	-
12) Cendrick Lotwang	Farmer	Karenga Subcounty	-
13) Douglas Okotoi	Farmer	Karenga Subcounty	-
14) Edith Lemo	Trader	Karenga Subcounty	-
15) Eric Ben Keyo	Chako	Karenga Subcounty	-
16) Erick Awas	Community Development Officer	Karenga Subcounty	0772 931520
17) Esther Awor	Nyanapo Member	Nyanapo ECA	0779 281450
18) Fredrick Loeyok	Farmer	Karenga Subcounty	-
19) Gabriel Aurien	Community member	Geremech	-
20) Grace Akumu	Nyanapo Member	Councillor	-
21) Grace Lilly Akongo	Community member	Karenga Subcounty	0787 322836
22) Hellen Napcyo	Farmer	Karenga Subcounty	-
23) Hillary Okello	LC I	Karenga Subcounty	-
24) James Logel	Trader	Karenga Subcounty	-
25) Jema Napeyok	Community member	LOYORO	0784 014908
26) Jerntha Arego	Farmer	Karenga Subcounty	-
27) John Lokwang	Farmer	Karenga Subcounty	-
28) Joseph Lokong	Community member	Kangole	-
29) Jospher Obol	Parish Chief/Opion Leader	Karenga	0778 466000
30) Joyce Akol	Farmer	Karenga Subcounty	-
31) Joyce Auma	Nyanapo Member	Nyanapo ECA	-
32) Judith Nyangan	Farmer	Karenga Subcounty	-
33) K. Obonyo Lomake	Community member	Karenga Subcounty	-

Names	Designation	Institution	Phone contact
34) Maria Acanyu	Trader	Karenga Subcounty	-
35) Mark Modig Lopech	Secretary for Finance	Kaabong DLG	0772 974501
36) Mary Naseg	Community member	Karenga Subcounty	-
37) Moses Lokol	Speaker	Karenga Subcounty	-
38) Naliba Lokwang	Opinion Leader	Karenga Subcounty	-
39) Norah Nachap	Councillor	Kangole	-
40) Peter L. Lotyang	Nyanapo ECA Member	Karenga Subcounty	0782 109981
41) Peter Lokoyo	Trader	Karenga Subcounty	-
42) Peter Longoli	Trader	Karenga Subcounty	-
43) Rose Abalo Lochilla	Community member	Karenga	0783 765918
44) Rose N. Lotyang	LCIII Vice Chairman	Karenga	0782 427586
45) Sam Aruku	Trader	Karenga Subcounty	-
46) Santina Bura	Trader	Karenga Subcounty	-
47) Santina N. Nachull	Community member	Karenga	0775 898508
48) Sara Namunu	Farmer	Karenga Subcounty	-
49) Simon Achep Peter	Community member	Karenga	0789 216105
50) Stanely Lolem	Trader	Karenga Subcounty	-
51) William Lokutu	Trader	Karenga Subcounty	-

iii). Kotido District

Names	Designation	Institution	Phone contact
1) Alfna Papa Lochu	Chairperson	Kacheri subcounty	0772825583
2) Andrew Ongom	Farmer	Kacheri subcounty	-
3) Andrew Opio	Farmer	Kacheri subcounty	-
4) Bernard Agre	Trader	Kacheri subcounty	-
5) Bosco Ochan	Farmer	Kacheri subcounty	-
6) Bosco Onen	Farmer	Kacheri subcounty	-
7) Clorida Lamupu	Farmer	Kacheri subcounty	-
8) David Leper	Community Dev. Officer	Kacheri subcounty	0778 046820
9) David Oneka	Farmer	Kacheri subcounty	-
10) Emilia Achen	Farmer	Kacheri subcounty	-
11) Emmanuel A. Lokiru	S/C Cord CP	Kacheri subcounty	0786 403613

