

**MURCHISON FALLS NATIONAL PARK**  
**Karuma Wildlife Reserve**  
**Bugungu Wildlife Reserve**  
(MURCHISON FALLS PROTECTED AREA)

**GENERAL MANAGEMENT PLAN**  
**(2012-2022)**



**UGANDA WILDLIFE AUTHORITY**

**SEPTEMBER 2013**

## **PREAMBLE**

Uganda Wildlife Authority prepared this General Management Plan with funds from Oil for Development (OFD) Program a bilateral agreement between Government of Uganda and Norway under the project, “Strengthening the management of Oil and Gas Sector in Uganda”

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Cover photograph: Murchison Falls

## **Approval**

The Uganda Wildlife Authority Board of Trustees approved this General Management Plan for implementation at its 21<sup>st</sup> sitting of 31<sup>st</sup> January 2014.

Chairman, Board of Trustees  
Uganda Wildlife Authority

Executive Director  
Uganda Wildlife Authority

## **FOREWORD**

Preparation of General Management Plans (GMPs) for Protected Areas is a statutory requirement. Uganda Wildlife Authority recognizes the importance of planning as a management tool and is systematically preparing GMPs for all her Protected Areas (PA's) to realize their potential in biodiversity conservation, tourism development and contribute towards poverty reduction. This General Management Plan is therefore aimed at providing Murchison Falls Protected Area with guidance towards sustainable management of the natural ecosystems for their proper functioning in order to provide the services. The plan will also ensure proper development of both administrative and tourism infrastructure and facilities in order to realize the full potential of Murchison Falls Protected Area in contributing to the development given the fact that tourism is the engine of economic growth of this country.

The mission of Uganda Wildlife Authority is to “*conserve, economically develop and sustainably manage the wildlife and Protected Areas of Uganda in partnership with neighboring communities and other stakeholders for the benefit of the people of Uganda and the global community*”. Accordingly, GMPs for wildlife protected areas are prepared with full stakeholder participation. The preparation of this plan was through a multidisciplinary and consultative approach involving various stakeholders at community, district, national and regional levels to ensure that all relevant issues were adequately addressed. The Planning Team that prepared this GMP was composed of UWA staff as well as other stakeholders from the local governments of the 6 districts in which MFPA falls i.e. Consultations were held with resource user groups, local community leaders, district leaders, the tourism stakeholders, researchers and private sector representatives. The UWA Board of Trustees after careful review has also endorsed the implementation of this plan by their approval at their sitting on 31<sup>st</sup> January 2014 at UWA headquarters. This plan that is therefore a product of wide consultations will enjoy the support of all stakeholders, to enhance the achievement of conservation and management objectives of Murchison Falls Protected Area for the benefit and enjoyment of the present and future generations.

It is therefore with great pleasure that I now entrust the Conservation Area Manager of Murchison Falls Conservation Area, with the authority to implement this General Management Plan.

**EXECUTIVE DIRECTOR  
UGANDA WILDLIFE AUTHORITY**

## ACKNOWLEDGEMENT

Uganda Wildlife Authority acknowledges the Government of Norway through the Oil for Development project for contributing financial support to the preparation of this General Management Plan (GMP).

Special thanks go to the following people who were members of the Planning Team and worked tirelessly to prepare this GMP:

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Eric Enyel	Warden Monitoring and Research

Mr. John Makombo and Mr. Charles Tumwesigye provided oversight of the whole planning process and their effort is greatly appreciated.

UWA appreciates the contributions of all her staff, partners, stakeholders, local communities and members of the Board of Trustees who were involved in one way or the other in preparation of this plan.

In a special way UWA appreciates the contributions of Mr. Frank Eklo and Jan-Peter Huberth Hansen of the Directorate of Nature Management, Norway, during the preparation of this plan.

Last but not least, UWA acknowledges the un wavering support during the planning process of Mr. Waiswa Ayazika of the National Environment Management Authority (NEMA) and Mr. Ernest Rubondo, Commissioner Petroleum Exploration and Production Department (PEPD).

## ACRONYMS

ACAO	Assistant Chief Administrative Officer
AOP	Annual Operations Plan
BoT	Board of Trustees
CA	Conservation Area
CAM	Conservation Area Manager
CAO	Chief Administrative Officer
CBO	Community Based Organisation
CC	Contracts Committee
CCC	Community Conservation Coordinator
CCO	Community Conservation Officer
CE	Chief Engineer
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CM	Concessions Manager
CPI	Community Protected Area Institution
DAO	District Agricultural Officer
DC	Director Conservation
DCO	District Commercial Officer
DCDO	District Community Development Officer
DEO	District Environment Officer
DPC	District Production Coordinator
DRC	Democratic Republic of Congo
DTBS	Director Tourism Business services
DVO	District Veterinary Officer
ED	Executive Director
EIA	Environmental Impact Assessment
ENR	Environment and Natural Resources
GMP	General Management Plan
HRM	Human Resource Manager
IUCN	World Conservation Union
LG	Local Government
LM	Legal Manager
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MoU	Memorandum of Understanding
MRC	Monitoring and Research Coordinator
MRO	Monitoring and Research Officer

NEMA	National Environment Management Authority
NGO	Non-Governmental Organisation
NFA	National Forestry Authority
NFP	National Forest Plan
PA	Protected Area
PAMSU	Protected Area Management and Sustainable Use
SPEIAC	Senior Planning and Environment Impact Assessment Coordinator
SPEIAO	Senior Planning and Environment Impact Assessment Officer
PRM	Public Relations Manager
RMNP	Rwenzori Mountains National Park
SWIC	Senior Warden in Charge
TM	Top Management
UWA	Uganda Wildlife Authority
WCC	Warden Community Conservation
WCS	Wildlife Conservation Society
WIC	Warden in Charge
WLE	Warden Law Enforcement
WMR	Warden Monitoring and Research
WT	Warden Tourism
WWF	World Wide Fund for Nature

## **EXECUTIVE SUMMARY**

### **BACKGROUND**

Murchison Falls National Park, Bugungu Wildlife Reserve and Karuma Wildlife Reserve form Murchison Falls Protected Area. The largest of the three is Murchison Falls National Park, straddling the Victoria Nile. Along its southern edge lie Bugungu and Karuma Wildlife Reserves. Bugungu WR includes that portion of land between the Lake Albert Escarpment and the Waiga River, and also takes a portion above the rift valley escarpment. Karuma WR forms a long strip along the southern and eastern flanks, and includes a 15 km length of the Victoria Nile as far east as Karuma Falls. To the south of Bugungu lies Budongo Forest Reserve, a portion of which overlaps with both Bugungu and Karuma WRs. In Karuma WR, a particular patch of high forest within Budongo Forest Reserve is known as 'Kaniyo-Pabidi'. This planning effort includes the Park and the two reserves.

Murchison Falls National Park covers an area of 3,893 km<sup>2</sup>, Karuma Wildlife Reserve, 678 km<sup>2</sup> and Bugungu Wildlife Reserve, 474 km<sup>2</sup>. The park was gazetted in 1952 while Karuma in 1964 and Bugungu in 1968. The park consists of a Ramsar site, the Delta which was designated in 2006.

### **GENERAL MANAGEMENT PLANNING PROCESS**

MFPA has had a GMP for the period of 10 years (2001-2011). A mid term review was done in 2006 to assess the level of the plan implementation. An end of term review was also done at the end of the plan period. This planning effort therefore took recognition of these reviews that were carried out. It also incorporated the new ideas that came up as the stages below were carried out. MFPA GMP process followed the already established guidelines for wildlife protected areas planning spelt out in the UWA planning manual, 2000. The following steps were undertaken during this planning process.

#### **Publicizing the planning process**

An advert was placed in the print media to inform the stakeholders that the process of developing the management plan for MFPA had started and to solicit their views and inputs into the plan. Written comments and ideas were received and considered during planning.

#### **Team composition**

A Planning Team was constituted in accordance with the provisions of UWA GMP manual. The team comprising of 17 people; five representatives from the local governments of the six districts within which MFPA falls, the Conservation Area Manager (MFCA), 6 staff from MFPA including in charge Karuma and Bugungu Wildlife Reserves, and 3 Headquarter staff was appointed by the Executive Director to undertake the planning process. This multi-disciplinary team was involved in the solicitation of views and identification of proposals for management of the protected



area. The team went through an orientation, agreed on roles and responsibilities and drew up a programme for the planning process.

### **Field reconnaissance**

As part of the field information collection, a field reconnaissance exercise was carried out where planning team members were exposed to all issues in the field. The team visited most parts of the protected area looking at various issues regarding tourism, infrastructure, community issues, and resource conservation issues. Reconnaissance helped members to get first hand information, which was used to generate management objectives and actions. This information was further used for zoning.

### **Consultations**

Consultations were held with various stakeholders/community groups including resource user groups, community leaders, and District leaders in the six districts regarding their views on the protected area management. Throughout this process communities were provided with opportunities to voice concerns about planning and management of the protected area. These views were considered during the proposal generation workshop.

### **Proposal generation workshop**

A proposal generation workshop was held for the planning team to harmonise views received from various stakeholders and agree on proposals for the general management plan. During proposal generation a statement of purpose for the protected area was developed. A description of exceptional resource and values , a list of management objectives describing the desired future for the protected area plus the actions to achieve these objectives were also developed. An estimate of the budget has been attached on the actions to give an indication of how much the plan will cost.

### **Management Purpose of MFPA**

*Protect and conserve MFPA, one of Uganda's biodiversity hotspots with varied ecosystems including the wetland of international importance, scenic landscapes, spectacular Murchison Falls, rich cultural and historical sites for the benefit of the people of Uganda and the global community.*

### **Conservation values**

There are several conservation values which are the reason why MFPA should be conserved. The protected area contains the Delta where the mighty R. Nile flows into Lake Albert and this holds an important value due its significance as; an Important Bird Area, Ramsar site, and breeding area for fish. Over 450 species are recorded within the park, and the Nile and its delta are particularly important as breeding areas for the regionally endemic shoebill and the saddle-bill stork. The park is important for the protection of spectacular Murchison Falls, one of the remaining exceptional scenic

features in Africa and also for the protection of one of the high biodiversity hotspots in the Albertine Rift. The PA should also be conserved due to its rich cultural and historical sites that are within and outside the Protected Area. The Victoria Nile is important as a breeding ground for the Nile crocodiles

## **Management zoning**

Zoning is a planning tool used to map out protected areas into distinct spatial areas according to their resource values and sensitivity. The zoning seeks to balance conservation, research, tourism, management and sustainable use of resources by neighbouring communities. Seven zones have been identified to represent different areas within the Murchison Falls protected area. These are Wilderness, Tourism, Administrative, Critical ecosystems zone, Resource Use zone, Active management/Recovery zone and Dual Management zone.

## **MANAGEMENT PROGRAMS**

This General Management Plan has been structured into different programs where the issues have been handled under specific programs. These include; Resource Conservation and Management, Monitoring and Research, Community Conservation, Tourism Development and Park Operations

The **Resource Conservation** program highlights the different management challenges that affect the integrity of the protected area. The key threats which include poaching, illegal grazing, encroachment, wild fires and others are highlighted under this section. Also the emerging developments that are currently taking place including petroleum, mining hydropower that have negative impacts on the ecosystem have been handled. A number of measures have been proposed to ensure that the integrity of the PA is maintained and the wildlife populations are increased.

The **Community Conservation** program includes issues that affect the relationship between the neighbouring communities and the PA management. The major issues under this program include human wildlife conflicts, the various benefits that communities get from the PA, revenue sharing program. A number of issues were raised during consultations and this plan tries as much as possible to address all the issues raised.

The **Tourism Development** program aims at improving the revenue for the protected area. There are already measures in place to increase the revenue but these need to be strengthened. A number of new proposals have been suggested to improve tourism in the area. However these proposals have been included taking into consideration the limits of acceptable use. Community based tourism has also been handled. This program includes a business plan that highlights the different financial aspects of the protected area.

The **Monitoring and Research** program builds on the current research efforts already taking place in the PA. A number of research topics were included in the Monitoring and Research plan. However with the new challenges in the PA and new development projects, more management oriented research will need to be carried out in order to inform decisions. In this regard a number of research topics have been suggested under this program which will need to be advertised to get researchers to implement them.

Finally, in order to achieve the different strategies outlined under each program, park management will need to be strengthened in terms of human resources and equipments. The **Park Operations** Program highlights where the management lacks capacity and suggests various ways in which to improve the capacity.

### **Budget estimates**

The budget estimates have been derived from the AOP. For annual activities, 30% inflation rate has been applied during costing.

### **Review of the Plan**

The planning manual stipulates review of the General Management Plan after five years of implementation. However, given the various developments of petroleum and hydropower and their associated negative impact, this GMP will be reviewed every three years to take into account the emerging issues from the developments.

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### **1.1 Purpose of the plan**

In order to successfully conserve MFPA and address the increasing level of human demands and limited natural resources, it is important that a management plan be developed. The purpose of the plan is to guide management in making decisions for the sustainability of the Protected Area. With the minimal resources, the plan will help management to prioritize the activities and allocate resources to the most critical areas. In addition, the plan will contribute to the general management of the area. This plan therefore identifies the desired future conditions (management objectives) of MFPA during the 10-year period (2012-2022) and presents strategies to enable the PA managers achieve this objective.

### **1.2 The Planning Process**

It is UWA policy to involve all stakeholders in all its activities but particularly in the preparation of GMPs. This plan is therefore the result of an interactive process that involved the various stakeholders with interest in MFPA. An interdisciplinary planning team composed of representatives from UWA and District local governments around the PA has been responsible for preparing this plan. A list of the Planning Team members responsible for the preparation of this GMP is presented in Appendix 1. In addition to having an interactive process, wide consultations were carried out to seek views of the various stakeholders as part of the planning process (stakeholder analysis is presented in appendix 3. A list of issues/views that were raised during the various meetings conducted during the consultations is presented in Appendix . Lists of participants are also presented in appendix 4, attached to this plan. The process benefited from experiences gained by UWA staff over the years in preparing management plans of various protected areas and the lessons learnt from this process.

This planning efforts include Murchison Falls National Park (3,893 km<sup>2</sup>), Karuma Wildlife Reserve (678 km<sup>2</sup>) and Bugungu Wildlife Reserve (474 km<sup>2</sup>) altogether referred to as Murchison Falls Protected Area (MFPA). MFPA falls within 6 District administrations of Nebbi, Oyam, Masindi, Buliisa, Kiryandongo and Nwoya .

### **1.3 Enabling Policy and Legislation**

It is essential for PA managers to understand some of the relevant laws that empower them and the legal notices by which the PA was established. With this knowledge, they can effectively conduct law enforcement work, ensure appropriate stakeholder participation in the management of the PA and address any challenges to its integrity. Some of the laws and policies pertaining to wildlife and biodiversity conservation in Uganda are summarized below.

### **1.3.1 The Constitution of Uganda (1995)**

The overall government policy on natural resource conservation in Uganda is enshrined in the Constitution of the Republic of Uganda 1995. The principles are spelt out in the National Objectives and Directive Principles of State Policy. The purpose of the objectives is to provide a legal foundation upon which future policies and juridical interpretation of the substantive constitutional provisions must be based. The relevant constitutional provisions in the National Objectives and Directive Principles of State Policy include the following:

- (a) Principle of State Policy XXVII mandates the State (both central and local government) to create and develop parks, reserves and recreational areas, and to ensure the conservation and promote the rational use of natural resources so as to safeguard and protect the biological diversity of Uganda;
- (b) Article 237 of the Constitution provides that the Government or 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;

### **1.3.2 The Uganda Wildlife Policy (1999 Draft)**

The draft Uganda Wildlife Policy of 1999 is a revision of a 1995 version prepared prior to the enactment of the 1996 Uganda Wildlife Statute. This policy aims at making wildlife management more acceptable to Ugandans by ensuring that resources contribute to the well being of present and future generations. The policy seeks to conserve areas with great biological diversity which are representative of the major habitats of Uganda and which, together, include all indigenous species.

### **1.3.3 The Uganda Wildlife Act Cap 200 of the Laws of Uganda 2000**

The management of wildlife and protected areas including MFPA is guided by the Uganda Wildlife Act<sup>1</sup> of 2000 (Chapter 200 in the Laws of Uganda, 2000). The Act authorizes UWA to assume responsibility for wildlife management in Uganda, both inside and outside its protected areas. Under the Act, a Board of Trustees is appointed by the Minister responsible for wildlife as the governing body of UWA. The Act also includes all the Schedules of the repealed Game (Preservation and Control) Act, 1964, (the principal legislation of the former Game Department), and the National Parks Act, 1952. The Schedules from the Game (Preservation and Control) Act, 1964 are now included in the Uganda Wildlife Act 2000 as Chapter 198. Section 13 of the Wildlife Act requires that the Executive Director of UWA prepares a management plan for each of the protected areas.

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<sup>1</sup> First enacted as the Uganda Wildlife Statute No. 14 of 1996



### **1.3.4 The National Environment Act Cap 153 of the Laws of Uganda 2000<sup>2</sup>**

The National Environment Act establishes the National Environment Management Authority (NEMA) as the principal agency in Uganda for the management of the environment. Section 37(1) of the Act provides for the identification and sustainable management of wetlands. Wetlands according to Section 37 (2) can be of “local, national and international importance as ecosystems and habitats of species of fauna and flora”

The Third Schedule of the Act requires that environmental impact studies be carried out when national parks, game reserves (now wildlife reserves) and buffer zones and several other developments are being established. Guidelines for this process are given in the National Environmental Impact Assessment Regulations, 1998.

### **1.3.5 The Tourism Policy of Uganda 2003**

The Tourism Policy recognizes that in the 1960’s Uganda was a main tourism destination in Eastern Africa and therefore tourism was one of the major economic sectors for the country. Unfortunately the turmoil of the 1970’s and 1980’s drastically reduced wildlife numbers and destroyed infrastructure resulting into reduced numbers of tourists. This policy is aimed at ensuring that tourism becomes a vehicle for poverty eradication in the future to the extent possible within the resource base and market limitations. It further recognizes UWA’s role and contribution towards the achievement of this objective. 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.

### **1.3.6 The National Forestry and Tree Planting Act, 2003.**

The Act provides for among other things, the conservation, sustainable management and development of forests, and the promotion of tree planting for the benefit of people of Uganda and the international community. It classifies forests in Uganda as central forest reserves, local forest reserves, community forests and forests forming part of a wildlife conservation area declared under the Uganda Wildlife Statute, 1996. The Act recognizes various stakeholders in the management of forest reserves, which should be guided by the Management Plan prepared by the responsible body. In addition the Act aims at ensuring that forests and trees are conserved and managed in a manner that meets the needs of the present generation without comprising the rights of future generations by safeguarding forest biological diversity and the environmental benefits that accrue from forest and trees.

### **1.3.7 The Wetlands Policy 1995**

Wetlands cover about 10% of Uganda’s total land surface and provide a range of biophysical and socio-economic functions. The National Wetlands Policy for the conservation and management of wetland resources seeks to promote the conservation

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<sup>2</sup> First enacted as the National Environment Management Statute No. 4 of 1995

of wetlands in order to sustain their values for the present and future well being of the people. The Policy sets five goals:

- To establish the principles by which wetland resources can be optimally used now and in the future
- To end practices which reduce wetland productivity
- To maintain the biological diversity of natural or semi-natural wetlands
- To maintain wetland functions and values
- To integrate wetland concerns into the planning and decision making of other actors

### **1.3.8 International Conventions and agreements**

The following conventions are some of the most relevant to the conservation of biodiversity in Uganda:

Convention on Biological Diversity, 1992: In 1993, Uganda became a signatory to the Convention on Biological Diversity, which in Article 8, obliges member states to:

- Establish a system of protected areas
- Develop guidelines for the selection, establishment and management of protected areas
- Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Uganda is a party to CITES, which obliges member states to adhere to the recommendations of the Conference of Parties with respect to trade in endangered species. MFPA has a high number of elephants which have been poached for their tusks. Elephants are among the animals protected by CITES.

Ramsar Convention on Wetlands, 1971: The Ramsar Convention on Wetlands emphasises the need to conserve wetlands and requires member states to include at least one wetland on the list of Wetlands of International Importance. The Delta within MFPA is one of Ramsar sites found in Uganda which contains some of the endangered bird species including the shoebill.