Names	Designation	Institution	Phone contact
12)Emmanuel Lubar	Farmer	Kacheri subcounty	-
13)Fred Nokorach	Trader	Kacheri subcounty	-
14)Grace Aena	Farmer	Kacheri subcounty	-
15)Jacob Akudo	LC III Chairperson	Kacheri subcounty	0775 892065
16)Joel Ongum	Farmer	Kacheri subcounty	-
17)Joseph Okema	Trader	Kacheri subcounty	-
18)Joyce Acen	Farmer	Kacheri subcounty	-
19)Karim Bokongor	Farmer	Kacheri subcounty	-
20)Ledrkk Waimen	Trader	Kacheri subcounty	-
21)Loile Logir	Farmer	Kacheri subcounty	-
22)Lowak Kapel	Farmer	Kacheri subcounty	-
23)Lucia Achii	Farmer	Kacheri subcounty	-
24)Madinah Apio	Farmer	Kacheri subcounty	-
25)Maria Lodero	Farmer	Kacheri subcounty	-
26)Martha Aber	Trader	Kacheri subcounty	-
27)Moses Okello	Farmer	Kacheri subcounty	-
28)Nabino Longorok	Farmer	Kacheri subcounty	0773 111229
29)Nachan Kojo	Farmer	Kacheri subcounty	-
30)Naluwa Lodio	Farmer	Kacheri subcounty	-
31)Paul Akidi	Farmer	Kacheri subcounty	-
32)Peter Lochoro	Farmer	Kacheri subcounty	-
33)Peter Oytau Aleyr	Youth Councillor	Kacheri subcounty	0770 797883
34)Phillips Ilukal	Farmer	Kacheri subcounty	-
35)Pius Olunu	Farmer	Kacheri subcounty	-
36)Sam Kineera	Farmer	Kacheri subcounty	-
37)Samuel Olweny	Trader	Kacheri subcounty	-
38)Sandra Amollo	Farmer	Kacheri subcounty	-
39)Sarah Adunu	Trader	Kacheri subcounty	-
40)Simon Kidena	Farmer	Kacheri subcounty	-
41)Simon Peter Butong	Elder	Kacheri subcounty	0782 800976
42)Stanley Lakor	Farmer	Kacheri subcounty	-
43)Stanley Oling	Trader	Kacheri subcounty	-
44)Terence Omony	Farmer	Kacheri subcounty	-

iv). Abim District

Names	Designation	Institution	Phone contact
1) Albino Ongok	Farmer	Alerek Subcounty	0779 746582
2) Alfred D. Omara	Community Dev. Officer	Alerek Subcounty	0773 256738
3) Angella Ilukori	Trader	Alerek Subcounty	-
4) Anthony Kimono	Farmer	Alerek Subcounty	-
5) Bismark Lokwang	i/c Health Centre III	Alerek Subcounty	0774 337020
6) Charles Otoka Joshua	LCIII Chairperson	Alerek Subcounty	0774 122050
7) Dan Otukoi	Farmer	Alerek Subcounty	-
8) David Ochaya	Farmer	Alerek Subcounty	-
9) Denis Akena	Farmer	Alerek Subcounty	-
10) Emma Odeke	Farmer	Alerek Subcounty	-
11) Florence Acan	Farmer	Alerek Subcounty	-
12) Florence Awino	Office Assistant	Alerek Subcounty	0771 955597
13) Francis Buatre	O/C Police	Alerek Subcounty	0775 901402
14) Fred Koriang	Farmer	Alerek Subcounty	-
15) Godfrey Okech	LCV. Councillor	Alerek Subcounty	0777 809003
16) Innocent Oyucu Paul	Secretary/Production	Alerek Subcounty	0774 752423
17) James Mwale	Group MOMBPN	Alerek Subcounty	0775 774380
18) James Otim	For Enviroment officer	Alerek Subcounty	-
19) Jane Ogolla	Farmer	Alerek Subcounty	-
20) Janet Ocham	Member	Alerek Subcounty	0785 465353
21) Jennifer Aceng	Project Support Officer	Alerek Subcounty	-
22) John Abura	Farmer	Alerek Subcounty	-
23) John Milton Okullo Alir	Elder	Alerek Subcounty	0789 687028
24) Judth Nyangan	Farmer	Alerek Subcounty	-
25) Konyen Lochu	Farmer	Alerek Subcounty	-
26) Lawrence Ebadu	Teacher	Alerek Subcounty	0774 818635
27) Levi Ogola	Subcounty Speaker	Alerek Subcounty	0775 262656
28) Lucy Acheng Betty	Member	Alerek Subcounty	0772 968506
29) Lucy Nangiro	Trader	Alerek Subcounty	-
30) Mary Achan	Peasant	Alerek Subcounty	-
31) Moses Kintu	Senior Asst. Secretary	Alerek Subcounty	-
32) Paul Akol	Farmer	Alerek Subcounty	-
33) Peter Aruku	Farmer	Alerek Subcounty	-
34) Polycarp D. Otoka	Member	Alerek Subcounty	0775 684141
35) Pope Paul Obangakene	Youth Leader	Alerek Subcounty	0778 098106
36) Pringna Nakidi	Farmer	Alerek Subcounty	-
37) Rebbecca Atim	Member	Alerek Subcounty	0781 942148
38) Richard Denis Obua	Farmer	Alerek Subcounty	-
39) Rose Lokwii	Member	Alerek Subcounty	-

Names	Designation	Institution	Phone contact
40) Sam Lonyai	Trader	Alerek Subcounty	-
41) Samuel Logel	Trader	Alerek Subcounty	-
42) Sandra Nadieng	Trader	Alerek Subcounty	-
43) Santina Akoko	Member	Alerek Subcounty	-
44) Sarah Lawrence	Farmer	Alerek Subcounty	-
45) Stella Akello	MOM BOR	Alerek Subcounty	0772 961389
46) Tom Okello	Farmer	Alerek Subcounty	-
47) Tony Patrick Odyssus	Chairperson	Alerek Subcounty	0781 942282
48) Veronica Egira	Farmer	Alerek Subcounty	-
49) Wilfred Owiny Lakade	Member	Alerek Subcounty	-

v). Agago District

Names	Designation	Institution	Phone contact
1) Aida Abalo	Farmer	Lapono Subcounty	-
2) Alex Odur	Youth	Lapono Subcounty	0754 014032
3) Alice Akidi	Farmer	Lapono Subcounty	-
4) Alice Nahomin	Farmer	Lapono Subcounty	-
5) Amos Angole Alele	Farmer	Lapono Subcounty	-
6) Basil E. Oryem	Agriculture Officer	Lapono Subcounty	-
7) Benjamin Otto	Elder	Lapono Subcounty	0774 992706
8) Benson Oyoo	Lapono	Lapono Subcounty	0782 152286
9) Bianka Ayoo	Health Worker	Lapono Subcounty	0777 367466
10) Catherine Achili	Farmer	Lapono Subcounty	-
11) Christine Acala	Farmer	Lapono Subcounty	-
12) Denish Okot Okello	Parish Chief	Lapono Subcounty	0783 932913
13) Douglas Kodek	Farmer	Lapono Subcounty	-
14) Emilson M. Omwony	Local Leader	Lapono Subcounty	0774 764362
15) Emmanuel Alepere	Farmer	Lapono Subcounty	-
16) Felix Akena	Busunessman	Lapono Subcounty	-
17) Filder Amito	Senior Asst. Secretary	Lapono Subcounty	0782 331873
18) Florence Akumu	Female Youth Councillor	Lapono Subcounty	0783 202089
19) Florence Lobogi	House wife	Lapono Subcounty	-
20) Geofrey Omol	Youth	Lapono Subcounty	0783 536572
21) Innocent Abura	Farmer	Lapono Subcounty	0772 003790
22) James Okello	Teacher	Lapono Subcounty	0700 712507
23) Jimmy Otena Alimadi	Police Officer	Lapono Subcounty	0750 305852
24) John Aballa Bosco	Police Officer	Lapono Subcounty	-
25) John Amuku	Farmer	Lapono Subcounty	-
26) John Oryem	GISO	Lapono Subcounty	0782 097257
27) John Otim Araa	Farmer	Lapono Subcounty	0773 971750