Convention on migratory species of wild animals (CMS): Realizing that animal migration is a global phenomenon in response to biological requirements, several countries have come together under the CMS, also known as the Bonn Convention, to cooperate in the conservation of animals that migrate across national boundaries and between areas of national jurisdiction and the sea. The Convention aims to improve the status of all threatened migratory species through national action and international Agreements between range states of particular groups of species. Agreements can range from legally binding multilateral treaties to less formal memoranda of understanding. The object of such agreements is to restore the migratory species to a favorable

conservation status or to maintain it at that status. The Convention has two appendices: Appendix I lists endangered migratory species, Appendix II lists migratory species to be subject to agreements. It also establishes a scientific council to provide advice on scientific matters.

## 2.0 Description of MFPA

### 2.1 Area and Location

Map 1 shows the location of MFPA in Uganda, and of the different components of the protected area. Map 2 shows MFPA in more detail, with rivers and contours. The largest component is Murchison Falls National Park, straddling the Victoria Nile. Along its southern edge lie Bugungu and Karuma Wildlife Reserves. Bugungu WR includes that portion of land between the Lake Albert Escarpment and the Waiga River, and also takes in a portion above the rift valley escarpment. Karuma WR forms a long strip along the southern and eastern flanks, and includes a 15 km length of the Victoria Nile as far east as Karuma Falls. To the south of Bugungu lies Budongo Forest Reserve, a portion of which overlaps with both Bugungu and Karuma WRs. In Karuma WR, a particular patch of high forest within Budongo Forest Reserve is known as 'Kaniyo-Pabidi'.

Due to the complex boundary descriptions of the different components of the MFPA, many erroneous maps have been produced of the Wildlife Reserves and the overlapping Budongo Forest. Estimates of the land area of the different PAs have varied widely. Table 2 below gives the correct areas of the different components of the protected area, as calculated by the MTTI/UWA Protected Area Assessment Programme, using a Geographical Information System (GIS):

Table 1: Area of the different component PAs of MFPA

<b>Wildlife Estate</b>	<b>Sq. km</b>
Murchison Falls National Park	3,877
Bugungu Wildlife Reserve*	501
Karuma Wildlife Reserve	678
<b>Total wildlife estate</b>	<b>5,056</b>
<b>Budongo Forest</b>	
Budongo overlap with Bugungu	135
Budongo overlap with Karuma	99
Budongo outside UWA estate	591
<b>Total area Budongo Forest</b>	<b>825</b>

Murchison Falls Protected Area is surrounded by six districts; Nwoya to the north, Nebbi to the north western, Buliisa to the south western, Masindi to the south, Kiryandongo to the east and Oyam is located on the north eastern part of the protected area.

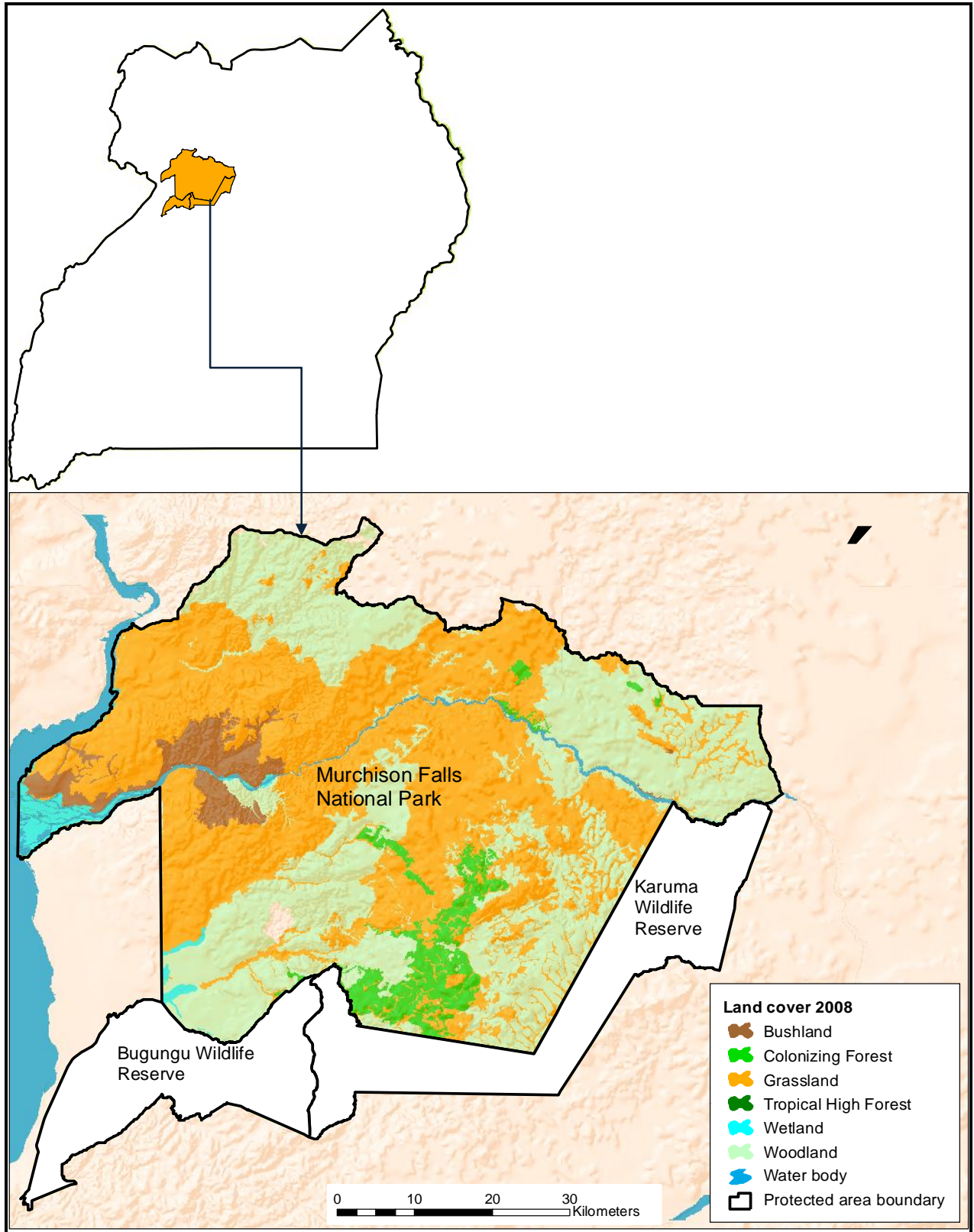


Figure 1: Map showing location of Murchison Protected Area in Uganda

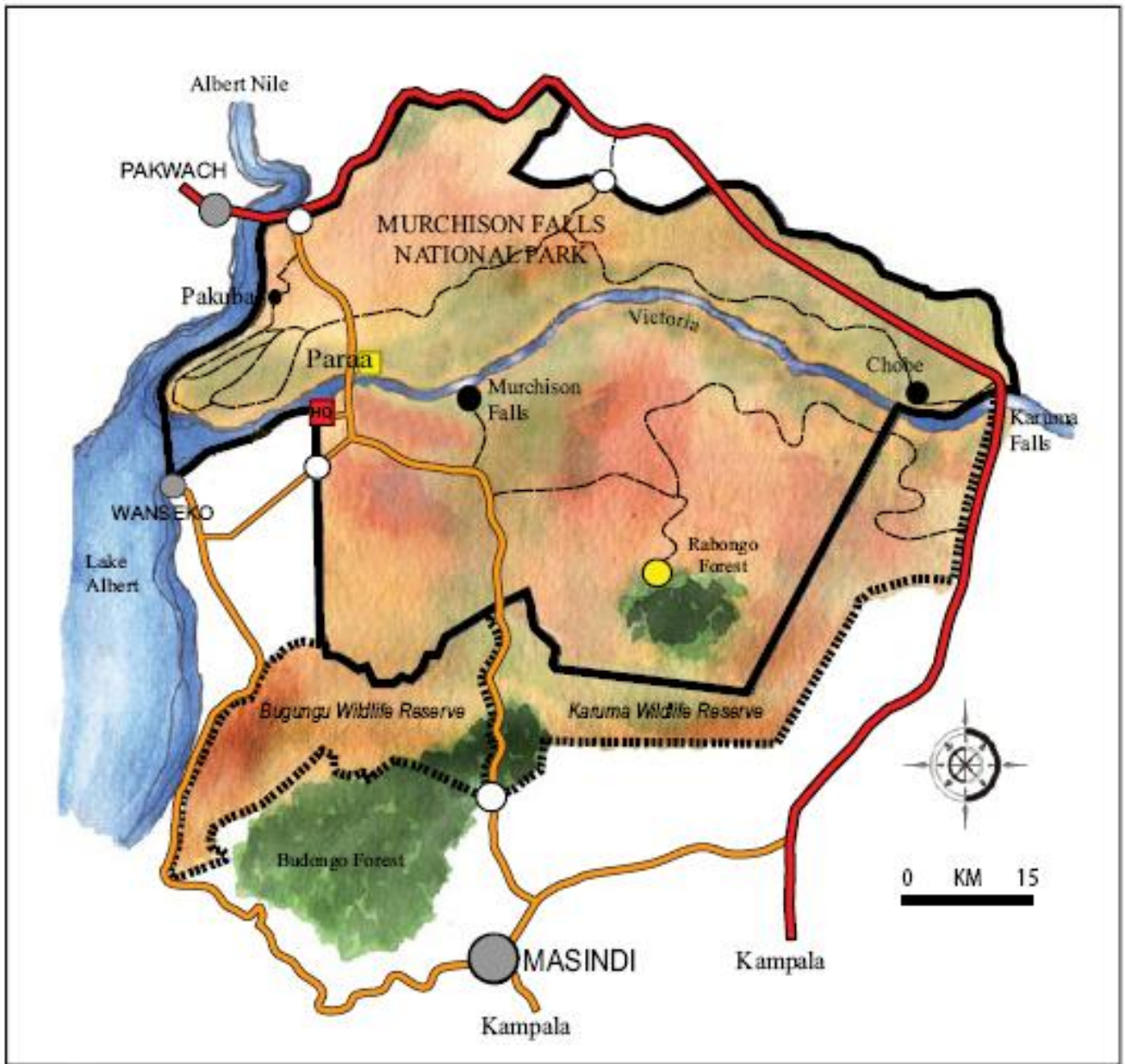


Figure 2: Map of the Murchison Falls National Park with the adjoining Karuma and Bugungu Wildlife Reserves

## **Access**

The park can be accessed through Kampala - Masindi entering through the Kicumbanyobo gate. Alternatively it can be accessed through Kampala-Karuma- and either through Wankwar gate or Tangi gate. Bugungu reserve can be accessed through Masindi-Biiso-Buliisa road.

## **2.2 History of Establishment and Management of MFPA**

The earliest wildlife legislation in Uganda dates back to 1898 and 1915 when sleeping sickness swept through Uganda. The only effective way known to combat this disease was to evacuate the human population, and between 1907 and 1912 an area of about 13,000 km<sup>2</sup> was depopulated on both sides of the Victoria Nile. Most of this area was designated as a "sleeping sickness restricted area", but in 1910 that part of it to the south of the river was declared the Bunyoro Game Reserve. In 1926 the Game Ordinance established the Game Department as the regulatory body for game conservation and utilisation, and to provide for the establishment of Game Reserves, the regulation of trophy hunting, and the control of problem animals.

The Bunyoro and Gulu Game Reserve was the first PA to be declared under the Ordinance. This Reserve in 1926, covering some 4750 sq. km in the current location of MFPA, gave protection to wildlife in the forests and bushlands on either side of the Victoria Nile just to the east of Lake Albert. In this area, the human population living along the Nile had been either ravaged by sleeping sickness or been evacuated to save them from the epidemic.

### **The National Parks Act and the declaration of Murchison Falls National Park**

In Uganda, in response to the recommendations of the 1933 Convention Relative to the Preservation of Fauna and Flora in a Natural State, the National Parks Act was passed by the National Assembly in 1952 to "provide for the establishment of national parks for the purpose of preserving wild animal life, wild vegetation and providing for other matters incidental thereto". Under the Act, the Minister, with the consent of the National Assembly (later Parliament) could declare any area of land to be a National Park.

Immediately after the National Parks Act was passed, Murchison Falls National Park was declared by Legal Notice 162 of 1952, which superimposed the park onto the former Bunyoro-Gulu Game Reserve (the latter was degazetted in 1955). Apart from a minor amendment in 1970, the boundaries of the Park have remained unchanged since its establishment.

### **Game Department Legislation and the declaration of Karuma and Bugungu Game Reserves**

In 1959 the Game Ordinance was superseded by the Game (Preservation and Control) Ordinance, and revised again as the Game (Preservation and Control) Act in 1964. Under the Act, the Minister could declare Game Reserves, in which it was illegal to hunt, cultivate, 'de-pasture' or water livestock without the permission of the Game Department.



After Murchison Falls National Park had been established, it was considered important that adjacent wildlife areas should also be given some protection, both in their own right, and to provide a 'buffer zone' to the new National Park. Thus, in 1964 Karuma Game Reserve was declared to provide a more effective buffer to the south-eastern flank of Murchison Falls National Park, to be followed in 1968 by Bugungu Game Reserve to protect the south-western edge of the Park.

The establishment of MFNP was largely opportunistic. An area with abundant wildlife, and with little threat from other forms of land use, was identified as a leading candidate for National Park status. The need to conserve biodiversity or ecological processes (concepts that were not appreciated until many years later), were not considered in the creation of these early national parks. However, it was recognized that such an important wildlife area required a buffer zone to provide additional protection. Controlled Hunting Areas were established along the southern and western flanks to regulate hunting, followed by the establishment of the Karuma and Bugungu Game Reserves in 1964 and 1968, respectively.

The huge expanse of grassland and woodland north of Murchison Falls NP along the east bank of the Nile in Nwoya, Amuru and Adjumani districts was once an important wet season dispersal area for elephants and other species of MFNP. In the 1950s this area was declared as the 'Acholi and East Madi Elephant Sanctuary', with a change in status again in the 1960s to become the Kilak Controlled Hunting Area and the Aswa-Lolim Game Reserve, the latter lying immediately adjacent to MFNP. The CHA and Game Reserve were both degazetted in 1972 to make way for the allocation of large tracts as ranches and farms, which were all later abandoned due to insecurity and have reverted now to bush.

In the 1960s MFNP became the most popular wildlife destination for tourists in East Africa, attracting some 60,000 visitors annually. Safari lodges were constructed at Paraa, Chobe and Pakuba to cater for the tourist influx. The launch trip to the base of the Falls was the primary attraction, and at the peak of tourist visitations up to 12 launch trips were made each day.

During the 1960s, elephants entered the park in increasing numbers as a result of harassment in outside areas. By the mid-1960s the elephant population had increased to some 12,000-14,000 and the huge herds destroyed woodlands throughout the Park, creating extensive tracts of grassland (Laws, *et al* 1970). Fire also played a part in this transformation. Thickets opened up by the elephants became vulnerable to the hot annual fires sweeping through the park. When browse became scarce the elephants turned to debarking the larger trees, which then succumbed to fire damage. Increasingly concerned that elephants were destroying their own food source, and also reducing the diversity of habitats of the Park for other species, the Park authorities culled some 2000 elephants between 1965 and 1967.

During the political upheavals of the 1970s, the country's tourism industry collapsed. With little revenue received, Uganda National Parks was unable to effectively manage

its protected areas and control poaching, and by the late 1970s the situation in MFNP was out of control. The Nile crossing at Paraa became the frontline in the conflicts of various militias following the downfall of the Amin regime, and armies on both sides of the river looted the lodges and became involved in the wholesale slaughter of wildlife. The Park's herds of elephants and buffaloes were almost annihilated. By 1980 just 1,420 elephants remained, the decline continuing into the early 90s when just 290 were counted (Douglas-Hamilton *et al* 1980; Olivier 1991). Over the same period the 15,000 buffalo recorded during the 1960s had been reduced to just 1,500 in 1991.

In Bugungu and Karuma Game Reserves, the Game Department was unable to undertake any management activities during the late 1970s and early 1980s. According to the Game Department Annual Reports of 1974 and 1975, "the Department was crippled by lack of adequate transport and equipment to mount effective anti-poaching operations in areas where it was most needed... The machinery through which the Game Department enforces the Game Act has been rendered archaic by the improved and newly developed methods of poaching. These include the use of automatic weapons aimed at both the animals and members of staff, and the use of poisons in animal drinking places or poisoned baits along animal trails...". Without operating budgets, the Game Department staff could not patrol the boundaries of Bugungu and Karuma, and these two reserves were quickly encroached.

The scale of destruction in MFNP in the 1970s and 80s was far beyond that experienced by any other national park in East Africa. In the early 1990s various donor-assisted projects were initiated to rehabilitate the park and its infrastructure, and to ensure that wildlife can once again be protected. Under the European Community (EC) - financed Uganda National Parks Project, a management plan was written, and many roads were rehabilitated. Since 1994, the German Ministry for Economic Co-operation and Development has supported the rehabilitation of MFPA with a major development programme. The Deutsche Gesellschaft für Technische Zusammenarbeit or German Technical Co-operation (GTZ) provided the technical assistance while Kreditanstalt für Wiederaufbau or German Bank for Reconstruction and Development (KfW) provided financial assistance. New office buildings were constructed and vehicles, boats and communication equipment purchased. An aircraft was also for sometime provided for park operations. In 1998-99 the park's roads, bridges, jetties and ferry landings were rehabilitated. The office was re-built, and a new workshop constructed and equipped. Institutional and organizational support provided by GTZ to co-ordinate the development program was supplemented by assistance from Deutscher Entwicklungs Dienst or German Development Service (DED) to promote community conservation in the four Districts bordering MFPA.

Murchison Falls National Park, Bugungu and Karuma Wildlife Reserves are now being managed as Murchison Falls Protected Area with the Conservation area Manager sitting in Mubako.

In 2003, UWA received a World Bank loan under the project called the Protected Area Management and Sustainable Use (PAMSU) whose main purpose was to strengthen



the capacity of UWA to manage the wildlife protected areas more effectively. One of the outputs of this project was to develop infrastructure across the UWA estate including staff accommodation and offices. The offices and staff accommodation was shifted to Mubako where decent structures have been built. The infrastructure at Paraa was left for tourism purposes. The then accommodation for senior staff were turned into guest houses (although currently in a poor state) and the former administrative block is now a booking and tourism office. Tourism in the protected area has been increasing at a steady rate and currently, Murchison receives over 60,000 visitors per year.

## **2.3 Physical and Biological Resources**

### **2.3.1 Geology and Landscapes**

In Western Uganda, tectonic movements and volcanic eruptions, combined with great climatic changes, gave the country its present dramatic landscapes. These geological forces, which occurred during the past half million years in the Pleistocene period, gave rise to the formation of the Western Rift Valley (the 'Albertine Graben'). During a period of heavy rainfall a quarter of a million years ago the valley filled up with lakes and sediments, and then were split by the formation of the Rwenzori Mountains.

The Murchison Falls Protected Area lies at the northern end of the Albertine Rift Valley, and takes in part of the valley floor, and part of the eastern escarpment above. The valley bottom is composed of sandy alluvial sediments, which are easily eroded, as is seen along the banks of the Nile below the Falls. In the southern part of the protected area, in Bugungu WR, the Western Rift Valley escarpment rises 100 meters over the valley floor, to provide spectacular views of Lake Albert.

Above the escarpment, extending over the eastern part of the Park, is the original basement complex of gneisses and granites. These ancient rocks are deeply weathered, forming red loams of low or medium fertility. Nearer the Rift, much of this weathered rock has been stripped away, and the soils are shallow and poor. Many of the soils in the park are lateritic, rich in iron deposits either in the form of gravel or as solid ironstone.

Moving northwards from Bugungu, the Rift escarpment is less pronounced, and it disappears as a physical feature in northern MFNP, to reappear as an escarpment defining the east bank of the Albert Nile north of Pakwach. The park itself, with its rolling topography, is gently inclined from the highest point at Rabongo Hill in the east (1,291 m), to Lake Albert in the west (619 m). The most significant hill mass in the Park, visible for many kilometers, is Igisi in the south rising to 1271 m.