Names	Designation	Institution	Phone contact
28) Joseph Bongomin	Businessman	Lapono Subcounty	-
29) Julius Odok Peter	Secretary for Finance	Lapono Subcounty	0700 578269
30) Justine Silya	Trader	Lapono Subcounty	-
31) Largos Okello	Farmer	Lapono Subcounty	0752 672905
32) Leonard R. Komakech	O/C Station	Lapono Subcounty	0754 470504
33) Lilan Apio	Businessman	Lapono Subcounty	-
34) Margaret Otto Aleuk	Senoir Accounts Asst.	Lapono Subcounty	0782 092212
35) Maria Lochoro	Trader	Lapono Subcounty	-
36) Mathew Lagen	LCIII Chairman	Lapono Subcounty	0753 225272
37) Nighty Akello	Councillor	Lapono Subcounty	0777 690868
38) Ojok S. Okidi	LCIII Vice Chairman	Lapono Subcounty	0786 111757
39) Pamela Akech	Trader	Lapono Subcounty	-
40) Pregna Nakidi	Trader	Lapono Subcounty	-
41) Raphael Oryem	Lapono	Lapono Subcounty	0784 268415
42) Ruth Asio	Trader	Lapono Subcounty	-
43) Sam Tebanyana	Farmer	Lapono Subcounty	-
44) Samson Kinyanz	Farmer	Lapono Subcounty	-
45) Samuel Otto	Councillor	Lapono Subcounty	0756 477055
46) Simon Peter Acoryo	Businessman	Lapono Subcounty	-
47) Tebesa Natyang	Trader	Lapono Subcounty	-
48) Teddy Napeyo	Trader	Lapono Subcounty	-
49) Vincent Abong	Farmer	Lapono Subcounty	-

vi). Otuke District

Names	Designation	Institution	Phone contact
1) Alex Etum	Business	Ogur Subcounty	-
2) Betty Apio	Farmer	Ogur Subcounty	-
3) Brian Akena	Trader	Ogur Subcounty	-
4) Brown Okullo	Business	Ogur Subcounty	-
5) Cissy Acola	Farmer	Ogur Subcounty	-
6) Dan Elemu	Farmer	Ogur Subcounty	-
7) David Amia	Peasant	Ogur Subcounty	-
8) Denis Otema	Trader	Ogur Subcounty	-
9) Duke Ocen Adupa	Senior Assistant Secretary	Ogur Subcounty	-
10) Edward Kideja	Trader	Ogur Subcounty	-
11) Eva Alimo	Farmer	Ogur Subcounty	-
12) Flo Auma	Farmer	Ogur Subcounty	-
13) Gladys Akullo	Farmer	Ogur Subcounty	-
14) Grace Acayo	Farmer	Ogur Subcounty	-
15) Grace Oyela	Farmer	Ogur Subcounty	-

Names	Designation	Institution	Phone contact
16) J. B. Obete	Painter	Ogur Subcounty	-
17) James Omara	Farmer	Ogur Subcounty	-
18) Jaspher Ogwang	Farmer	Ogur Subcounty	-
19) John Bosco Odongo	LC III Chairperson	Ogur Subcounty	-
20) John Nyeko	Farmer	Ogur Subcounty	-
21) Lawrence Odoch	Trader	Ogur Subcounty	-
22) Lilian Acen	Farmer	Ogur Subcounty	-
23) Lucy Acio	Business	Ogur Subcounty	-
24) Lucy Atim	Farmer	Ogur Subcounty	-
25) Molly Auma	Business	Ogur Subcounty	-
26) Moses Okao	Farmer	Ogur Subcounty	-
27) Moses Okwir Odongo	Community Dev. Officer	Ogur Subcounty	-
28) Okullu	Businessman	Ogur Subcounty	-
29) Patrick Okoncyo	Trader	Ogur Subcounty	-
30) Paul Ouma	Trader	Ogur Subcounty	-
31) Peter Okelo	Farmer	Ogur Subcounty	-
32) Peter Ongom	Trader	Ogur Subcounty	-
33) Peter Oyite	Farmer	Ogur Subcounty	-
34) Philip Adeg	Trader	Ogur Subcounty	-
35) Robert Etura	Farmer	Ogur Subcounty	-
36) Rose Akelo	Farmer	Ogur Subcounty	-
37) Sam Obol	Business	Ogur Subcounty	-
38) Sam Olum	Trader	Ogur Subcounty	-
39) Samson Okello	Trader	Ogur Subcounty	-
40) Samuel Okong	Trader	Ogur Subcounty	-
41) Sandra Akite	Trader	Ogur Subcounty	-
42) Santa Apili	Farmer	Ogur Subcounty	-
43) Santa Auma	Farmer	Ogur Subcounty	-
44) Santo Oryem	Farmer	Ogur Subcounty	-
45) Sarah Auma	Farmer	Ogur Subcounty	-
46) Tedy Ojook	Farmer	Ogur Subcounty	-
47) Tom Ocen	Farmer	Ogur Subcounty	-
48) Vicky Akullu	Farmer	Ogur Subcounty	-
49) Vincent Okot	Business	Ogur Subcounty	-
50) William Lakor	Farmer	Ogur Subcounty	-

APPENDIX 13:
MEMORANDUM OF UNDERSTANDING

FOR BIODIVERSITY CONSERVATION OUTSIDE PROTECTED AREAS IN KIDEPO CRITICAL LANDSCAPE

BETWEEN

ABIM DISTRICT LOCAL GOVERNMENT

P. O. BOX 1, ABIM, UGANDA;

&

AGAGO DISTRICT LOCAL GOVERNMENT

P. O. BOX 1, AGAGO, UGANDA;

&

KAABONG DISTRICT LOCAL GOVERNMENT

P.O. BOX 16, KAABONG, UGANDA;

&

KITGUM DISTRICT LOCAL GOVERNMENT

P.O. BOX 28, KITGUM, UGANDA; AND

KOTIDO DISTRICT LOCAL GOVERNMENT

P. O. BOX 16, KOTIDO, UGANDA; AND

OTUKE DISTRICT LOCAL GOVERNMENT

P. O. BOX 617, LIRA, UGANDA

The District Local Governments of Abim, Agago, Kaabong, Kitgum, Kotido and Otuke; hereinafter referred to as "Party" or "Parties":

1.0 RECITALS/BACKGROUND

WHEREAS Article 237(2b) of the Constitution of Uganda commits government (including district local governments) to hold in trust for the people and protect rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and touristic

purposes for the common good of all citizens;

WHEREAS the National Environment Act (1995), section 73(2) makes provision for the protection and sustainable use of wildlife including provisions for the conservation of biological resources in situ, and the selection and management of protected and buffer areas;

WHEREAS conservation involves the formulation and implementation of strategies and practices related to research, monitoring, protection, and restoration of natural resources, ecosystems and their components, while facilitating opportunities for public outreach, education, tourism and enjoyment;

WHEREAS the districts of Abim, Agago, Kaabong, Kitgum, Kotido and Otuke share the Kidepo Critical Landscape which consists of vast, interconnected wildlife corridors – including forests, mountain ranges, wildlife species, natural and cultural heritage sites, and grazing/ hunting areas – and whereas this shared resource is best protected through communication, consultation and cooperation;

RECOGNISING that natural and cultural heritage sites, forest and mountain ecosystems, grazing and hunting areas, represent irreplaceable elements of the heritage and identity of the people of all the six districts; and may help in the adaptation of flora, fauna and human populations to climate change and other factors that have effects on landscape;

NOTING the Parties' mutual interest in strengthening the conservation and management of the wildlife corridors for the purpose of conserving the shared Kidepo Critical Landscape ecosystems and wildlife corridors therein, for the purpose of preserving and conserving these areas for the use and enjoyment of present and future generations;

RECOGNIZING that proper management and conservation of the wildlife corridors requires consensus and coordination between the various administrative units in view of the multiplicity of spill-over effects that render piecemeal interventions grossly inappropriate; and that proper management and conservation can best be achieved through a district level coordination mechanism since service provision in Uganda has constitutionally been devolved to district levels;

WHEREAS the Parties to this Memorandum of Understanding wish to

collaborate in the management and conservation of wildlife corridors in the Kidepo Critical Landscape; AND hereby warrant and represent that they ALL have capacity to enter into this MOU and that the persons executing this MOU are duly empowered and authorized;

NOW THEREFORE, the Parties agree in principle as follows:

2.0 PURPOSE

2.1 This MoU establishes a framework for cooperation between the districts in the Kidepo Critical Landscape to develop and implement joint initiatives to support the conservation of the landscape in a coordinated effort of the Parties, in accordance with the Management Plan for the Wildlife Dispersal Corridors (2018-2027).

2.2 The purpose of this MoU, therefore, is (i) the creation of a voluntary framework (Inter-District Coordination Forum or IDCF) for cooperation and coordination among the Parties concerning the management and conservation of wildlife corridors in the Kidepo Critical Landscape, (ii) to record the objectives and principles that are expected to underpin the roles and functions of the Parties in the aforementioned IDCF, (iii) to record the commitment of the Parties to the fulfillment of activities envisaged and implemented by the IDCF under the Management Plan for Wildlife Corridors (2018-2027).