Running east-west through the Park, for 80 km, is the Victoria Nile. From Chobe to Paraa the Nile drops 350 m, through stretches of white water rapids and cascades. The most dramatic feature along this reach is the Murchison Falls, where the river has cut back through the Rift escarpment (which crosses at the start of the gorge, now one kilometer downstream), and plunges, with huge convulsions, through a cleft just 6 m wide to fall 45 m to the base of the gorge. Although at the time of establishment of the

park the full mass of water went through a single cleft, a further spill occurs over an adjacent cataract, known as 'Uhuru Falls' formed in 1962 (year of Uganda's independence) after an exceptionally heavy rain season. Below the Murchison Falls the river flows out of the gorge to become calmer and wider, and finally enters Lake Albert as a delta. The Victoria Nile captures most of the surface drainage of the Protected area, but lying to the south smaller watersheds divert drainage into the Waiga and Waisoke rivers which discharge into Lake Albert south of Buliisa.

### 2.3.2 Climate

The climate of MFPA is hot and humid. The relative humidity averages 60% and the temperature ranges from a mean maximum of 29°C to a mean minimum of 22°C. The eastern end of the PA is wetter than the west. Chobe receives some 1500 mm per year, whilst Paraa receives about 1100 mm. Wet season use to runs from March to November with a short dry spell in July but now that seems not be the case as seen from the graph below.

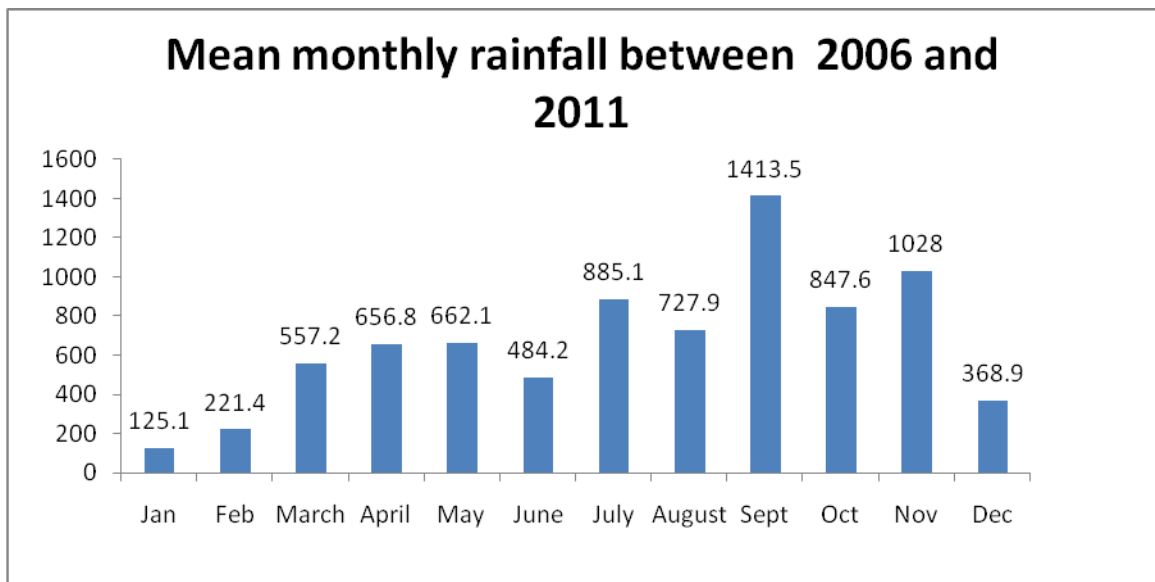


Figure 3: Mean monthly rainfall between 2006 and 2011

Rainfall is distributed in two wet seasons, as indicated below:

#### Seasonal distribution of rainfall in MFPA

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Shaded: more or less regular rainfall. Unshaded: little or no rainfall

### 2.3.3 Vegetation and Flora of MFPA

The vegetation composition of MFPA has changed greatly since the 1960s, largely as a result of human and animal activities (Smart *et al.* 1985, Oneka 1996). Osmaston (1971) describes eight vegetation categories for the area (dominated by *Combretum* woodlands), divided into 13 plant communities. However, the distributions of these communities were not well mapped. A systematic study of the present structure and composition of the plant communities of Murchison Falls Protected Area was completed in 1997 (Jackel *et al.* 1997).

In the south, the tropical high forest of Budongo, dominated by *Cynometra alexandri* and *Celtis wightii*, extends down into the Protected area in a few patches in Bugungu Wildlife Reserve, and as Kaniyo-Pabidi Forest in Karuma Wildlife Reserve and Rabongo Forest in MFNP. In the earlier part of this century fingers of forest extended as far as the Nile, but under the influence of elephants and fire, these were destroyed by the 1960s. The 'mixed tree and shrub savanna', covering an extensive area south of the Nile, has undergone a great transformation over the last half-century. Once dominated by *Terminalia glaucescens* and *Combretum collinum*, this vegetation type was completely eradicated by elephants and fire to create huge tracts of grassland (Laws *et al.* 1970). Following the near elimination of elephants from the ecosystem, woodlands and thickets regenerated throughout the southern part of the PA, and are characterised by *Philenoptera laxiflora* (Syn: *Lonchocarpus laxiflorus*), a preferred elephant food that has become the dominant species in the absence of browsing. Most woodlands on the south are now *Terminalia-Combretum-Piliostigma* with *Philenoptera* in the mid-storey (Kalema 2003, Namaganda & Kalema 2003, Kalema 2005) *Kigelia africana* and *Balanites aethiopum* are notable tree species still thinly scattered over the savanna areas.

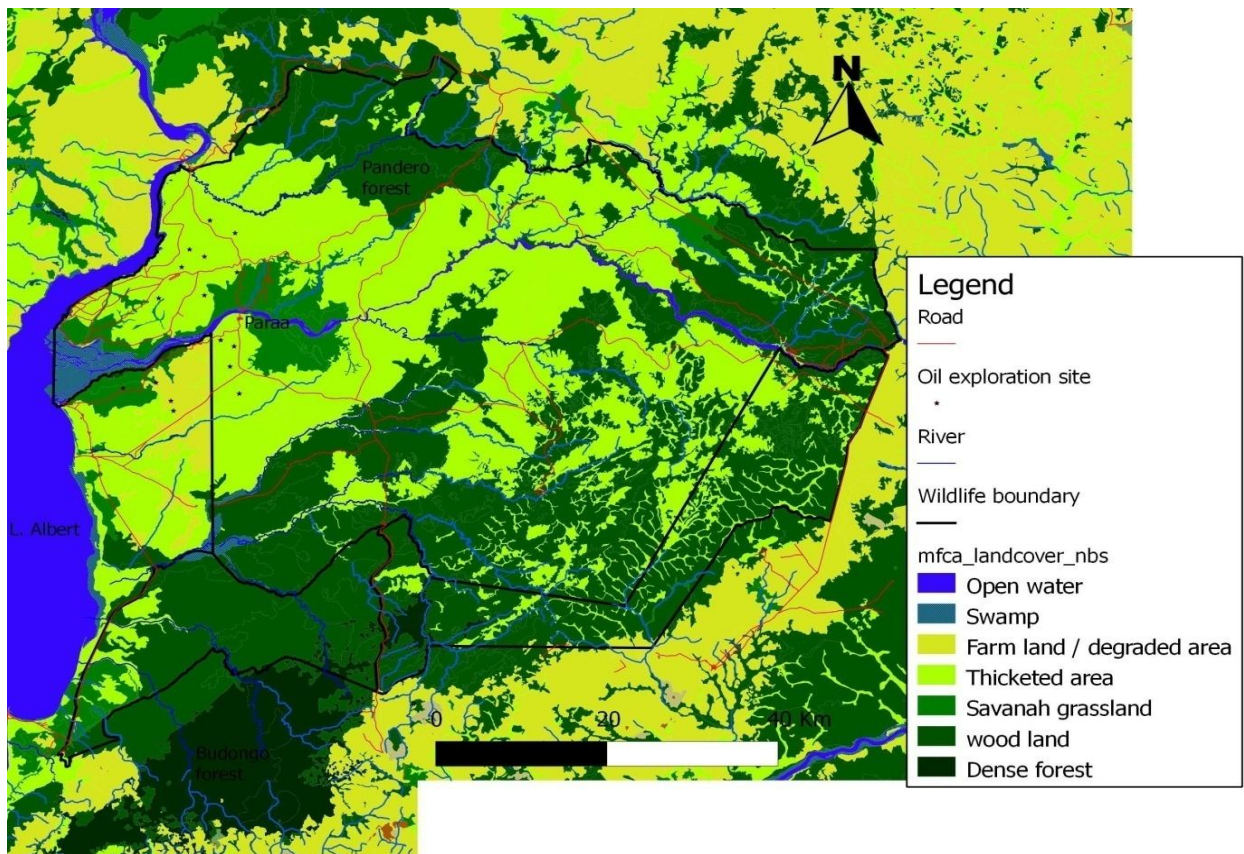
Throughout the wetter eastern and southern parts of the PA, the grass layer is dominated by *Hyperthelia dissoluta*, *Hyparrhenia filipendula* and *Loudetia arundinacea*, plus fire climax species which grow to 1-3 m in the wet season, forming fuel for the hot fires which sweep through the park most dry seasons.. The open grasslands in the Buligi circuit are dominated by *Hyperthelia dissoluta*, *Sporobolus pyramidalis*, *Ctenium newtonii*, while *Chloris gayana*, *Chamaecrista mimosoides*, *Brachiaria brizantha* and *Andropogon schirensis* are abundant. Here, woody vegetation is characterized by thickets of *Harissonia abyssinica*, *Combretum aculeatum*, *Acacia senegal*. *Cadaba farinosa* is usually frequent. *Marsdenia rubicunda* is a frequent climber on the woody species while species of *Capparis* are common scrambling species. Succulent *Sansevieria* spp. are a common occurrence under the shade conditions of the tangle.

*Chloris gayana*, *Brachiaria* spp., *Hyperthelia dissoluta* are usual species in the grass layer (Kalema 2011).

In northern MFNP are the largest stands of *Borassus aethiopum* palms found in Uganda, although elsewhere in Guinea-Congolian and Sudanian Africa they are more widespread (Kalema 2012). This species is very slow regenerating because of long dormancy periods, and younger trees need a period free of fires to survive and form a stem. Elephants are very fond of the fruits, and may in former times have played a major part in dispersing it across the savannas. Also in the north is the Pandero woodland, a unique relict community comprised of *Terminalia glaucescens*, *Prosopis africana* and *Combretum adenogonium* (Syn. *Combretum ghasalense*). However, following years of elephant and fire damage, most of the older trees are dead, and are being replaced by *Philenoptera*. Given adequate protection from fire, the woodland may yet recover.

In these various vegetation types, a number of plant taxa rare in Uganda and even beyond have been recorded, e.g. *Chasmopodium caudatum*, *Panicum phragmitoides*, (Kalema 2003, 2006; Namaganda & Kalema 2003, Kalema 2005) have been recorded

Figure 4: **Vegetation cover and hydrology of Murchison Falls Protected Area**



### 2.3.4 Fauna

MFNP has a total of 109 mammal species, 54 species of large mammals (excluding rats, bats, shrews and nocturnal primates) including one (1) near-endemic species, five (5) threatened species (Critically endangered, Endangered, Vulnerable) and 21 total IUCN Red-listed species requiring conservation measures and/or surveys/studies to further understand their status (Plumptre *et al.* 2010). This is partly due to the fact that the populations of large herbivores are only now recovering from decades of decline as a result of the break down in law and order and the subsequent uncontrolled hunting (Rwetsiba, 2005)

The larger mammals which have the largest impact on the ecosystem and form the main attraction for visitors are characterised by a few species, notably elephant (*Loxodonta africana*), hippopotamus (*Hippopotamus amphibius*), buffalo (*Syncerus caffer*), giraffe (*Giraffa camelopardalis rothschildii*), Uganda kob (*Kobus kob*) water buck (*Kobus ellipsiprymnus*) and hartebeest (*Alcelaphus buselaphus*). Other larger mammals include Bohor reed buck (*Redunca redunca*), bushbuck (*Tragelaphus scriptus*), sitatunga (*Tragelaphus spekii*), warthog (*Phacochoerus aethiopicus*) and bushpig (*Potamochoerus porcus*). The large carnivores are lion (*Panthera leo*), leopard (*Panthera pardus*) and spotted hyena (*Crocuta crocuta*). The PA harbors six species of primates including black-and-white colobus (*Colobus guereza*) and chimpanzee (*Pan troglodytes*). Most of these with exception of vervet monkey and Olive Baboon live in dense woodlands and forests. On the other hand the giraffe is only found on the northern side of the Victoria Nile.

Murchison is famous for its crocodiles, which grow exceptionally large in the river stretch below the Falls. The population has suffered a serious decline caused by poaching and by accidental catching in fishing nets. Nevertheless, despite this severe attrition, MFPA still supports the largest population of crocodiles in the country.

In northern Uganda the Victoria and Albert Niles have been a major barrier to the movements of certain species. In the MFPA area, giraffe have never been recorded south of the Victoria Nile. Similarly, in the 1960s the black rhino (*Diceros bicornis*) was not found south of the Victoria Nile, whilst the rare white rhino (*Ceratotherium simum*) was confined to the north-western corner of Uganda, west of the Albert Nile. In the 1960s, in an effort to save the white rhino, a number were moved to the Buligi area of MFNP. However, during the period of intensified poaching in the 1970s and 1980s, all rhinos in the park were killed, and today none are found in the wild anywhere in Uganda.

There are 476 identified bird's species in the MFPA, 7 of which are threatened and 10 total IUCN Red listed species some of which are; migratory, rare, threatened and endangered. The birds are divided into aquatic and terrestrial types with specially adapted physiology suiting those areas. The parleatic birds (transcontinental) come around December to roost in MFPA during inclement weather in Europe and fly back in around March. E.g. Yellow wag tail, Horse prey (Finland tagged leg) and Swift. The rare

shoebill (*Balaeniceps rex*) and the saddlebilled stork (*Ephippiorhynchus senegalensis*) both breed within the Park, and the rarely observed Pel's fishing owl (*Scotopelia peli*) can be found around the placid waters below the falls. Characteristic birds of the savannas are the gregarious Abdim's stork (*Ciconia abdimii*) and the Abyssinian ground hornbill (*Bucorvus abyssinicus*).

Murchison Falls has a rich and diverse fish fauna. The most prominent species is the Nile perch (*Lates albertianus*), which attains record size in the pools below the falls. Introduced above the falls in 1955, this species has spread to form the basis of commercial fishing in Lakes Kyoga and Victoria. Other Murchison species include tiger-fish (*Hydrocyon forskalli* and *H. lineatus*), angara (*Alestes baremose* and *A. macrolepidotus*), moon-fish (*Citherinus citherus*), karuka (*Labeo horie*), butter-fish (*Schilbe mystus*), wahrindi (*Synodontis schall*), lungfish (*Polypterus senegalus*) and electric catfish (*Malopterus electricus*).

### General Status of Large Mammals

Over the period 1975-1990, MFPA lost over 90% of its large mammal populations to poaching by militias and local communities. Recent aerial censuses conducted in 2010 and 2012 indicate that the wildlife numbers have increased over time. With improved management and wildlife populations are expected to increase even more in future. Table 2 presents data from the various wildlife counts conducted over the last 30 years, showing the precipitous decline of large mammals in the protected area, and the slow recovery since 1995 following improved management and protection in the PA.

Table 2: Animal population trends since 1973

	pre-1973 <sup>a</sup>	1980 <sup>b</sup>	1991 <sup>c</sup>	April 1995 <sup>d</sup>	Dec. 1995 <sup>e</sup>	June 1999 <sup>f</sup>	May 2002 <sup>g</sup>	Jul 2005 <sup>h</sup>	March 2010 <sup>i</sup>	July 2012
Buffalo	<i>30,000</i>	<i>15,250</i>	1,610	<i>1,087</i>	<i>2,477</i>	<i>3,889</i>	8,200	<i>11,004</i>	<i>9,192</i>	<b>7,506</b>
Giraffe	<i>150-200</i>	-	78	<i>100</i>	<i>153</i>	<i>347</i>	229	<i>245</i>	<i>904</i>	<b>757</b>
Hippo	<i>12,000</i>	<i>7,565</i>	-	<i>1,498</i>	<i>1,238</i>	<i>1,792</i>	-	<i>2,104</i>	<i>955</i>	<b>790</b>
Uganda Kob	<i>10,000</i>	<i>30,700</i>	-	<i>6,355</i>	<i>4,373</i>	<i>7,458</i>	-	<i>9,315</i>	<i>36,640</i>	<b>36,234</b>
Elephant	<i>12,000</i>	<i>1,420</i>	308	<i>201</i>	<i>336</i>	<i>778</i>	692	<i>516</i>	<i>904</i>	<b>1,617</b>
Waterbuck	-	<i>5,500</i>	-	<i>539</i>	<i>566</i>	<i>792</i>	-	<i>1,441</i>	<i>6,430</i>	<b>6,648</b>
Warthog	-	-	-	<i>411</i>	<i>856</i>	<i>1,639</i>	-	<i>2,298</i>	<i>1,962</i>	<b>2,508</b>
Hartebeest	-	<i>14,000</i>	-	<i>3,068</i>	<i>2,431</i>	<i>2,903</i>	-	<i>4,101</i>	<i>3,589</i>	<b>6,263</b>

Numbers in italics are from sample counts with standard errors omitted for clarity. Numbers in normal script are from aerial total counts. Sources: <sup>a</sup>UNP (1971), Laws *et al* (1976); <sup>b</sup>Malpas (1978), Douglas-Hamilton *et al* (1980); <sup>c</sup>Olivier (1991); <sup>d</sup>Sommerlatte & Williamson (1995); <sup>e</sup>Lamprey and Michelmore (1996); <sup>f</sup>Lamprey (2000); <sup>g</sup>Rwetsiba *et al* (2002), <sup>h</sup>Rwetsiba *et al* (2005). <sup>i</sup>Rwetsiba *et al* (2010).

Sources: UNP (1971), Douglas-Hamilton *et al* (1980), Olivier (1991), Somerlatte and Williamson (1995), Lamprey and Michelmore (1996), Lamprey (1999). UWA Research and Ecological Monitoring Unit

Elephant: In the early 1970s the elephant population of MFNP peaked at about 14,000 animals. Following intensive poaching by various militias in the late 1970s and early 1980s the population declined drastically to an estimated 1,420 in 1980 (Douglas-Hamilton 1980), and 280 by 1991 (Olivier 1991). In these two counts, over 90% of the elephants were found on the north bank of Victoria Nile, the conclusion being that poaching pressure had been most intense in the southern areas. Counts in 1995 indicated a population of 200-350 for the entire PA (Sommerlatte and Williamson 1995; Lamprey and Michelmore 1996); a small herd of about 80 elephants known to inhabit the Rabongo area in the south was not seen. A survey in 1999 indicated an increase to some 780. In this flight, the Rabongo herd was encountered in the MFNP/Karuma Wildlife Reserve area (Lamprey 1999). The elephant population has since 1999 increased from an estimated 778 to 1617 in 2012. (Rwetsiba et al 2012). The conclusion is that the elephant population of MFPA is increasing, and dispersing further within the PA. However in the recent past, poaching of elephants has been increasing with poaching incidences involving 20 elephants were reported in the 2011. UWA is developing a strategy to curb the vice of poaching in her estate.

Buffalo: The buffalo population, which stood at 30,000 in 1973, was reduced to 15,000 by 1980 and 1,600 by 1991. Since then there appears to be a steady increase in the population to about 7,500 in 2012 (Rwetsiba et al 2012) on both sides of the river.

Hippopotamus: As with the other large species, hippos in MFNP were hunted extensively. The population was reduced from 12,000 in 1973, to some 1200-1500 in 1995. In 1995 virtually all the hippos were found in the stretch between Lake Albert and the Falls. The 1999 estimate indicated a moderate increase in the hippo population to about 1800, (Lamprey 1999) with, encouragingly, a dispersal eastwards along the river *above* the Falls. However, there has been a decline since 2010 from 1792 to 790 in 2012 (Rwetsiba et al 2012)

Giraffe: The Rothschild's Giraffe has only been known to exist on the north side of River Nile and therefore in MFNP. The species has never been numerous. In the pre-1973 period the population was estimated at no more than 200. It is surprising that this species survived the intensive poaching in the 1970s and 1980s. In 1999 the population was estimated at about 300, and is doing well. The population of giraffe has continued to register a steady increase raising the population to 757 in 2012 (Rwetsiba et al 2012). Areas particularly favored by giraffe in MFNP are Buligi, and the *Acacia* woodlands north of the Falls.

Uganda kob: The kob population is increasing, and stood at about 7,500 in the 1999 census. The overall distribution was similar to that of 1995. The population has continued to increase with 36,234 counted in 2012. (Rwetsiba et al 2012) Favored areas are open grasslands in the central parts of the PA both north and south of the Nile.

Hartebeest: The hartebeest population was reduced from 14,000 in 1980 (no population estimate is available before that time) to some 3,000 in 1995. The 1999 survey results indicated no significant change in numbers or distributions. Over the years however, there has been significant population increase raising the population number of hartebeest to 6,263 (Rwetsiba et al 2012). Hartebeest are found in the north-eastern and central areas of the PA, with a few in the plains of Bugungu below the Albert Rift escarpment.

Waterbuck: Hunting reduced Waterbuck from some 5,000 in 1980, to about 800 in 1995. With such low numbers it is difficult to define a trend between 1995 and 1999, but the survey data suggested a slight increase. Over the years the population has grown to an estimated 6,648 in 2012.

There is a trend during the dry season for many of the animals to congregate along the river, and as the rains come, the grazers move up onto the ridges where there is ample space for each male to stake a territory. Most animals congregate along the river to feed and drink water during dry seasons.

According to Rwetsiba and Wanyama (2010), distribution maps for large and medium-sized mammals of MFPA showed a population density of 4-8, 14-62, 16-31 and 6-21 individuals per km<sup>2</sup> for Hartebeest, Uganda kob, Elephant and Waterbucks respectively.



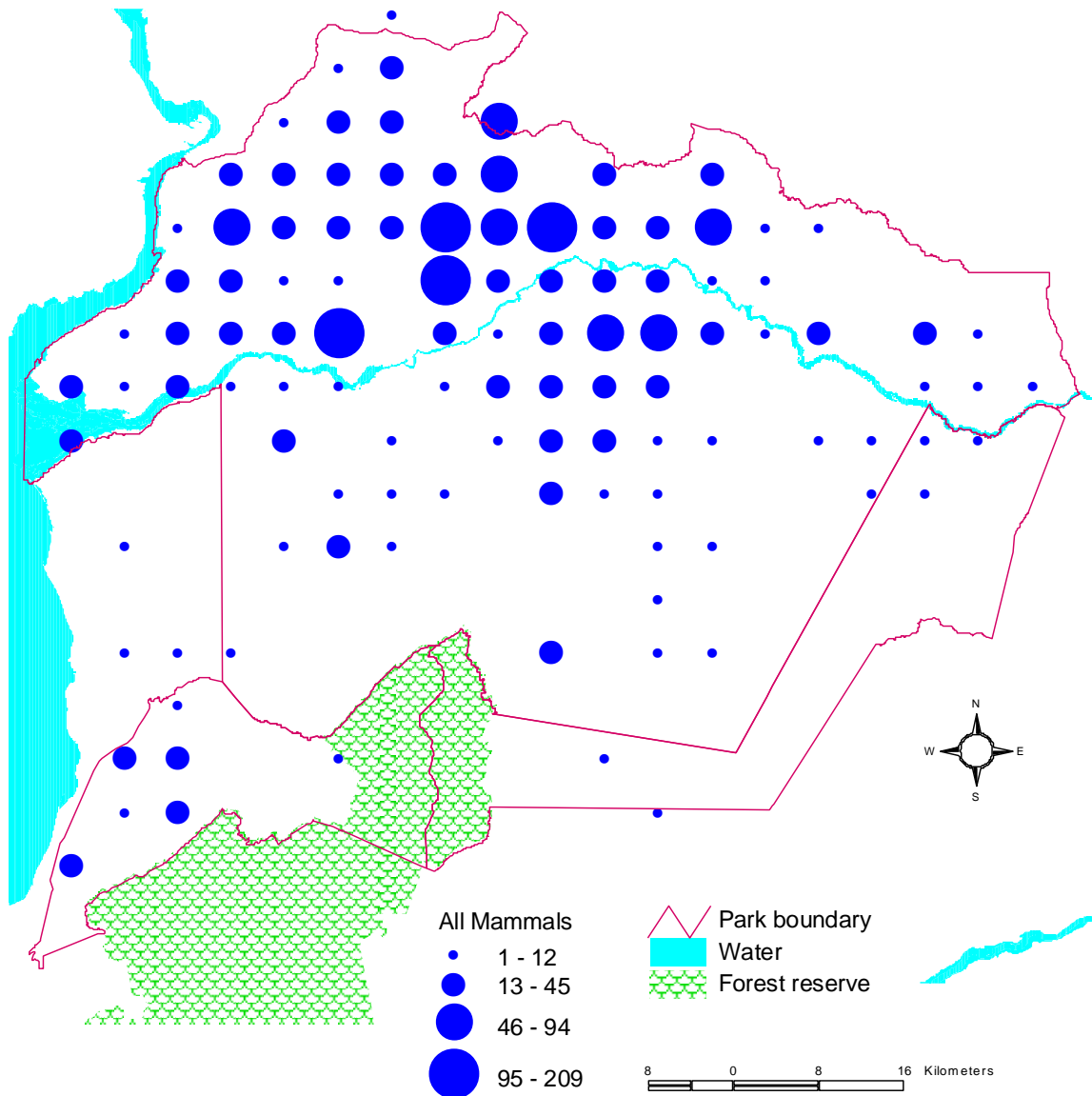


Figure 5: **Map showing abundance and distribution of all mammals in MFPA**

*Source: Wildlife Survey Report 2010, Monitoring and Research Unit*

Table 3: **Crocodile census comparisons**

**Comparing 2009 Census Results with 1996 source: *Ecological monitoring and research Unit***

Section	Adults		Sub adults		Juveniles		Yearlings		Eye shines Only		Total	
	2009	1996	2009	1996	2009	1996	2009	1996	2009	1996	2009	1996
North Bank	329	138	117	47	53	18	150	?	14	35	663	238
South Bank	177	42	82	20	44	17	52	?	4	18	359	101
Delta Area	87	?	55	?	36	?	16	?	5	?	199	?
<b>Total</b>	<b>593</b>	180	<b>254</b>	67	<b>133</b>	35	<b>218</b>		<b>23</b>	53	<b>1,221</b>	339

**Murchison Falls-Albert Delta Wetland system Ramsar site (Ramsar site No. 1640)**

This was designate in 2006. It covers an area of 17,293 hectares stretching from the top of Murchison Falls to the Albert Delta, and lies predominantly within MFNP, although a small area along the southern edge is actually outside the park. The qualifying criteria for the designation of the site are (Byaruhanga and Kigoolo, 2005):

- It supports rare, vulnerable and endangered species.
- It is important for maintaining the biodiversity of the region
- It supports a number of indigenous fish species that are representative of wetland benefits and or values that contribute to the Lake Albert fishery and global biodiversity and
- it is important spawning ground on which fish stocks depend

The Ramsar site is particularly important for water birds, especially the Shoebill, pelicans, darters and herons; it is also designated as an important Bird Area (IBA). It provides feeding and watering refuge for wildlife in the National Park during the dry season, and is also of social and cultural importance to the people living in the area (Wetlands Management Department and Nature Uganda, 2008).

Figure 6: Map showing extent of the Ramsar Site in MFNP

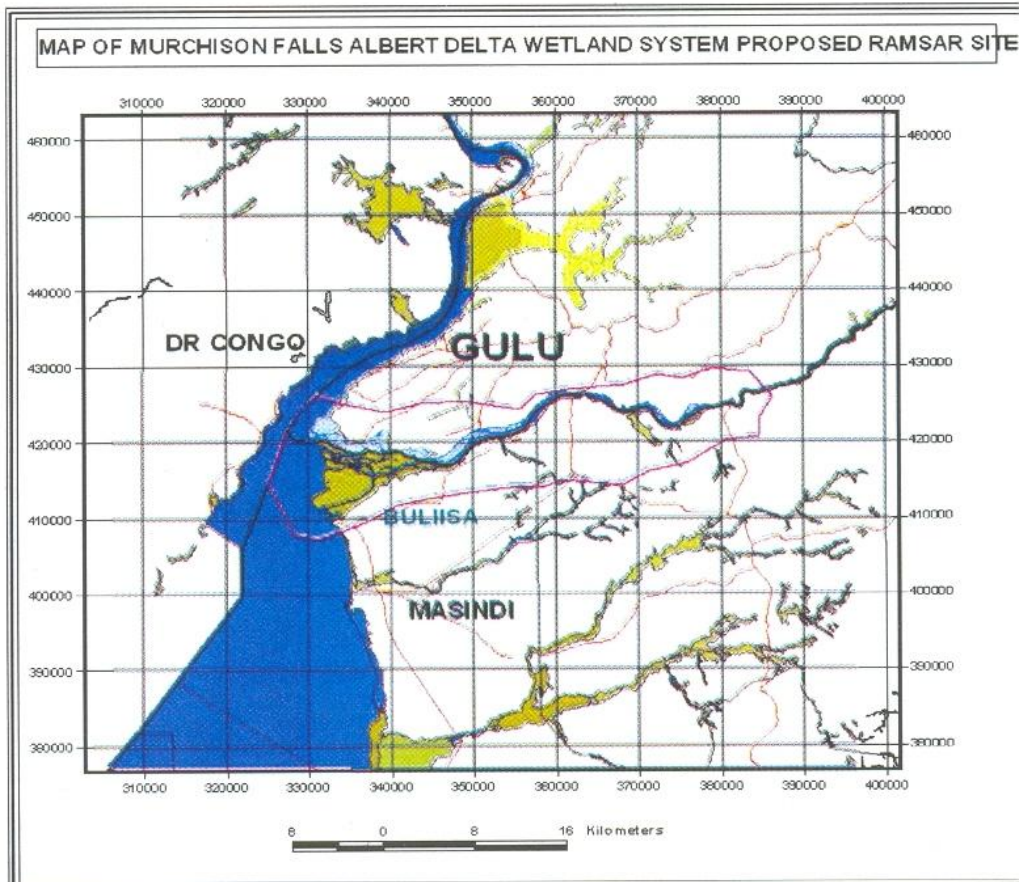


Figure 7: Map of Murchison Falls Albert Delta wetland system proposed Ramsar site

## **2.4 Social and Economic Background**

### **2.4.1 Cultural History**

Most of our knowledge of early man within the Murchison area derives from excavations in the 1960s at Chobe, where erosion revealed early stone tools and hand axes dating back to the middle stone age (10,000 BC and earlier). At that time the banks of the Nile were inhabited by small groups of hunter and gatherers, who possibly fished as well. Up until the first millennium AD, agriculture and domestication of animals remained unknown to the Nile's riverbank dwellers. Later Stone Age tools become more sophisticated, consisting of microlithic scrapers and axes, many of which were manufactured at the Chobe site.

The Iron Age (first and second millennia AD) saw the introduction of iron ware and tools, together with pottery. At Chobe, most of the iron and pottery fragments are quite recent, dating back less than 200 years, when the edges of the Nile within the present-day MFPA were settled by Luo fishing people, who had been forced out of their cradle land in Barl el Gazhel in modern Sudan. Whilst most of them moved out of the area northwards into Acholi and eastwards towards Lake Victoria, others remained until the close of the 19<sup>th</sup> century, fishing and cultivating the Nile riverbanks. Hunting and cattle

keeping were prevailing land uses. During the 19<sup>th</sup> century, the area became a focus for European explorers seeking the source of the Nile, the most notable being Samuel Baker, who first described the Falls in print. To the north, Emin Pasha established and governed his province of Equatoria (south Sudan and northern Uganda) from his fort at Wadelai on the Nile.

An important legend in the area pertains to the split between Luo and Alur communities in the 19<sup>th</sup> century. It is believed that an argument between the sons of the Luo chief Tipul, named Gipir and Labongo, over the loss of a hunting spear escalated into a severe conflict that resulted in the death of Labongo's son. The two brothers separated permanently, Gipir and his relatives moving across the Nile to establish the Alur community in West Nile, Labongo remaining in Acholiland.

The first half of the 20<sup>th</sup> century saw the events described earlier in this Management Plan, leading from the outbreak of sleeping sickness and subsequent evacuation of communities, to the declaration of the Park, and the killing of wildlife during the years of unrest. Today, the Acholi and Langi on the north bank maintain strong hunting traditions and continue to poach in and around the PA.

#### **2.4.2 Ethnography and Demography**

Existing population statistics and projections in all districts of Uganda are derived from the 2002 Population and Housing Census, which, although outdated, provides useful information on population trends and ethnicity.

The area around MFPA south of the river is ethnically diverse with over fifty-six ethnic groups. Dominant are the Banyoro/Bagungu making up 59.9% of Masindi district population, the Alur/Jonam are 15.0%, the Lugbara/Aringa 5.3% and the Baruli 4.5%. In addition there are people from other parts of Uganda and across international boundaries including Rwandese in Kimengo sub-county, Kenyans in Kiryandongo sub-county, Sudanese in Kibanda County and Congolese in many areas especially around Lake Albert. There are also Somalis in Kigumba sub-county (EPED/NEMA, 1997). During the insurgency, influxes of communities from northern Uganda especially Acholi occurred recently. These people have settled mainly in eastern sections of Masindi district, with concentrations around Karuma WR.

The people to the north and west of MFPA are predominantly Luo who are said to have migrated from North Africa along the Nile and reached Uganda by the 16<sup>th</sup> century. They first settled in the present park area on the southern bank and later dispersed north to the present Acholi land, and across the Albert Nile to the west to form the Alur tribe in Nebbi district. Today, the Alur people border the PA in Nebbi, the Acholi are found in the north in Nwoya district and the Langi occupy Oyam district in the east.

### **2.4.3 Land Tenure and Land Use**

In areas around Karuma and Bugungu WR in Masindi and Kiryandongo districts, the majority of households acquired land through inheritance, while a few purchased their land. Agriculture is the dominant form of land use in this area. However, large estates and individual land holdings (MFPA, the Government Ranching Schemes and Kinyara Sugar Works) over the years have created a state of land scarcity for the rapidly growing rural population and issues of land have become contentious. Large disparities in land holdings result from the policies promoted in the 1970s when the so-called “progressive farmers/ranchers” were politically rewarded with land by the government. This situation has created a category of landless people living on other people’s land as squatters (Krassowska 1999).

In the relatively infertile areas below the escarpment in both Buliisa and Nebbi districts (Panyimur and Pakwach), fishing in Lake Albert and the Albert Nile is the main livelihood. Agriculture is marginal on these sandy soils especially with the low rainfall received. In Buliisa, cattle keeping is also important, but the custom of maximizing livestock herds has led to overgrazing and erosion in many places. Here, land tenure remains largely customary, and all members of village communities communally own land. All members of the community have usufruct rights that can be passed on to following generations through inheritance.

The Acholi and Langi people were originally cattle keepers and hunters, but have gradually adopted agriculture as civil strife and Karimojong rustlers decreased their livestock herds. In Acholi, the land is commonly owned under customary land tenure, where the authority to grant land rights is vested in the clan elders or chiefs. The right holds as long as the grantee actually uses the land. Customary tenure also prevails in Oyam district, where the right to use of land is regulated by the local customs and linked to family inheritance and lineage. For the northern region in general, this system features as communal holdings and also as specific holdings for as long as a particular (and recognized) group of individuals use the land.

During the insurgency due to the LRA rebellion, many communities were displaced and congregated into Internally Displaced Camps for their security. However, since the rebellion was defeated in 2006 and peace returning in the northern region, several people have since returned to their former homesteads. Others settled very close to the protected areas, while some tried to encroach into the protected areas but were carefully removed. There is also evidence of increasing individual acquisition of large pieces of land and turning them into commercial farmlands especially in areas near Purongo. Others have sold their land holdings to large scale farmers.

Areas around MFPA, especially on the southern bank have experienced significant immigration over the last decade. Newly settled communities in any area are more likely to engage in extractive activities that primarily depend on natural resources. With such a fluid pattern of human settlement, the most opportunistic form of land use around MFPA, particularly in Masindi district is charcoal burning. Driven by the huge demand for charcoal in urban centers such as Kampala, huge swathes of bush land are being

cleared throughout the district for charcoal. Agricultural production near the PA has taken centre stage in the recent past with large areas are under maize production. Mukwano Industries particularly has opened large tracts of land for sunflower production. Being a relatively flat land, mechanized form of farming has boosted agricultural production in the areas surrounding Karuma Wildlife Reserve.

### 3.0 CONSERVATION VALUES AND PURPOSE OF MFPA

There are several conservation values which are the reason why MFPA should be conserved. These are described in this section and have been considered when determining the overall purpose and management objectives of the PA.

#### 3.1 Conservation values

1. The Delta where the mighty R. Nile flows into Lake Albert, holds an important value due to its significance as; an Important Bird Area, Ramsar site, and breeding area for fish. Over 450 species are recorded, and the Nile and its delta are particularly important as breeding areas for the regionally endemic shoebill and the saddle-bill stork. The PA also supports a host of migrants, both palaeartic and continental. In addition, the River Nile, especially the stretch from the Falls to the Delta, is a critically important, undisturbed, fish-breeding area, on which fishing communities downstream and around Lake Albert depend. (refer to Ramsar site criteria)
2. Protection of spectacular Murchison Falls, one of the remaining exceptional scenic features in Africa. The Murchison Falls are unquestionably the greatest and most dramatic feature in the White Nile's long meander from the Equator to the Mediterranean. The Falls are one of Uganda's most spectacular features. The Victoria Nile's rapids and cataracts leading to the Falls are amongst the longest stretches of white water in the world.
3. Protect and conserve the natural heritage including scenic landscape, geological features, cultural and historical sites. From stone-age settlements along the Nile, to the significance of the forests, Falls and islands in the history and traditions of the Acholi, Alur and Banyoro people of north-western Uganda, the area has an extraordinarily rich cultural heritage.
4. Protection of one of the high biodiversity hotspots in the Albertine Rift (globally significant eco-region) with varied habitats supporting endangered, rare, endemic and threatened species of flora and fauna Forests, savanna, woodlands, wetlands, water bodies, borassus palms,
5. Murchison Falls Protected Area is the main representation of the Sudanian vegetation form (regional centre of endemism) in East Africa, and, given the level of protection afforded by the Park, it has been internationally accorded a high level of conservation priority by the World Conservation Union (IUCN). Sudanian vegetation is characterized by a mosaic of woodlands often dominated by

*Combretum* and *Acacia* species and extends from Senegal to Ethiopia. In addition, it is the only protected area where the tall grass savanna of the Albertine Rift is represented extensively. The Protected Area supports an exceptional diversity of plant communities, equalled in Uganda only by Queen Elizabeth National Park. The remnants of *Terminalia glaucescens/Prosopis africana* woodland association at Pandera on the north bank of the Nile are probably one of the last surviving examples anywhere of this unusual and attractive habitat type.

6. The rich cultural and hisitorical sites that are within and outside the Protected Area are vital for tourism, cultural and spiritual values e.g pearson, Bugungu port, pajao, old stone age sites in Chobe, pakuba hill in Jonam.
7. The Victoria Nile is important as a breeding ground for the Nile crocodiles. MFPA protects the last viable breeding populations of Nile crocodile and Rothschild's giraffe in Uganda. Furthermore, the area harbours Uganda's largest population of Jackson's hartebeest, this species having been drastically reduced or entirely eliminated in the other Ugandan PAs. Other rare species include the soft-shelled turtle and the chimpanzee.
8. Murchison Falls Protected area is a significant reserivior of resources that are of direct and indirect socio-economic benefit to the surrounding communities. Utilised in a sustainable manner, these resources could contribute to improvement of livelihood and poverty eradication.
9. Scientific research and education- MFPA has increasingly become an area important for education and research. Significant numbers of school children, university students, and independent researchers have visited the PA. As the more people become aware of the importance of the PA, it is expected that more Ugandans will visit the PA for education and awareness purposes.