2.3 The main objective for the formation of the Inter-District Coordination Forum is to provide a platform for formal and regular dialogue between stakeholders so as to enhance the implementation of the Management Plan. The forum is established in response to the need for stakeholders to strengthen management of wildlife dispersal corridors and to complement ongoing efforts of NEMA, NFA, UWA and district local governments.

2.4 In pursuing cooperation and coordination, the Parties are fully aware that the efficient implementation of this MoU and activities envisaged under this cooperation and collaboration through the IDCF are highly dependent on political support, authority, accountability and availability of operational funds.

3.0 OBJECTIVES

The objectives of this MoU are:

i) To enhance and support cooperation between the districts in the areas of biodiversity conservation of the wildlife corridors in the Kidepo landscape.

ii) To identify areas of conservation in the districts, including the wildlife dispersal corridors where the districts can improve the lives of the most vulnerable people and reduce or eliminate conservation threats.

iii) To serve as a framework agreement between the districts on biodiversity conservation in the Kidepo landscape.

4.0 GENERAL PRINCIPLES OF COOPERATION AND AREAS OF SHARED INTEREST

4.1 The Parties agree to the establishment of an Inter-District Coordination Forum to manage and coordinate the conservation of wildlife corridors in the Kidepo Critical Landscape.

4.2 The IDCF at the Kidepo landscape level shall be comprised of 29 members consisting of:

(i). Six (6) LCV Chairpersons (one from each district),

(ii). Six (6) Resident District Commissioners (one from each district),

(iii). Six (6) Chief Administrative Officers (one from each district),

(iv). Six (6) District Environment Officers (one from each district),

(v). One (1) representative of the Community Based/Non-Government Organizations;

(vi). One (1) representative of the Uganda Wildlife Authority;

(vii). One (1) representative of the National Forestry Authority;

(viii). One (1) representative of Faith based organizations; and

(ix). One (1) representative of Local community/opinion leaders.

4.3 At the district level, the IDCF shall comprise 12 members in

total i.e.

(i). Chief Administrative Officer (who shall be the District IDCF chairperson)

(ii). LCV chairperson,

(iii). Resident District Commissioner,

(iv). District Natural Resource Officer (who shall be the District Focal Point)

(v). A representative from the Education department,

(vi). A representative from the Health department,

(vii). A representative from the Population department,

(viii). A representative from the Planning department,

(ix). A representative from the Community Development department,

(x). A representative from the Faith-based organizations,

(xi). A representative from the Community Based/Non-Government Organizations,

(xii). A representative from the Local communities/Opinion leaders.

4.4 At the district level, the IDCF shall comprise 12 members in total i.e. the LCV chairperson, Resident District Commissioner, Chief Administrative Officer, District Natural Resource Officer and District Environment Officer, shall also include one representative from the Education, Health, Population, Planning, Community Development, Faith-based organizations, Community Based/Non-Government Organizations, Local communities/Opinion leaders.

4.5 The IDCF shall meet annually, in locations alternating among the six Parties.

4.6 The forms of activities under this MoU shall include but are not limited to all those included in the Management Plan for Wildlife Corridors of the Kidepo Critical Landscape; but also participation in joint seminars, conferences, training courses, and other areas of professional and technical interest; joint planning and research teams; and exchanges of specialists. The type of activities carried out under this MoU shall be subject to the availability of funds and personnel of

each Party and subject to the laws and regulations of Uganda.

4.7: THE PARTIES SHALL:

a) Act in close cooperation and consult each other, at least once a year, on matters of common interest based on prioritized issues and programmes in the Management Plan, including joint projects and other activities at the landscape, national and international levels, in order to coordinate their work and strengthen cooperation.

b) Define and develop the following initial areas of collaboration: (i) contribution to the conservation of the Kidepo Critical Landscape, (ii) enhancing collaboration in conservation of the natural resources in the landscape.

c) Identify new areas of collaboration at the time of the annual general meeting, which shall be held in locations alternating among the Parties.

5.0: MODALITIES OF COOPERATION – COORDINATION ASPECTS

In the framework of this MoU, the Parties shall undertake the following responsibilities:

5.1 To each appoint a focal point to coordinate the implementation of this MoU and the IDCF, monitor progress, identify new opportunities for cooperation and ensure integration of activities (developed under this MoU and the Management Plan) with other on-going initiatives to avoid duplication. If the focal point changes in any of the Parties, the concerned Party shall inform the others of the new focal point and cause a formal handover process so that the new focal point can settle into the role. When needed, special technical focal points can be appointed to support and enhance implementation of the specific areas of cooperation identified above.