### **3.2 Purpose of MFPA**

The 2001-2011 management plan lists a number of purpose statements that recognize MFPA's importance in terms of tourism, scenic beauty, cultural and natural resource values as well as the exceptional biodiversity.

The planning team therefore developed the purpose of managing Murchison Falls Protected Area for the next 10 years and is stated here below as:

*Protect and conserve MFPA, one of Uganda's biodiversity hotspots with varied ecosystems including the wetland of international importance, scenic landscapes,*



*spectacular Murchison Falls, rich cultural and historical sites for the benefit of the people of Uganda and the global community*

### **3.3 Interpretive themes for MFPA**

There are various stories that help to describe the park to tourists. They are supposed to raise the visitors' interests about the protected area. The following have been proposed as some of the themes that will be developed and packaged to interpret various aspects in the PA.

#### **Park-people culture**

Interpretive themes will be developed on the emergence of chope community, Tebito story about the dispersal point between Gipir and Labongo, leading to the creation of the Acholi people and the Alur, top of falls, a point where the Acholi men and Banyoro men could demonstrate their capability to jump across, to pick women for marriage, Murchison falls a spiritual site, historical peoples on the northern side of the park i.e Palango, Pajok, Pajao The Jonam tribe before the gazettement of MFNP (The neighbouring community to the PA have a belief that the park is their hunting ground, where their fore fathers used to go and acquire food reserves during dry season and other times of scarcity)

#### **Geology and archeology**

Stories will be developed on the Old Stone Age site in Chobe, Oil seeps (Bed rocks) leaking oil used for medicinal purposes; Oil film was seen on the Victoria Nile for hundreds of years (explaining the background for the petroleum exploration today)

#### **Early explorers, missionaries, and treasure hunters**

Interpretation will also be developed around the centre and dispersal point for early explorers and the history of E Africa, early explorers such as Hemingway, Sir Samuel Baker, and Treasure Hunters e.g. Pearson & Hemingway (the fight between the elephants and "muzungu" at the escarpment)

#### **History of park creation vs epidemics and floods**

History of park creation will form another interpretive theme talking about the floods of Lake Albert and the Disease outbreaks

#### **Animal migrations**

In 1952, Elephants were moving from MFPA to Sudan via Kochgoma, Alero, Amuru & Adjuman. In 1970s, they were in MFPA only as a result of Batuju, shooting the stray elephants. In 1986, there was no single elephant coming out as a result of the UPDA/M. In Northern Uganda, in 1996 elephants came out in a very large number as all human beings left their land and went into camp life. In 2006, Human animal conflicts started as government declared people to go back into their original homes.

## **4.0 DESCRIPTION OF ZONES**

### **Rationale for Zoning**

Zoning is a planning tool used to map out protected areas into distinct spatial areas according to their resource values and sensitivity. The zoning seeks to balance conservation, research, tourism, management and sustainable use of resources by neighboring communities. Six zones have been identified to represent different areas within Murchison Falls protected area (fig 6). These are Wilderness, Tourism, Administrative, Special Lion zone, Resource Use zone, Active Management Zone

### **4.1 The Tourism Zone**

This Zone represents areas in Murchison of spectacular scenery and wild game for visitor enjoyment. The Buligi area has been the national parks main tourism hub and will continue to play this role despite the discovery of oil that has happened in this area. The area boasts of large numbers of wildlife aggregations, partly because of the ease with which wildlife is able to access water near the delta region because of the gentle sloping nature of the Albert Nile banks. Tourism use of Murchison Falls Protected Area currently comprises the launch trip to the Falls, the drive to the Falls, game-viewing in the Buligi area, and occasional visits by boat to the Delta for bird-watching. This pattern of use will continue to be actively promoted, with a diversification of visitor experience in the zone, to provide boat trips into the Nile Delta from Delta Point, and walking safaris along Tangi and Nyamusika rivers.

Sport fishing for those who obtain a permit from MFPA or UWA headquarters may take place below the Falls, whilst the start of the concession fishing stretch is eastwards from a point 3 km above the Falls. Similar sport fishing concessions will be issued near Chobe.

The recently opened Te- bito tourism track will add value to the completion of the 360 degree “Murchison Falls” experience. Other tourism activities within the North bank tourism zone will include new products of the hot air ballooning.

Limited tourism activities are planned in Rabongo Forest and therefore part of the tourism zone.

Within the Chobe sector, the tourism zone will cover the area near Chobe Lodge and will extend eastward to capture the Karuma Falls experience. The Bugungu Escarpment and Waisoke Falls are part of the tourism zone in Bugungu Wildlife Reserve that will offer alternative visitor experiences to the main tourism herb, the national park.

The Heart of Murchison including Ayago areas spectacular for high numbers of wildlife, beautiful scenery and forest birds along the Ayago riverine forest, will be part of the tourism zone.



of international importance) in 2006. The wetland is home to the endangered shoe-billed stork and remains one of the few sites for this species in the country. This part of the ecologically sensitive zone in addition to being an IBA supports the last surviving viable populations of the Nile crocodile. This section of the Nile is also a fish breeding zone that supports the sustained fisheries activities downstream into Lake Albert.

The Critical Ecosystem Zone extends eastwards to cover a large section of the Victoria Nile within the national park up to 100meters before the Para ferry crossing.

Further south on the southern bank of River Nile, the wetland of River Waiga flood plain plays an important function of regulating water flow, retaining silt and debris as well as facilitating ground water discharge. These wetlands are important for biodiversity conservation. The huge low lying emergent flood plain wetland ecosystem of River Waiga and River Waisoke combines with the contiguous shallow water in shore zone of Lake Albert to provide one of the most extensive and highly productive fisheries along the Lake. Human use would lead to rapid degradation of this ecosystem, breaking down the ecological functions. This ecosystem forms part of the Critical Ecosystem Zone.

#### **4.3 Wilderness Zone**

The Wilderness Zone will be a representative of the natural area of Murchison Protected Area comprising dense bush land and thicket with low wildlife numbers. This zone will be subjected to minimal disturbance where infrastructure will be limited to access tracks for patrols. No resource extraction will be allowed in this zone. Routine patrols on foot shall be permitted.

Boundaries of the Wilderness Zone are soft-edge, reflecting suitability-of-use, rather than strict regulation of activities. The designation of this zone may allow for tourism activities suggested by operators, provided these are subject to normal EIA procedures and conform to the general principle that the environment is not damaged. The zone will extend south wards to cover the park section south of the Nile but outside the designed tourism zone around the Rabongo, "Heart of Murchison" and the Falls area. Most of Karuma and Bugungu wildlife reserves will be part of this zone

#### **4.4 Administrative Zone**

This zone defines the administrative infrastructure and contains the developed areas of the PA where resources are allocated primarily for PA operations and visitor accommodation. Although the environment in this zone is kept as natural as possible, certain concentrations of management facilities are accepted, as prescribed by the Management Plan. The zone includes the areas of Paraa South Bank and Paraa North Bank proposed to be the northern sector head quarter to oversee law enforcement

operations in the Buligi area and supervising a chain of out posts in the vicinity including the Simanya Marine post, Pakuba, Got Apwoyo, Tangi and Apala B.

Other administrative infrastructure under this zone will include the Waisoke sector headquarter in Bugungu wildlife reserve and overseeing Tangala and Bugana outposts. Karuma sector headquarters will supervise all the outposts in Karuma namely Nyamahasa, Kiroko, Kichumbanyobo but in addition responsible for Chobe out post near Chobe Lodge.

Mubako administrative headquarter for the entire conservation area will in addition to the various sectors directly oversee Rabongo, Wairingo, Bugungu gate and Top of the Falls outposts.

#### **4.5 Resource Use zone**

Under guidelines agreed upon between the local community and UWA, local communities will be permitted to access resources within PAs on a sustainable basis. This Management Plan makes provision for firewood and collection of grass in specified parts of Murchison Falls National Park in the area north east of Tangi gate, in areas near Tangala outpost and Waisoke in Bugungu Wildlife Reserve and the stretch along the Kampala-Gulu highway near Nyamahasa in Karuma Wildlife Reserves (see Zoning Map for location). No collection of poles will be allowed. Communities are encouraged to develop alternatives outside the PA so that in the long run these zones are abolished.

Resource use in this zone will only take place after an assessment has been completed to determine the availability of the resources within the target area, the amount of off-take that is sustainable, and the ability of the PA management and the community to effectively control resource use. A Memorandum of Understanding (MoU) between the community and PA management specifying how the monitoring is done, depending on the type of resource will be the basis of this access.

#### **4.6 Dual Management Zone**

This Zone represents the area under management by UWA and the National Forest Authority (NFA). The area comprises of the eastern section of Bugungu Wildlife reserve, the western most section of Karuma Wildlife Reserve separated by the Masindi-Para Road and the overlapping Kaniyo-Pabidi sector of Budongo Forest Reserve. This area of overlap is therefore under both mandates of UWA and NFA. This dual management area covers an area of 268km<sup>2</sup>. Therefore, the management of this area with two different juridical powers requires the two institutions to agree, probably through a memorandum of understanding (MoU) on the best management practices so as to avoid conflicts over mandates.

#### **4.7 Active Management/Recovery Zone**

This zone represents portions of the MFPA ecosystem that have been adversely impacted in some way especially by the various developments. This zone is under threat by oil developments that are currently taking place in Block 1 that covers the eastern section of the national park including areas of Buligi on the north bank and areas south bank across the Nile delta. Developments such as oil exploration and development will need to take cognizance of the fact that the projects are within the ecologically sensitive zone and take all precautionary measures and strict compliance to the EIA mitigation measures stipulated within the EIAs, Environmental management plans, EIA certificate approval conditions, restoration plans and any other plans aimed at mitigating the negative impacts of such developments.

Other developments that will have considerable negative impacts are the planned hydropower developments along the Nile River. Over the 10 year plan it is anticipated that the Ayago hydropower project will either still be under way or completed and generating power.

The **oil and gas and hydropower development** activities have not been zoned specifically for those particular activities. However since it is known that the activities are happening, this plan takes cognizance of that fact and has highlighted a number of management actions to address the likely negative impacts associated with the developments. The area where oil activities are taking place will be particularly targeted for restoration and recovery.

## 5.0 RESOURCE CONSERVATION PROGRAM

### Program Objective: Maintain a healthy ecosystem

#### Introduction

The Resource Conservation program highlights the different management challenges that affect the integrity of the protected area. The key threats which include poaching, illegal grazing, encroachment, wild fires and others are highlighted under this section. The developments that are currently taking place, including petroleum exploration and development, mining and hydropower development will have significant negative impacts on the ecosystem. A number of measures have been proposed to ensure that the integrity of the PA is maintained and the wildlife populations are increased.

#### Specific objectives

1. To maintain the integrity of the PA by end of the plan period
2. To ensure that all activities related to petroleum, hydropower and tourism developments do not adversely harm the integrity of the PA
3. To reduce adverse effects of fires, exotics and invasive species, vegetation changes on ecosystem health
4. To ensure the conservation of wildlife outside protected area
5. To contain and manage wildlife diseases

### 5.1 Illegal activities

**Specific objective:** To maintain the integrity of the PA

#### Issues and rationale:

##### Poaching:

In the past, there has been increased in demands for wildlife and its products especially meat by the community. There is local demand for meat in the urban centers like Gulu, Nebbi, and Arua along the highway for buyers travelling to and from Kampala. The animals targeted for meat are; buffalos, hippos, heartebeest, Uganda kobs and other small antelops. These demands have transformed poaching from subsistence form of hunting to modern hunting with use of guns where a number of animals are killed.

In the past two years, the Park has experienced elephant poaching for ivory as a result of lucrative markets outside the country. It is believed that the recent opening up by CITES for the southern African range states to trade in ivory is responsible for this upsurge in elephant poaching. Within these two years alone, the park has lost about 20 elephants.

In the absence of the fisheries regulatory and enforcement staff, fishermen are often found fishing right on to the riverbank. This has led to increased poaching as fishermen



disguise themselves as laying their nets yet covering their colleagues who have gone to lay traps as well as checking old traps within the park.

Wheel traps are one of the poaching tools commonly used in the north western part of the PA (Acholi and Longo area).

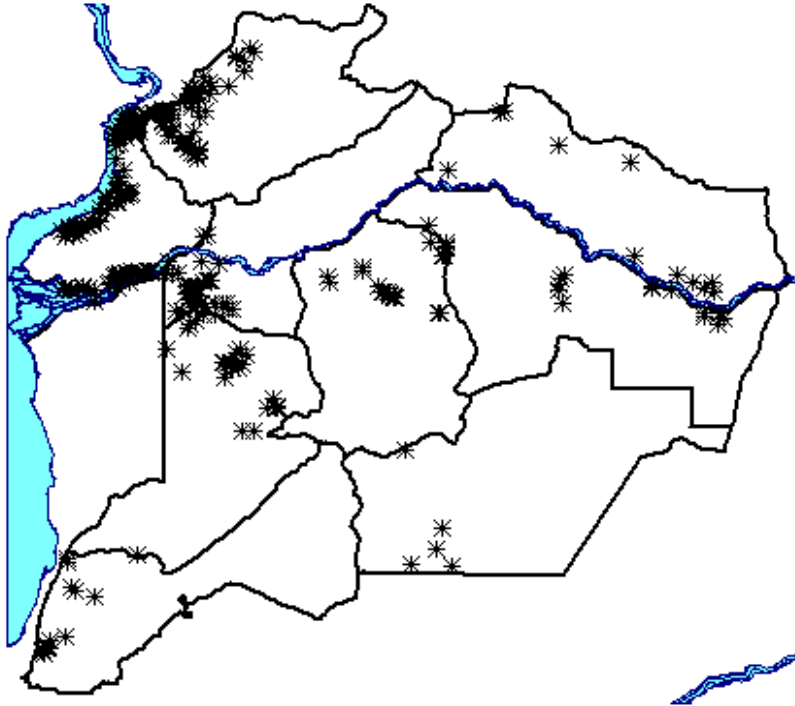


Figure 9: **A wheel trap used in poaching**



Figure 10: Map showing the distribution of illegal activities over the last three years

**Illegal activity signs/wiresnares in three years (2010-2012)**



**Overfishing:**

Increase in market demand for fish has led to depletion of fish in the open water hence fishermen go further inside the park waters illegally and where fishing is prohibited, to increase their catch. In an attempt to catch more fish, wrong fishing gears are used further depleting fish stock making river Nile section in the park the best alternative. Over fishing is also evident as fishermen invade the breeding grounds along the lake shores often resulting in conflicts as their boats are destroyed by hippos and sometimes loss of human life in these areas.

**Cattle grazing:**

In the southwestern section of the park, there are frequent illegal cattle grazing by the indigenous Bagungu and immigrant pastoral communities commonly referred to as Bararo. Cattle grazing in the last five years have led to marked degradation in some areas of Bugungu Wildlife Reserve.

**Deforestation and Charcoal Burning:**

These illegal activities are more pronounced on southern the section of the Park. Deforestation is seen mainly in Budongo forest and northern section of Karuma Wildlife Reserve for timber supply and its products. Tobacco farming in the south section of the park also increases demand for fuel wood to cure tobacco. Charcoal burning is more noticed in Nyakarongo, Kituka, Nyamahasa, Acimi and Adebuk. The increased demand

for charcoal and lack of alternative source of energy is causing more forest degradation within and the adjoining areas of the Park.

### **Unclear and unmarked boundary sections**

The park under the Protected Areas Management and Sustainable Use (PAMSU) project undertook the boundary marking exercise. Concrete boundary markers were placed in the different sections of the park and adjoining Karuma and Bugungu wildlife reserves. Buoys were placed on the water along the park boundary defined by water around the delta area. However there are some sections of the boundary that were not marked due to unresolved conflicts with local communities. These areas include Wanseko, Agung, Adibuk, Pinoyago, Kichumbanyobo and Ogelo. Buoys that had been placed along the delta boundary section were destroyed by fishermen.

Although most of the southern section of Karuma reserve boundary is marked, there are pressures for encroachment in Kibyama area, Diika, Kituka, Kigaragara, Kaborogota.

### **Land claims**

There has been a long standing claim of land inside Karuma wildlife reserve by one Stanely Bonanibo at Nyakarongo. Although land ownership papers regarding this claim indicate that the kingdom of Bunyoro had given him this land in 1929, the papers do not define the extent/area covered by this claim. As a result it has been difficult to assess the correct compensation package. There are indications that park management attempted to compensate the claimant but failed as a result of inflated values.

Encroachment has been recorded at Ogelo with six families living inside the national park. At Kinchumbanyobo gate, one family is resident inside the national park as a result of erroneously shifting the boundary line.

With increasing human population around the protected areas coupled with poor traditional farming methods, there is increasing land shortage to sustain the agricultural practices. This has in turn increased pressure for encroachment and acquiring land from the protected area. The table below illustrates the increasing population trends for the districts around Murchison Falls National Park.

### **Census Population (1991 and 2002) by District and Projected (2011 and 2012) Mid-Year Population**

	<b>1991</b>	<b>2002</b>	<b>2011</b>	<b>2012</b>
Nebbi	185,551	266,312	337,400	346,200
Nwoya	37,947	41,010	52,600	54,000
Oyam	177,053	268,415	366,200	378,900
Kiryandongo	83,405	187,707	301,000	317,500
Masindi	129,682	208,420	334,200	352,400
Buliisa	47,709	63,363	78,900	80,800

On the northern section of the park, specifically in areas of Latoro, Gotafoyo and Kololo, there has been notable change in land use from the traditional subsistence farming to large scale commercial farming, with more poor people having small acreage or completely landless.

### **Blockage of wildlife migratory routes**

The Kilak and East Madi areas encompass the Albert Nile and its wetlands and gallery forests, the eastern Albert escarpment, and the Zoka Forest and its adjacent *Combretum* woodlands. This vast expanse of grassland and woodland north of Murchison Falls NP was once an important wet season dispersal area for elephants (and other game) of MFNP. In the 1950s this East Madi area was declared as the Acholi and East Madi Elephant Sanctuary to give protection to elephants and other wildlife species moving northwards from Murchison Falls NP to the Zoka Forest. Buffalo, Kob and hartebeest were particularly common, and black rhino and giraffe often encountered.

In 1961 a length of the Aswa (Achwa) river to the north of MFNP, totaling some 44 sq.miles, was gazetted as Aswa-Lolim Game Reserve in 1961. Together with the large Kilak and East Madi CHAs, the GD reported "this thousand square mile stretch of grassland and forest includes some of the finest game country remaining in Uganda [with an estimated] 6,900 elephant and 8,300 buffalo". However, poaching in this area by the Acholi was intense, and by 1962 the GD reported that many species in the savannah areas along the eastern bank of the Albert Nile were nearing extinction.

Aswa-Lolim GR and Kilak CHA were degazetted in 1972 to make way for private ranches. As with Murchison Fall NP, intense poaching by army militias had a devastating impact on wildlife of the area over the late 1970s and 80s. With the start of rebel activities in the late 1980s, all land holdings were abandoned, and much of the area has reverted to bushland and grassland. The area remains a hunting ground for rebels and Acholi hunters, and elephant and buffalo have been virtually exterminated. In numerous over flights conducted from 1996-1999, these species have not been observed. However, in areas adjacent to the Albert Nile, there is some evidence that some elephants of MFNP still migrate northwards to the Zoka Forest.

Current developments in the oil and gas sector have contributed significantly to the blockage of migratory routes especially elephants moving north wards out of the park. A number pf oil related infrastructure have been developed including service camps and waste handling facilities in areas of Purongo sub county, along the Karuma-Pakwach Road .