5.2 To endeavor to share information on events and activities that may be of common interest, with all participation to such events being by invitation.

5.3 To share information about projects proposed to be financed by

each Party and subject to terms of this MoU, the Management Plan and each Party's interests.

5.4 To cooperate in developing joint information tools such as publication of appropriate material, posters and audiovisuals as may be considered necessary, to increase access to information and level of public awareness of issues concerning conservation of Kidepo Critical Landscape.

5.5 To develop and disseminate strategies, guidelines and methods on conservation issues of common interest.

5.6 To jointly design mechanisms that promote active involvement in the implementation of community based conservation interventions.

5.7 To support activities which build local capacity and enable that capacity to play full part in this cooperation.

5.8 To consult each other on the design and scientific evaluation of activities carried out under this MoU.

5.9 To jointly evaluate progress in the implementation of this MoU during annual progress meetings.

6.0: TECHNICAL COOPERATION AND FUNDING

6.1 The Parties shall consult and agree on how activities are to be jointly undertaken and financed while respecting their annual work plans and resource mobilization modalities. The implementation of any activity shall be subject to the availability of sufficient human and financial resources.

6.2 The Parties, in accordance with their respective annual work plans, shall collaborate with central government and any other stakeholders, including research institutions, universities, donors and civil society in any activity that they might consider necessary and appropriate.

6.3 The Parties may, through special arrangements, decide to act jointly in the formulation, resource mobilization and implementation of projects that are of common interest. The special arrangements shall define the modalities for participation of each Party in such projects and shall determine the contributions to be made by each of

the Parties.

7.0: INTELLECTUAL PROPERTY

7.1 The Parties shall collaborate in identifying, designing and implementing operational and applied research at community and landscape level.

7.2 Joint research results shall as far as possible and consistent with the work and funding arrangements, be published and copyrighted jointly. Where this is not feasible, the Parties may agree to permit any Party to publish any of the results on its own or in collaboration with others, giving due recognition to the contribution of other Parties unless the other Parties do not agree to such recognition.

7.3 For material published under joint copyright, each Party shall, subject to prior written consent of the others in each case, have the right to adapt and publish such material for its work in other regions or outside the framework of this MoU under its own copyright but with due recognition of the other Parties. Such consent shall not be unreasonably withheld.

8.0: COOPERATION WITH OTHER NATIONAL AND INTERNATIONAL AGENCIES

8.1 The Parties may consult, separately, or jointly, with national and international agencies, as appropriate and in accordance with local and central government guidelines and laws, in order to achieve the objectives of joint initiatives and maximize the efficient use or conservation of the natural resources of the Kidepo Critical landscape. The aforementioned agencies may be public or private organizations active in biodiversity conservation. The Parties shall inform each other on their respective contacts in this regard.

8.2 The Parties may, in accordance with local and central government guidelines and laws, explore strategic alliances with other Government of Uganda agencies as well as Non-Government Organizations in Uganda

to implement appropriate strategies for biodiversity conservation in the wildlife corridors in the Kidepo Critical Landscape.

9.0: PUBLIC REPRESENTATIONS AND CONFIDENTIALITY

9.1 Neither Party may assign, transfer or dispose of this MOU in whole or in part or any right or obligation herein to any individual, firm, institution or corporation without obtaining prior written consent from the other Parties; and such consent shall not be unreasonably withheld.

9.2 No public statements shall be issued by either Party with respect to this MoU or the activities under implementation in the Management Plan or this MoU without the prior approval of the other Parties.

9.3 The Parties shall maintain sole control of their respective names, labels and symbols. No Party is authorized to sign on behalf of or use another Party's name, label or symbol under this MoU, except as separately agreed by the respective Parties.

10.0: INDEMNITY

10.1 For the avoidance of doubt, the relationship among the Parties under this MoU is not one of legal partnership, joint venture or agency.

10.2 The Parties do not intend this MoU to be legally binding. However, the Parties expect that legally binding agreements will be separately negotiated and agreed under this MoU.