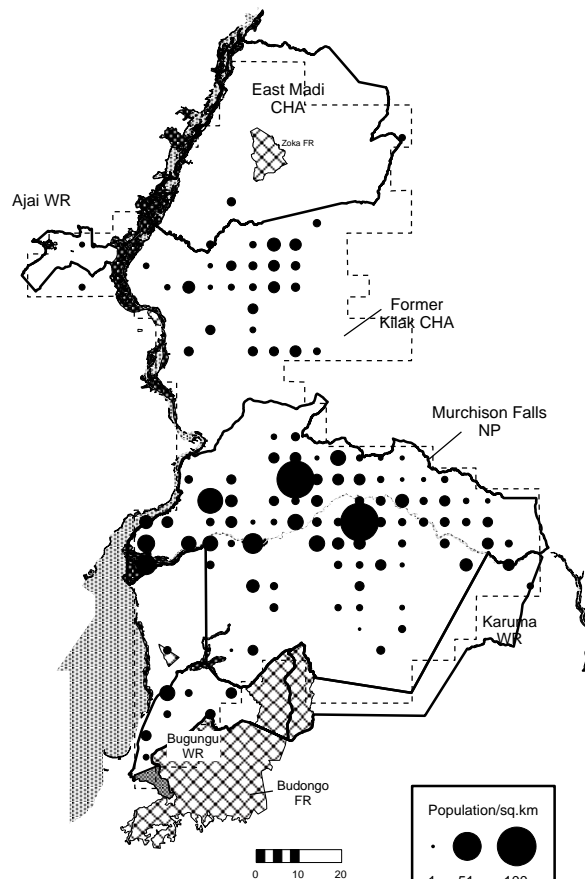
Despite the intensive poaching that continues to this day, core areas of this vast grassland still support populations of Uganda kob, waterbuck and hartebeest (see Table 1 and fig. 1). With adequate protection, wildlife populations will recover, and can be supplemented by influxes from the adjacent Murchison Falls NP. The habitats remain virtually intact with the vegetation primarily comprising of dry *Hyparrhenia* grass savannas, and moist *Combretum* savannas, with *Borassus* palms along watercourses. There are extensive areas of *Acacia* and *Combretum* along the Albert Nile.

**Population estimates for former Kilak CHA and Aswa-Lolim Game Reserve areas, and East Madi CHA, from the 1995 SRF**

	Estimate
Uganda kob	1,661
Waterbuck	31
Hartebeest	141
Bushbuck	141
Reedbuck	251
Duiker	16
Warthog	282
Huts	4,232
Kraals	31
Cattle	1,802
Sheep/goats	360

**Figure 11: Wildlife distribution in the former Kilak CHA corridor**

(source: *Wildlife Protected Areas System Plan, 2002 Vol. 4*)



Under the Wildlife Protected Area System Plan, this extraordinarily scenic area was proposed for upgrading to wildlife reserve status by creating East Madi Wildlife reserve out of the former East Madi CHA and a 10 km wide wildlife corridor (to the east of the Nile) linking Murchison Falls National Park and East Madi Wildlife Reserve. East Madi Wildlife Reserve was successfully created with full support of Adjumani District. However Gulu District did not support the creation of a corridor that had been proposed. Elephants that try to find their original movement routes northwards end up in crop lands since the migratory corridors are blocked by human settlement and cultivation.

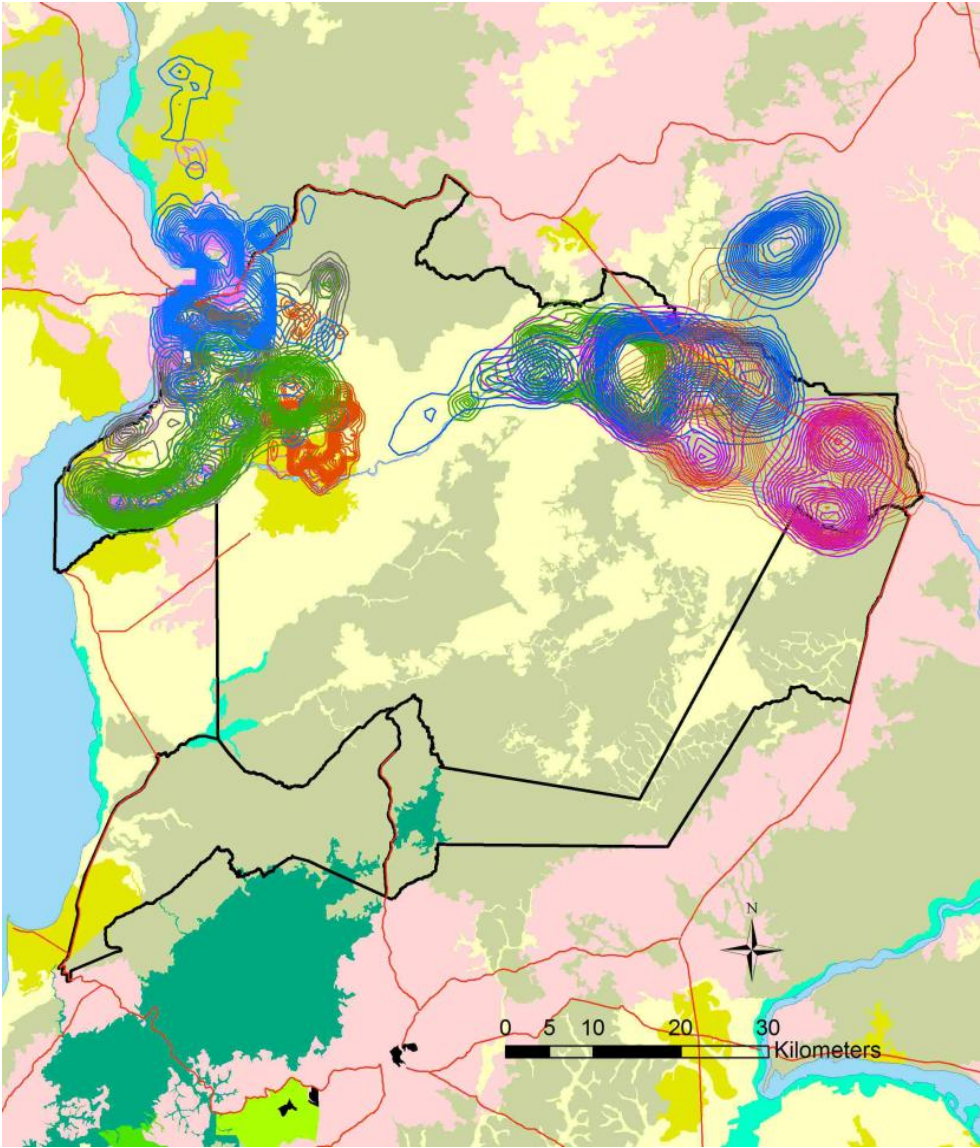


Figure 12: ***Areas prone to elephant raids from MFPA (source: WCS 2011)***

Currently wildlife from Bugungu wildlife reserve move through farm land to access water from Lake Albert. This puts them at risk of being poached.

The area between Waiga and Waisoke rivers and bounded by Bugungu Wildlife reserve to the east and Lake Albert on the West, used to be the Bukumi-Bugungu Controlled Hunting Area established in 1963 but later abolished in 1969. This area was formerly renowned for its populations of Uganda kob and buffaloes. Despite intensive poaching, both species still remain. Other large mammal species include waterbuck, warthog and baboon. No bird species list for this area has been compiled, but it can be assumed that the avifauna is similar to that of Murchison Falls NP.

The area is still virgin and viable as a wildlife habitat and would provide a corridor for wildlife from the reserve to access water from Lake Albert. However there is evidence of agricultural practices along the Buliisa-Biso road that forms the western boundary of Bugungu Wildlife Reserve. These opened up areas for agriculture block the migratory routes for wildlife from the reserve trying to access water from Lake Albert.

**Management actions:**

In order to reduce poaching, Park management will intensify patrols to cover the different parts of the Park. Management will construct new outpost strategically throughout the Park and increase the number of manpower to dominate the entire park. Regular law enforcement aerial surveillance will be conducted to reinforce the ground patrols.

Park management will work with relevant security agencies mainly UPDF, Internal Security, Police and RDC's office to stem out armed poaching in the Park.

Over the plan period, the park will intensify intelligence gathering within the local communities and other key market hot spots to cut off markets for wild meat and ivory. Management will establish a functional intelligence unit separate from the main stream law enforcement unit for undercover operations and re-enforce the law enforcement operations.

Park management will resolve all outstanding boundary conflicts and complete demarcation of the unmarked sections of the boundary. All encroachers within the park and reserves especially in Agung and Ogello will be evicted.

All genuine land claims will be compensated and claimants relocated outside the protected area.

A memorandum of understanding will be developed with Buliisa local administration to allow the Wanseko community to access the waters within the park for landing of their boats and the ferry enroute to Lake Albert. Park management will work closely with the fisheries officers of the different districts to control overfishing around the park.

In light of the evident change in land use to commercial farming, management will work with the relevant local government authorities to plan alternative land uses for the community surrounding the large farms.

### Summary Action table

Activity	Responsible person	Other	Time	Cost
Conduct regular patrols	WLE	CAM	Every year	2.6bn
Conduct regular aerial surveillance	WLE	CAM/Pilot/ WRM	Every year	0 (headquarter budget)
Work with other security agencies to address armed poaching	WLE	CAM	Every year	78m
Establish functional intelligence unit	CAM	WLE/HRM	Year 1	11m
Gather intelligence information			Every year	130m
Evict encroachers from the PA (Agung, Ogello)	WLE	CAM	Year 1	20m
Work with fisheries to control overfishing	CAM	WLE/DFO	Every year	50m
Resolve the boundary conflicts	CAM	WLE/DCC	Year 1	30m
Complete the unmarked boundary (Agung, Ogello, Wankwar, Pinoyago - 25km)	CAM	WLE	Year 1	50m
Compensate the genuine land claims (Nyakarongo)	CAM	ED/DC	Year 1	200m
Work with LG to harmonize the land uses around the PA	CAM	WCC/DEC	Every year	25m
Work with LG to enter into MoU for boundary conflict at Wanseko	CAM	WCC/DCC	Year 2	5m

## **5.2 Petroleum developments inside the protected area**

**Objective: To contain the negative impacts of petroleum developments in MFPA.**

### **Issues and rationale:**

There are several economic development projects in and around the park that impact negatively on the PA ecosystem. These developments include: Hydropower development in Karuma and Ayago, petroleum exploration currently taking place in the spectacular tourism area of Buligi on the north bank of River Nile and in Bugungu wildlife reserve in the south western part of the Park and various tourism accommodation facilities in and around the PA. Although these developments are good for national economic development there are associated negative environmental impacts on the protected area.

### **Petroleum exploration**

Petroleum exploration in Uganda has been ongoing since 2000 within the Albertine Graben. The oil graben overlaps with several wildlife protected areas including Ajai, East Madi, Murchison Falls National Park, Bugungu WR, Kabwoya WR, Toro Semuliki WR, Semuliki NP, Kibale NP and Queen Elizabeth National Park. Exploratory activities so far conducted have revealed existence of oil reserves in economically viable quantities. The graben is divided into different blocks.

Murchison Falls National Park falls partly in Exploration Area Block 1 on the Northern Bank and exploration area Block 2 on the southern bank of River Nile. Bugungu wildlife reserve falls partly within Exploration Area Block 2.



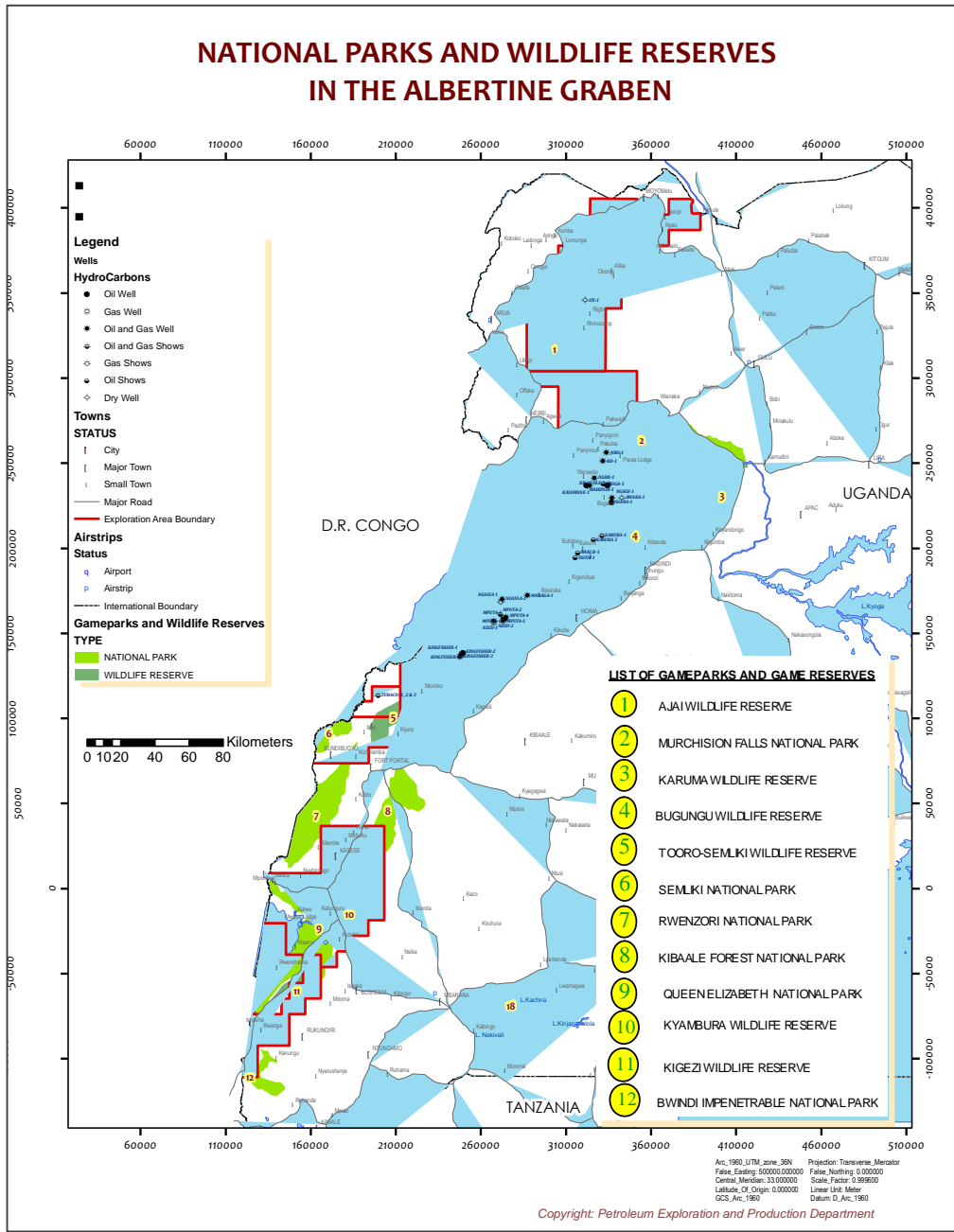


Figure 13: Map showing overlap between wildlife protected areas and the petroleum exploration blocks.

**Status of oil exploration in MFPA**

Seismic studies that were conducted in 2007 in MFPA revealed a possibility of presence of hydrocarbons within Buligi tourism sector. As a result, two prospective exploration drill sites were identified and drilled at Buffalo 1 and Giraffe 1 (now Jobi 1 and Rii 1) with

oil findings described as “a world class oil province”. Five appraisal wells to determine the extent of the field were drilled and these include: Jobi East1, Jobi East 2, Jobi East 3, Jobi 2, and Jobi East 5. More appraisal wells on the Jobi-Rii field have been drilled and include Jobi 3, 4 and 5. More discovery wells have been drilled on the Raa, Lyec and Til structures.

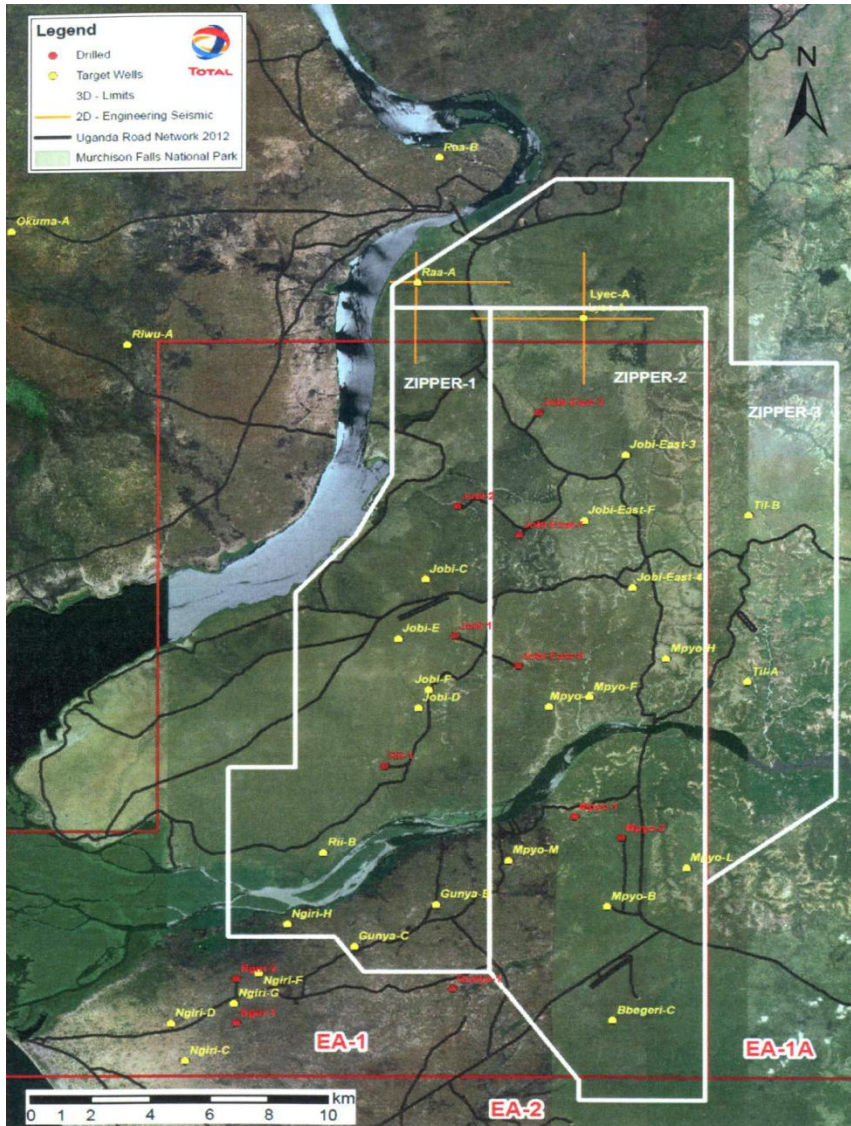


Figure 14: **Extent of oil operations in MFNP (Block 1 and 1A) as at May 2012**

On the south bank within Murchison Falls PA in Block 2, a number of both exploratory and appraisal wells have been drilled at Awaka, Mpyo 1, 2 & 3, Bigeri, Ngege 1,2,3,4,5,6 and 7 have been drilled.

In Bugungu Wildlife reserve, Karuka 1 and 2 well sites have been drilled and Lanya drill pad was prepared but not drilled. All the drill sites in Bugungu wildlife reserve are being plugged and abandoned.

Some of the drilled wells that will not be used during production have been restored while plans are underway to restore the remaining ones.

### **Negative impacts associated with petroleum development in MFPA.**

Although petroleum resources have a great potential to cause national development and improve community livelihoods, the exploration and production activities have several associated negative impacts especially when located within sensitive ecosystems. These impacts include but not limited to: land take due to establishment of drill sites, camps, seismic surveys, drilling and road networks; habitat/niche destruction; increased human and vehicular traffic; noise from heavy machinery; alteration in animal behavior, distribution, and ranging. In addition, oil activities could result into pollution due to hazardous wastes causing deterioration in the environmental quality.

The drill wastes (mud cuttings and drill waste water) have been tested and found to contain heavy metals namely Cadmium, Nickel, Lead and Mercury in quantities that are above the standard permissible levels. Recently at one of the drill pads, a lion was found dead at a drill pad Jobi-East1. When tests were carried out it was found that the contents of the dead lion and sampled waters from the water pool had a poisonous hydro carbon known as phenol. Phenol is associated with petroleum industries like refineries. The conclusion was that the death of the lion at the drill pad was due to the contamination of the drill pad by the oil activities.