10.3 Nothing in or related to this MoU shall be deemed to constitute any waiver, express or implied, of the immunities, privileges, exemptions and facilities enjoyed by any Party under any international or domestic legislation and laws.

10.4 No Party shall be held responsible/ liable for any loss/risk/ damage that may arise from the inadvertent actions of any other Party during the execution of this MoU.

10.5 Notwithstanding the above, any Party may hold another liable for any loss/risk/damage that may arise from acts of gross negligence or carelessness by another Party.

11.0: FORCE MAJEURE

No Party shall be held responsible/liable for their inability to implement the obligations or terms in this MoU if such inability arises from civil strife, government restrictions, war, curfew and other genuine natural unforeseeable circumstances. Any situation of force majeure shall be communicated to the other Parties within 14 days from the occurrence of such force majeure for an amicable/mutual solution.

12.0 : REVIEW OF THE MOU

12.1 This MoU shall be reviewed annually during the Annual General Meeting.

12.2 The focal point of the hosting Party (under the alternating meeting arrangement, see sections 4.4 and 4.6c) shall arrange for the Annual General Meeting to discuss, among others, the following:

a) The implementation and progress of the activities under this MoU.

b) Evaluation of whether the Parties are achieving the objectives of the Management Plan for Wildlife Corridor conservation.

c) Any difficulties either Party is experiencing either in implementation of the Management Plan or in interaction between the Parties.

d) Any other matters the Parties may wish to discuss with each other

13.0: MUTUALITY

This MoU is based on the understanding that the missions, aims and objectives of the Parties are similar, mutually supportive, largely compatible and that any changes in them shall not be as a result of this MoU. However, it is also recognized that each of the Parties retains the right to adopt and pursue its own internally decided policies, as well as its independence, self-determined standards, image, public face and mode of operation.

14.0: CONFLICT RESOLUTION

Any differences in the interpretation or application of this MoU shall be resolved by common agreement of the Parties. In the absence of such agreement, any differences shall be referred to arbitration at the request of any Party. The Parties shall each appoint one arbitrator and these so appointed, shall jointly appoint a chairperson. The arbitrators shall decide the procedure of the arbitration and the expenses of arbitration shall be borne by the respective Parties as assessed by the arbitrators.

15.0 Amendments, Interpretation, Extension and Termination

15.1 This MoU may be amended or extended for a further period only by written agreement among the Parties and any such amendment or extension must be signed by the authorized representatives of the Parties and specify the effective date of the modifications.

15.2 Any failure by either Party at any time to enforce any of the provisions of this MoU shall not be construed as a waiver of such provision or any other provisions hereof.

15.3 Where any portion of this MoU is declared void or unenforceable by any Party after prior agreement, any administrative body or court of competent jurisdiction, such portion shall be deemed separable from the remainder of this MoU, which shall continue as valid and enforceable in the remaining portions.

15.4 Either Party may terminate or opt out of this MoU by giving the other Parties three-month's written notice prior to the intended termination or by means of common written consent by the Parties. However, such termination shall be without prejudice to any commitments made to other Parties before the notice of termination is received

16.0 DATE OF ENTRY INTO FORCE

This MoU shall enter into force upon its signature by all the Parties.

17.0 GOOD FAITH

The Parties undertake to act in good faith with respect to each other's rights under this MoU and to adopt all reasonable measures to ensure the realization of the objectives of this MoU.

In witness whereof, the duly empowered representatives of the six Parties, append their signatures in consent:

Abim District Local Government	Signed:	Chairman LCV
JIMMY OCHERO	Witness:	Chief Administrative Officer
OPIO LEONARD OJOK Agago District Local Government	Signed:	Chairman LCV
NICHOLAS OTUCANG	Witness:	Chief Administrative Officer
ABUKU MARKS-L Kaabong District Local Government	Signed:	Chairman LCV
LOKWEE JOHN JUAN	Witness:	Chief Administrative Officer
Kitgum District Local Government	Signed: NYEKO WILFRED	Chairman LCV
OKOMIA RHODA	Witness:	Chief Administrative Officer
Kotido District Local Government	Signed:	Chairman LCV
LOCHENG JULUS LOTYAKATAU WAMBI RICHARD	Witness:	Chief Administrative Officer
Otuke District Local Government	Signed:	Chairman LCV
OUMA MICHAEL	Witness:	Chief Administrative Officer