Given the risks associated with these drill wastes, UWA has required that all drill wastes be removed from the protected area within a month of completion of the drilling activities and the drill pads restored immediately.

Oil and gas exploration activities have imposed a big strain on manpower requirements for the protected area. During oil activities, oil companies request for rangers to provide security for the company workers against dangerous wildlife. For the planned 3-D seismic survey in Murchison Falls National Park, Total Oil Company has placed a request for 100 rangers to be part of the exercise to ensure the survey teams are safe from dangerous animals.

Murchison Falls Conservation Area offers a refugium to a diversity of wild fauna and flora which are listed in the IUCN and CITES red list of threatened and endangered species. The activities of oil exploration are likely to have negative impacts on the integrity of Murchison Falls Conservation Area as a refugium, the biodiversity, environment, water catchment protection and ecosystem services.

### **Efforts to manage the negative impacts in MFPA.**

UWA has made efforts to manage the impacts of oil in her protected areas where exploration and development are being undertaken. UWA is a participating agency

under the Oil for Development (OfD) Program that aims at Strengthening the management of oil resources in Uganda”, a program funded by the Norwegian Government. Murchison Falls PA has benefited from the program directly through the preparation of this General Management Plan, aimed at addressing challenges of petroleum development within the PA. Other interventions supported by the program include development of the sensitivity atlas for the PA that is currently on-going, carrying out baseline studies on the PA ecosystems as a basis for the planned long-term ecosystem monitoring to establish likely long-term impacts resulting from petroleum activities.

In addition UWA has designated a specific officer (Warden in charge oil monitoring) in Murchison Falls National Park, to handle issues of oil on a day to day basis. UWA has in addition recruited rangers who will be dedicated to monitoring petroleum activities within the PA under the supervision of the oil warden.

At national level, the Planning & EIA Unit plays backstopping role to the field teams by undertaking routine field inspections and monitoring. Resulting from the field inspections, there has been notable improvements in compliance by the oil companies to the stipulated mitigation measures but also implementing general good practices that minimize impacts on the PA.

UWA received support from USAID through Wildlife Conservation Society (WCS) to support biodiversity monitoring activities in Murchison Falls National Park. This support has been used in conducting monitoring studies on the movement patterns of wildlife within the oil areas of Buligi. In addition a vehicle dedicated for oil monitoring was purchased under this financial support.

### **Future plans for petroleum development in the PA**

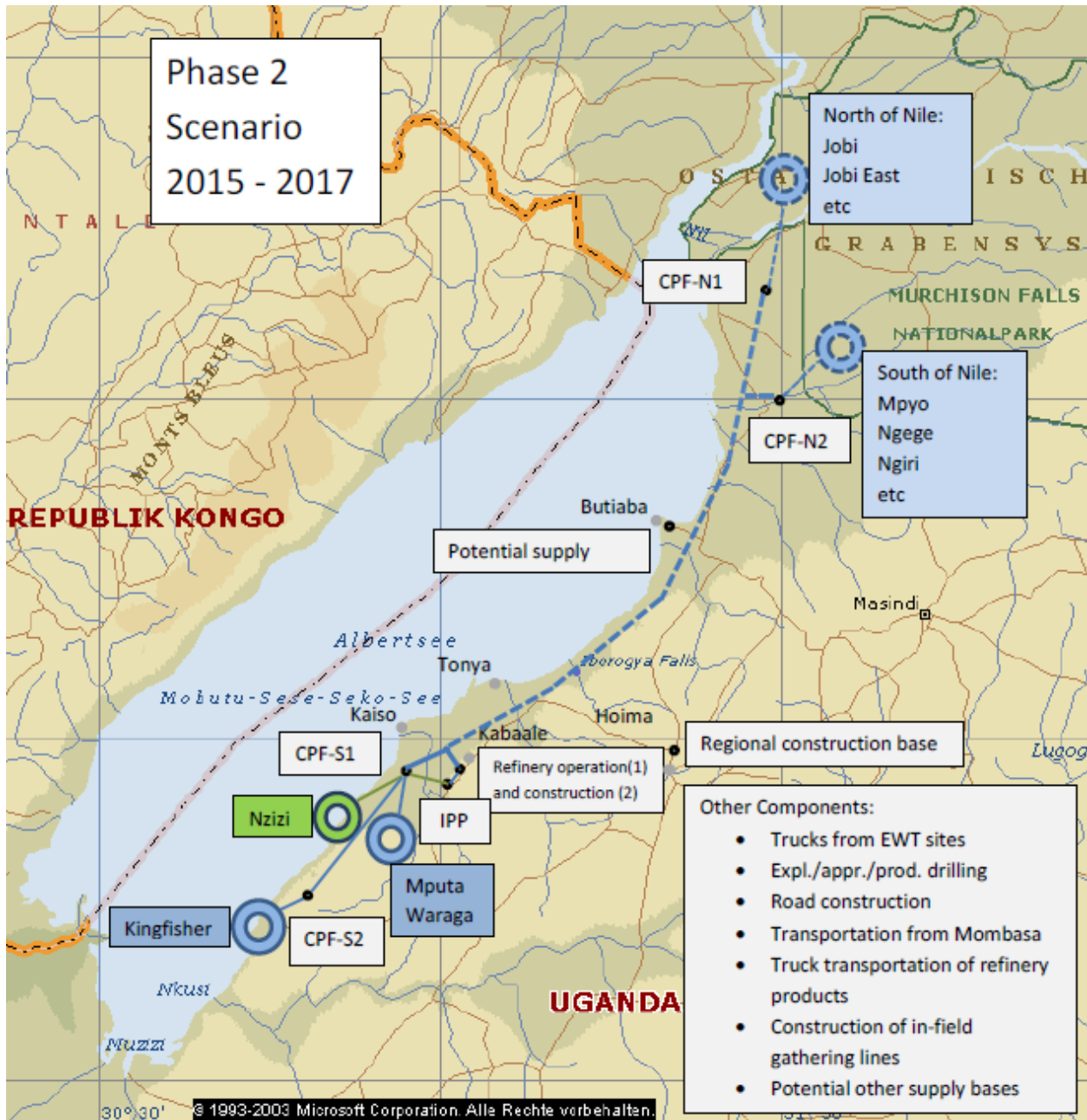
More wells, both appraisal and discovery, are planned. Also in plan for this area is the 3-D seismic survey that will take 11 months.

The country has so far analyzed the oil finds and plans are under way to start production from the different fields. During production different infrastructure will be put in place including Central Processing Facilities (CPFs), pipelines, Refinery, Integrated Power Plant (IPP) etc. More wells will be drilled including production wells and injection wells. The entire infrastructure above will result into more land take which will impact on biodiversity especially those that will be located in the PA.

It has been proposed that a pipeline will be constructed to transport crude from the north to south of River Nile and then to the one leading to the refinery in Kabaale in Hoima District. CPFs that separate crude, water and gas will be located outside the park, as proposed in the Draft Strategic Environment Assessment report 2013.

Figure 15: **Map showing the proposed pipeline from the PA to the refinery and location of the CPFs**

(source: *Strategic Environment Assessment for Albertine Oil Graben, 2013*)





## **Management actions**

Murchison Falls Protected Area will establish functional petroleum field monitoring units (Staff, equipment and staff accommodation and office facilities) to enforce environmental compliance for the ongoing and future petroleum exploration and development activities. One unit will be in Murchison Falls National Park while the second one will be established within Bugungu Wildlife Reserve.

In order to improve competence in monitoring environmental compliance in relation to oil and gas exploration, MFNP will conduct training of all the recruited personnel and from time to time do refresher training and exchange visits for its staff. Other areas for training will include data collection and analysis of information related to petroleum.

To protect staff from occupational hazards, management will procure all the relevant protective gears regularly. In addition management will equip the staff involved in monitoring oil activities with equipment like cameras, GPS and computers for data capture and analysis.

In order to check ecosystems quality, management will establish basic laboratory facilities in Murchison Falls National Park for analysis of water, plants, soil and other relevant biological samples which can be indicators of petroleum products pollution. For advanced analysis, management will collaborate with other laboratories that have the capacity to do the analysis.

The Albertine Graben sensitivity Atlas that was developed gives information on a wider area and leaves out the details. Information on sensitive areas such as breeding areas, migratory routes, watering points is not highlighted or referred to in the atlas. These areas need to be identified so that care may be taken to avoid any impact.

Ecologically sensitive areas need to be identified and mapped so that petroleum activities take cognizance of the importance of such areas and the activities carefully planned and executed to avoid such sensitive areas. The Park will undertake reconnaissance studies to identify and map ecologically sensitive areas. These will include breeding areas especially for the Uganda Kob (kobleks) because of territorial behavior in breeding exhibited by the Uganda Kob. Other sensitive areas will include migration routes for key species (elephants and buffalos), watering points, salt leaks etc

A sensitivity atlas for Murchison Falls National Park will be developed to guide further development activities in the Park and this atlas will also be used to lobby for development of environmentally friendly methods in resource conservation. Therefore, MFNP Management will conduct baseline studies of various parameters to form a basis for both regular and long-term monitoring. Specifically, the park is going to establish baselines on mammal numbers and distribution, infrastructure density, stress hormone levels for key mammal species namely the elephant, the Lion and Uganda Kob. Bird species will include the Birds of prey who are up in the food chain. In addition, management will from time to time carry out baseline studies of oil operation sites prior to any petroleum operations to develop a monitoring checklists and tools to use in enforcing compliance.

Management will conduct periodic impact studies on the likely long term impacts of the various developments on the protected area and communicate the findings to relevant stakeholders.

Compliance monitoring tools will be developed based on the various environmental management plans, restoration and decommissioning plans, approvals certificates and compliance agreements of the oil companies to guide the compliance monitoring. Tools will be developed for specific activities as the oil companies precede with the different activities.

Given the volume of oil and gas activities taking place in the national park, UWA will undertake routine compliance monitoring. This will be done at two levels i.e. by the field based staff and EIA Unit based at the UWA head office mainly providing a back stopping role. Field based staff will undertake daily monitoring of oil and gas activities especially during intensive oil activity periods like seismic surveys, exploratory and appraisal drilling, infrastructure establishment like access roads, drill pads and pipeline construction.

Headquarter based staff will undertake monthly compliance monitoring during the high peak and intensive oil activity and quarterly compliance monitoring when the oil activities are limited.

Management will monitor and compel oil companies to restore all oil exploration sites in the Protected Areas according to EIA guidelines, environmental management plans and restoration plans of the respective EIA reports and conditions in the approval certificates.

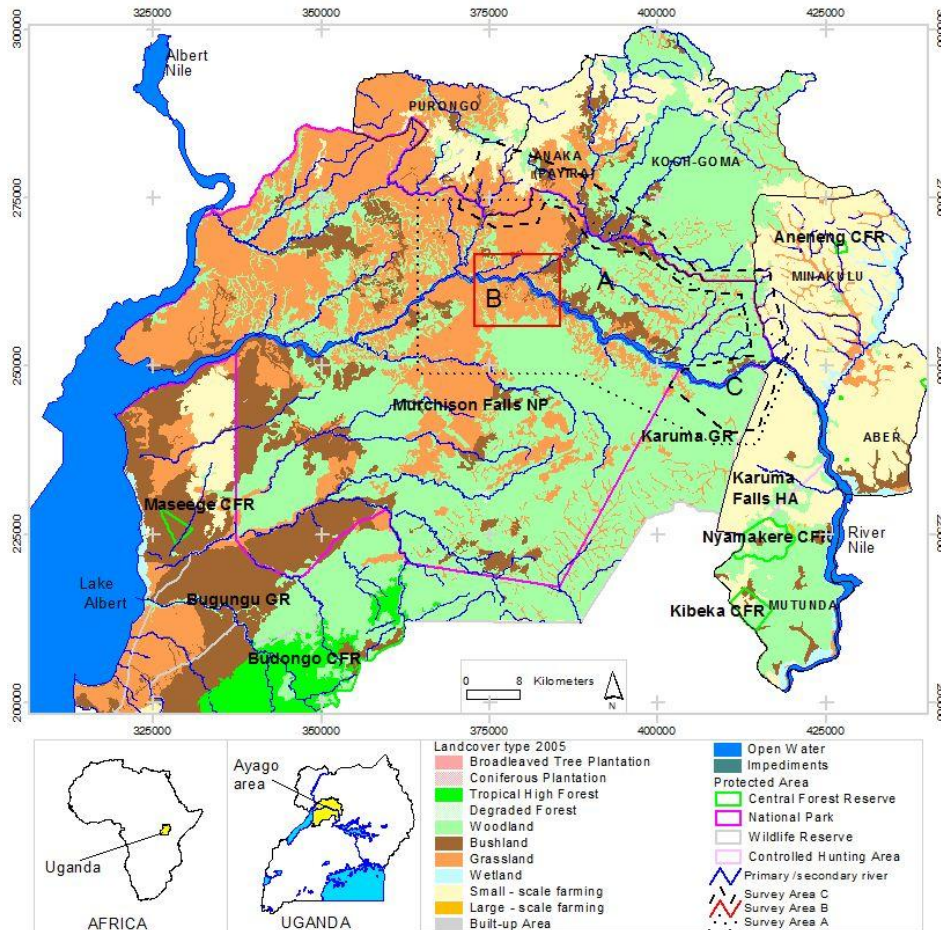
### **5.3 Hydropower and tourism developments**

**Objective: To ensure that all activities related to hydropower and tourism developments do not adversely harm the integrity of the PA**

#### **Hydro power development**

Hydro electric power development on river Nile is currently on going at Karuma. Under the design, water will be diverted into an underground power house outside Karuma wildlife reserve. However an underground tail race will be constructed through Karuma wildlife reserve to allow water from the power plant join the River Nile further downstream. The process of channel opening is likely to have impacts on the fauna and flora therein.

Figure 16: Map showing relative location of the Ayago Hydropower Plant (Block B)



Ayago hydropower project has commenced with feasibility studies currently being undertaken. This project will be located entirely inside the national park. The impacts of this project are enormous especially during construction phase for the power plant. The impacts will be associated with vegetation removal and compaction, access road opening, trucks carrying materials, waste management, and large numbers of workers inside the park that could lead to poaching, noise pollution through rock blasting, possible accidental road kills among others.

### Cumulative Impact of the Transmission Lines

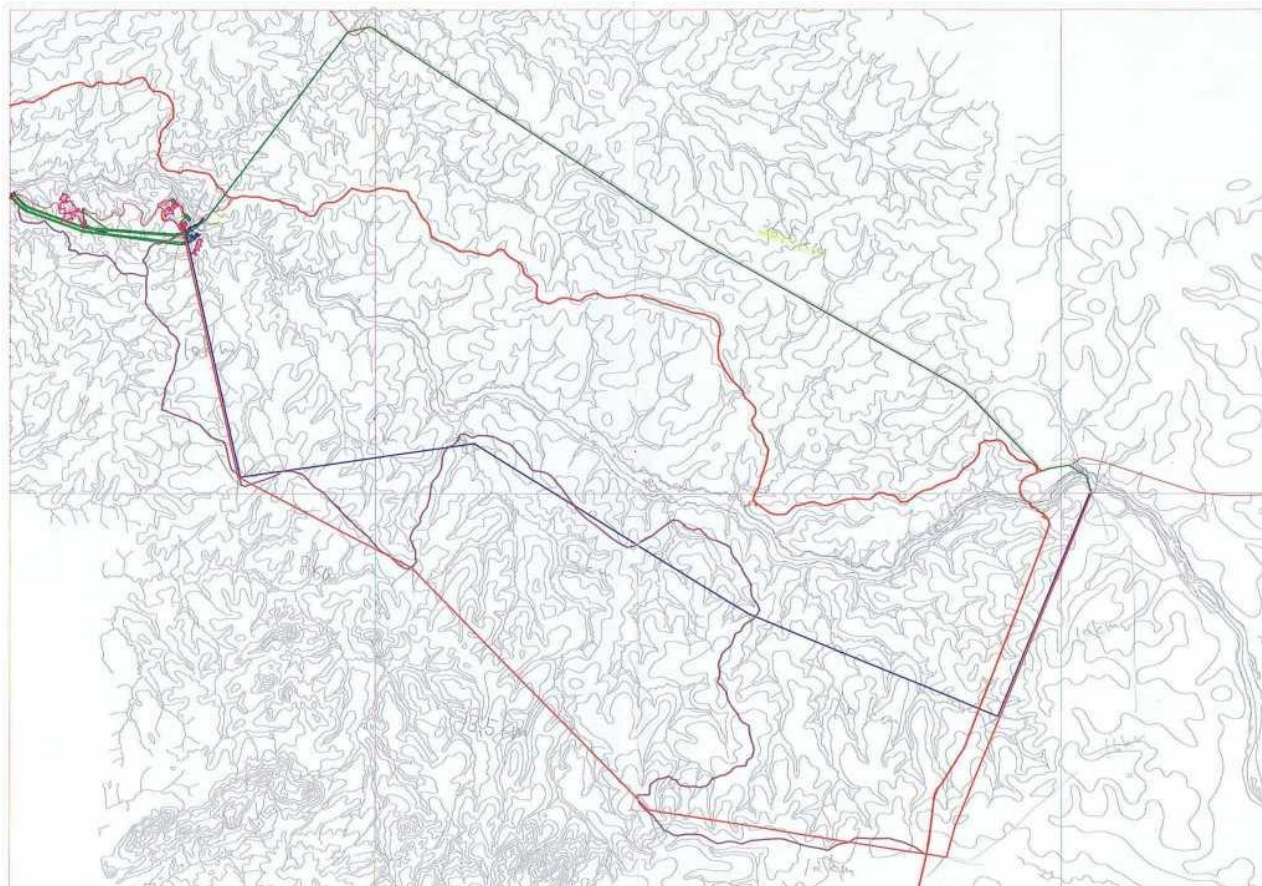
Just within the vicinity of the proposed Ayago hydropower site, is found the proposed site for the Karuma Hydropower project. The new Karuma Hydro Power Project is located at Karuma at Latitude 20 15' N and Longitude 320 15' E on River Kyoga Nile with project area falling in Kiryandongo and Oyam Districts of Uganda.

Under the proposed Karuma Hydro power project, it is estimated that 238.6 hectares of Karuma Wildlife Reserve will be lost to the hydropower project. Once power has been generated at Ayago, it will be evacuated. This will require construction of high voltage transmission lines inside the national park with the associated impacts on both flora and fauna. Feasibility studies being undertaken by the



Ministry of Energy and Mineral Development, three scenarios for power evacuation lines have been presented in fig 14 below.

Figure 17 Map showing option for power evacuation from Ayago Hydropower plant



Option 1 in the green line goes through the park but mainly follows the Karuma-Pakwach highway. Options 2 and 3 (in blue and red respectively) traverse the natural and un disturbed sections of the national park.

Both petroleum and hydropower developments have put a strain on manpower requirements for the protected area. In addition to the 100 rangers requested for by TOTAL E&P, Ministry of Energy and Mineral Development has requested for 30 rangers to escort study teams conducting feasibility studies for Ayago Hydropower project. If these requests are to be honored it would deprive the park of more than half its current staff meant to undertake law enforcement operations to secure the park.

#### **Impacts of tourism developments**

The Park currently has a number of tourism facilities. Paraa Safari Lodge with the capacity of 112 beds, Sambiya River Lodge with 54 beds, Red Chill with 52 beds and one camp site, Chobe Lodge 200 beds. Pakuba Lodge that was dilapidated was recently concessioned out to a private developer – Acacia safaris. The lodge is now under renovation with an intended capacity of 34 beds. The Northern Gateway Tourism

and Education Center (NOGATEC) along the Kampala-Gulu highway (but inside the park) offers camping and refreshment facilities. There are a number of camp sites both public and wilderness. The public campsites include; top of falls south bank camp site and northern bank camp site which is near completion. Other campsites are wilderness type and are located near the delta and Buligi areas. There are also tourism facilities that are adjacent to the Protected Area like Nile Safari Camp and many more upcoming ones.

Although these facilities will boost tourism in the Protected Area, there are a number of associated negative impacts like increased human traffic, pollution due to improper waste management and vehicle emissions, road kills and increase land take as well as poaching. Facilities in the vicinity of the park will equally impact negatively on the Protected Areas.

**Management actions:**

Murchison Falls Protected Area management will enforce strict adherence to EIA recommendations on hydropower development project at Ayago and Karuma including the construction and operation of high voltage transmission line from Ayago power plant through the Park.

Management will work closely with oil companies and hydropower development agencies to obtain financial support for the required extra manpower for the respective developments.

Each tourism facility within and adjacent to the park will be compelled to design waste management facilities according to existing guidelines.

**Summary action table**

Activity	Responsible person	Other	Time	Cost
Recruit/Establish a petroleum monitoring team	SPEIAC	CAM HRM, Woil	Year 1	0
Build capacity of the team in connection to oil and gas	HRM	CAM Woil	Year 2	150m
Identify and procure relevant equipment	PM	CAM Woil	Year 2	30m (twice over plan period)
Establish a basic lab for analysis of samples and collaborate with other lead agencies for advanced analysis	Woil	CAM WMR	Year 3	35m

Monitor the compliance	Woil	WMR		45m
Map ecologically sensitive areas (sensitivity atlas for MFPA)	Woil	CAM SPEIAC WMR	Year 1	70m
Use the sensitivity atlas to lobby for environmentally friendly methods	Woil	CAM WMR	ongoing	0
Develop a monitoring tool/checklist,	Woil	CAM WMR MRC	Year 1, 6	10m
Carry out baseline studies of oil operation sites prior to operations	Woil	MRC WMR	Year 1	150m
Conduct periodic impact studies	Woil	SPEIAC WMR	Every 2 years	125m
Monitor and supervise restoration activities	Woil	WMR WLE WiC SPEIAC	Ongoing	160m
Establish mechanisms for communication between oil companies and PA management	Woil	DC CAM	Ongoing	0
Develop and enforce waste management guidelines for the different developments	WRM	WLE/WT	Every year	36m
Designate and develop waste disposal sites for different developments	WRM	WT/WOil	Every 5 years	35m
Conduct regular tests for pollutants in the ecosystem	WRM	Lead Agencies	Every year	1m
Establish oil monitoring units in Bugungu and Murchison Falls National Park	CAM	Woil/WE	Year 1	480m

#### 5.4 Ecosystem functions

**Specific objectives: To reduce adverse effects of fires, exotics and invasive species, vegetation changes on ecosystem health**

**Issues and Rationale:**

Over the years, wild fires have been ravaging the park ecosystems. The onset of wildfires is common towards the beginning of dry seasons. There are areas within the Park that are prone to fires yearly. These include areas stretching from Purongo-Latoro-Tangi, Delta-Buligi on the North Bank of River Nile which is open grassland areas dotted with borossus palm. The Mubako-Bugana stretch on the western border of the Park and Kichumbanyobo-Nyakorongo-Nyamahasa stretch in Karuma Wildlife reserve are characterized by woody vegetation on the west and forested on the south and are all prone to wild fires. Culturally, in Acholi fires are used by the local community for hunting small animals like African giant rats, cane rats and these fires end up extending into the protected area. The poachers set early fires to encourage growth of young green and lush vegetation that can attract wild animals to the Park periphery.

Fire is also used as a management tool. Park Management does early burning i.e. sets prescribed fires at the beginning of the dry season before the vegetation completely dries out to avoid hot fires that devastates the park.

Murchison Falls National Park has many access roads where people moving through carelessly throw cigarette butts ending up causing fire.

These different fire regimes coupled with overgrazing by cattle has encouraged colonization of some areas by invasive like *Lantana camara* in the south western section of the Park and *Imperata cylindrica* in Wankwar sector. Exotic species within the park include *Cenna spectabilis* and *Thevetia puruviana* near Paraa lodge and Red Chilli. Some of these exotics were used as beautification plants and live hedges that now have turned invasive.

There have been dramatic changes in vegetation especially on the south bank and Karuma Wildlife reserve, converting from open grassland in early 1990s into woodland and is now gradually changing into closed forest canopy. This has affected wildlife use of the area with the typical grazers like Uganda Kob and heartebeasts leaving the area for the more open grassland ones. Because of this change the area is no longer popular for tourism. Elephant population in these areas is low and has not been capable of modifying the vegetation as in other areas. The frequent occurrence of fires is believed to be the cause of change of vegetation in Murchison Falls National Park.

The private sector concession in Chobe has continually complained about the dense vegetation cover around the facility, making it difficult for tourists to enjoy the game viewing experience.

On the northern section of the park, the pandera woodlands dominated by the *Terminalia species* are gradually drying up, although the cause is not clear.

**Actions:**

Murchison Falls National Park will develop a five year fire management plan to guide fire management in the Park. All fire prone areas will be mapped out and categorized into different fire management blocks during both cold and hot fire interventions.

Management will procure personal protective gears for all personal that will be engaged in fire fighting from time to time.

Management will undertake active vegetation manipulation to control vegetation in Chobe, Sambiya and Marabou. The impacts will be monitored to confirm their suppression.

All areas covered with invasive and exotic will be mapped out. The exotics will be subjected to manual removal. Management will carry out research to find out the most effective way of controlling invasive species.

### Summary action table

Activity	Responsible	Other	Time	Cost
Develop fire management plan	WRM	CAM/CDO	Year 2, 7	10m
Procure fire fighting equipments (PPE, tents, water bottles, slashers, pangas, fire extinguishers, fire beaters)	CAM	WRM	Year 3-4	100m
Map out fire prone areas and open fire lines	WRM	WLE WE	Every year	500m
Map out areas covered by exotic & invasive species	WRM	WLE	Year 2-3	10m
Remove exotics and control invasive species	WRM	CAM/WCC	Year 4 onwards	50m
Carry out vegetation manipulation (Chobe, Sambiya – Marabou area) and monitor its impact	WRM	CAM/WCC	Every year	500m

## 5.5 Wildlife outside the protected area

**Specific objective:** To ensure the conservation of wildlife outside MFPA (Kafu, Aswa - Lolim, Kilak, Bukumi-Bugungu, Atyak, Lake Albert)

## Issues and Rationale:

There are wildlife that exist outside the Protected Areas especially between Waiga and Waisoke, Kafu basin, former Aswa Lolim- Kilak Control Hunting Area. In 1961 a length of the Aswa (Achwa) river to the north of MFNP, totaling some 44 sq.miles, was gazetted as Aswa-Lolim Game Reserve. Together with the large Kilak and East Madi CHAs, the GD reported that "this thousand square mile stretch of grassland and forest includes some of the finest game country remaining in Uganda with an estimated 6,900 elephant and 8,300 buffalo". However, poaching in this area by the Acholi was intense, and by 1962 the GD reported that many species in the savannah areas along the eastern bank of the Albert Nile were nearing extinction.

Aswa-Lolim GR and Kilak CHA were degazetted in 1972 to make way for private ranches. As with Murchison Fall NP, intense poaching by army militias had a devastating impact on wildlife of the area over the late 1970s and 80s. With the start of rebel activities in the late 1980s, all land holdings were abandoned, and much of the area has reverted to bush land and grassland. The area remained a hunting ground for rebels and Acholi hunters. In numerous over flights conducted from 1996-1999, elephants and buffaloes were never observed. However, in areas adjacent to the Albert Nile, there was some evidence that some elephants of MFNP still migrate northwards to the Zoka Forest.

Despite the intensive poaching that happened and with peace returning to the area after the rebellion was put to end in 2006, core areas of this vast grassland still support populations of Uganda kob, waterbuck and hartebeest. With adequate protection, wildlife populations will recover, and can be supplemented by influxes from the adjacent Murchison Falls NP. The habitats remain virtually intact. Under the Wildlife Protected Area System Plan, this extraordinarily scenic area was proposed for upgrading to wildlife reserve status but the proposal hit a snag when Gulu Local Government refused to support it.

The Kafu River is primarily a papyrus wetland, that forms a drainage sink for a large part of central Uganda. Water drains eastwards from this swamp into Lake Kyoga, and westwards via the Nkusi River into Lake Albert. Within the floodplain are large areas dominated by *Borassus* palm woodlands, while further away to both north and south, the vegetation is comprised of uniform *Combretum* woodlands, interspersed with thickets. Much of this area, which includes parts of Luwero, Nakasongola and Masindi Districts, was allocated as private ranch holdings in the 1970s and 80s, in the Buruli, Singo, Bunyoro and Kiryandongo ranching schemes. Some areas are still managed as ranches, but many ranch holdings have been taken over by squatters.

In 1996 a Systematic Reconnaissance Flight (SRF) aerial survey of this area indicated that the human population density in the area was still low, and that the area supported a significant population of kob, waterbuck, reedbuck, hartebeest (Lamprey and Michelmore 1996).

The areas in Bulisa that were formally the Bukumi-Bugungu Controlled hunting area still hold wildlife populations. Although the CHA was degazetted in 1969, the environment is still suitable for wildlife habitation and there are pockets of wildlife living therein that will need protection. All these areas still hold significant populations of wildlife that needs to be properly managed in order to save them from extermination by poachers.

Some areas around the park especially in Nyakarongo, Kituka, Diika, Pakanyi, Kimina and Adebuk were still forested until recently when most areas have now become subjected to charcoal burning.

The increase in human population has resulted into deforestation on land adjacent to the Park as people look for fuel wood as energy source for cooking, and timber products for booming construction industry in the country. This poses a threat on Protected Area as people turn to the Park for these products. This is seen clearly along Gulu-Kampala highway in Karuma Wildlife Reserve where outside in the community you see few standing trees compared to the Reserve where other parts have turned into a forest.

**Actions:**

In order to determine wildlife numbers and other profile: age, species, sex, mortalities and natalities, management will carry out periodic wildlife censuses in and outside protected areas. The knowledge on wildlife numbers will help management to decide on the appropriate interventions that will sustain the numbers in these areas. Such interventions include engaging private sector players to develop wildlife based enterprises like sport hunting and community based tourism. To manage wildlife outside the PA, management will enter into Memorandum of Understanding with local governments, private developers and community to develop suitable wildlife-based enterprises.

Management will negotiate with the local government, land owners and community to create animal migratory corridors along River Nile in former Aswa-Lolim game reserve and Kilak Control Hunting Area by encouraging farmers within these corridors to plant non palatable crops like pepper, tobacco and trees on commercial basis. Management will compensate land owners along Walukuba-Butiaba road along the Nile to create an access route to Lake Albert for wildlife in Bugungu wildlife Reserve to access water from the lake.

To reduce pressure on Park resources, Murchison Falls National Park will work with local government and National Forest Authority to help local community to create woodlots as source of fuel wood to the community.

## Summary of action tables

Activity	Responsible per	Other	Time	Cost
Carry out periodic animal census outside PA	WMR	CAM/MRC	After every 3 years	Headquarter budget
Work with LG, land owners & community to develop MoU for management of wildlife	CAM	CCC/VCO/WCC	Year 3-5	14m
Negotiate with LG, land owners & community to create migratory corridors	ED	DC/CAM/DCC	Year 3-5	14m
Compensate land owners to create corridors (Walukuba-Butiaba road, along the Nile)	ED	DC/CAM/DCC	Year 5-8	1billion
Work with NFA and other interested partners to support LG and communities to plant woodlots	WCC	CDO/DFO	Every year	50m

## 5.6 Wildlife diseases

**Specific objective: To contain and manage wildlife diseases**

### Issues and Rationale:

Like was the case in Queen Elizabeth National Park, the history of establishment of Murchison Falls National Park is hinged around outbreaks of disease epidemics like rinderpest, sleeping sickness, nagana and small pox that decimated both livestock and human populations in the early 1900.

Murchison falls national park has a number of different mammalian species and in terms of diseases, apart from the serious outbreaks of trypanosomiasis and rinderpest in the late 19<sup>th</sup> century that led to the establishment of national park, there has been no serious outbreaks since then. However, infectious and non-infectious conditions continue to affect wildlife in the PA.

Since 1986, there has been a buildup of skin discoloration in Uganda kobs where others appear white while some few especially males appear black. There is need for studies into possible causes of this especially genetic studies and toxicology.



Giraffe, show filarial worm infection which appears as some patchy lesions on the skin especially along the neck. This has been identified through physical observation. However, management needs to undertake molecular characterization to differentiate it from filarial worms of rhinos. It is not clear whether these are the same as those found in rhinos since Murchison is known to have harbored rhinos before their extinction in early eighties.

Other causes of ill health in wildlife in MFNP is human-induced (non infectious) injuries. These injuries are brought about by poacher tools like, wire snares, wheel traps, spears, gunshots etc. when animals fail to succumb to the impacts. Other injuries are caused as a result of waste accumulation e.g. torch or bottle top rings that get stuck at the fetlock joints of camp warthog as they scavenge in the rubbish pits. There are number of interventions done to rescue wildlife from these human induced traumas.

The existence of pastoral communities with large herds of cattle in the immediate outskirts of the park in Bugungu Wildlife Reserve and its neighborhood has created a porous disease interface between wildlife and livestock in Murchison Falls Conservation Area and it is believed that the epidemiological links between disease reservoirs and susceptible species has been enhanced. The possible disease continuum between domestic and wildlife compartments is more pronounced in southwestern part of the park (Bugungu Wildlife Reserve) and northeastern (Acholi plains) parts which pose high risk of disease transfer, whereas in the northwestern part (Nebbi district) and the southern (Masindi) there is low risk as a result of Albert Nile and Budongo Forest respectively that buffer the community from the park.

Although there have been no serious disease outbreaks in MFNP, the incidences recorded over years in the adjacent districts show there is risk of cross transfers between the community and the park. The common infectious diseases that pose threat to the PA are those related to livestock within the communities. These include Foot and Mouth Disease (FMD) in bovines, African swine fever in porcine (pigs), Rabies in canines (dogs) among viral infection and brucellosis in bovines (cows) and caprine (goats) as bacterial infections. The blood sampled in waterbucks during translocation in 2005 showed scanty parasitemia, however none of the wildlife comes down with clinical trypanosomiasis, hence no threat to wildlife.

There are various hemorrhagic fevers that have been occurring in the Parks' neighborhood and these posed a big risk to wildlife and humans e.g. the recent Ebola outbreak in Luwero District, Marburg case in Maramagambo in Kasese district. The avian influenza pandemic was also another cause for alert because of a number of Palearctic birds that come to roost in the park during winter period in Europe. Although these outbreaks are far away from Murchison Falls Protected Area, they can easily spread through movement of people and animal carriers like bats, birds and primates. This shows that the virus have been circulating in wildlife population hence need for eco-vigilance.

Figure 18: Park staff handling a buffalo to remove a wire snare



Currently management of disease outbreaks is not based on prescribed research findings. The continual study of the epidemiological linkages maintaining outbreaks of these diseases and those that may arise in the Murchison Falls National Park ecosystem will be critical for setting up disease management strategies in the park and protection of the public from the associated health risks.

The Ministry of Agriculture Animal Industry and Fisheries (MAAIF) in conjunction with Uganda Wildlife Authority (UWA) with the support from AU-IBAR have been carrying out animal disease surveillance both in wildlife and domestic animals in the country especially for the detection of Rinderpest and FMD since early 2000, which was done until Uganda was declared free of rinderpest. FMD eradication still remains a challenge.

### **Management actions**

Opportunities will be sought with partners to put in place an emergency fund and form collaborative management taskforces for disease outbreak management.

Collaborations will be established between MFNP and relevant research institutions like the Center for Disease Control, MAAIF, Makerere University, Local Government and other relevant institutions, to undertake new research and continue with the ongoing ecological research in the areas of emerging diseases like Marburg, anthrax, and other

zoonotic and notifiable diseases, and also for the purpose of building a diagnostic capacity in the PA and enhancing disease management capacity of staff.

Under the proposed re-structuring of the veterinary unit in UWA, a diagnostic laboratory will be established in the PA and requisite veterinary officers' positions filled. This will improve research on disease outbreaks, outbreak management, rescues and population enhancement and management for species that are declining.

A technician will be recruited to manage the lab, and his/her capacity built alongside that of existing staff through specialized training on diagnosing wildlife diseases in reputed reference labs that will be identified; bio-safety and disease outbreak management. The Veterinary unit will be equipped with a vehicle, drugs, chemicals and other equipment to aid in disease outbreak management.

Management will construct water points at designated sites in MFNP (North bank Tebito area) and Bugungu Wildlife Reserve to provide water to animals during dry seasons to prevent wildlife from moving into community areas in search of water.

### Summary action table

Activity	Responsible person	Other	Time	Cost
Carry out regular disease surveillance	WRM/VET	VC	Every year	55m
Construct and equip a diagnostic laboratory	CAM/VET	VC/WRM/WE	Year 3	125m
Work with LG to control disease transmission between wildlife & domestic animals	WRM/VET	DVO/CAM	Every year	20m
Procure veterinary equipments and supplies for health interventions	WRM/VET	VC/CAM	Every year	65m
Carry out active veterinary interventions	WRM/VET	CAM/VC/WLE	Every year	50m
Construct watering points in Bugungu WR (3), Northern bank-Tebito areas (3)	CAM	WMR, WE, WT	Year 2	120m

## 6.0 COMMUNITY CONSERVATION PROGRAM

### Introduction

The Community Conservation program addresses issues that affect the relationship between the neighboring communities and the PA management. The major issues under this program revolve around community-park relations, human-wildlife conflicts, the various benefits that communities get from the PA, revenue sharing mechanisms. A number of issues were raised during consultations and this plan tries as much as possible to address all the issues raised.

The rapid growth of human populations in areas surrounding MFPA presents great challenges to MFPA staff in promoting better community relations. As a result of civil strife in northern Uganda, many people migrating to Masindi district (now Kiryandongo) from Gulu and Kitgum districts, creating a population concentration in the sub-counties of Mutunda, Kigumba, Pakanyi, Kiryandongo and Biiso, all of which are adjacent to MFPA. Even after the civil strife and rebellion was brought to an end in 2006/07, migrants who had been displaced by the war, but had settled and established themselves socially and economically in other districts, have not returned to their original homesteads in the Acholi land. This population has therefore continued to exert pressure on the protected area for resources such as firewood, charcoal burning, wild meat etc.

Others moved into the area from West Nile and from as far as Mbale to settle in these areas because of perceived economic opportunities in the district. Other people from Nebbi and from Democratic Republic of Congo (DRC) and settled along the shores of Lake Albert between Butiaba and Wanseko with fishing as the main economic activity for this migrant population.

### Program objective

*To ensure harmonious coexistence between the PA/wildlife and the neighboring communities by 2022*

### Outputs

1. Cases of human-wildlife conflict minimized during the planned period
2. Relationship and cooperation between the PA and the neighboring strengthened communities throughout the planned period.
3. Revenue sharing fund are equitably, timely and transparently disbursed to the beneficiary communities
4. Pressure on park resources reduced
5. Conservation awareness in schools and neighboring communities strengthened
6. Collaborative resource management with the communities strengthened

## **6.1 Human Wildlife conflict**

**Output 1:** Cases of human-wildlife conflict minimized during the planned period

### **Issues and Rationale**

Human-wildlife conflicts (HWC) come as a result of wildlife requirements overlapping with those of human populations, creating problems both to communities and wild animals. As people formerly displaced by war returned from the camps of the Internally Displaced and regained their original homesteads, a new conflict emerged as wildlife continued to use these areas as part of their home range and dispersal areas. Wildlife especially elephants to date continue to make incursions into croplands with limited interventions to address this challenge. Mostly, elephant raids take place at night and in wet seasons with poor access to problem areas. This coupled with limited human and logistical capacity, there is usually delayed response to reported cases of problem animals and rangers arrive at the scene of crop damage long after the elephants have left.

Major threats include crop damage, especially in frontline parishes adjacent to the park boundaries, human injuries and death when people are confronted by wildlife. Key problem animals around MFNP are elephants, buffalos, hippos and crocodiles.

Areas commonly affected by crop raiding include Alokolum, Koch-Goma, Orum, Got Apwoyo, Aringokech, Aber, Otada Farm, Kiryangdongo, Mutunda, Pakeyo, Awor, Palango, Nora, Adibuk, Zambia, Lamintoo, Agung and Kamdini  
Crops affected include mainly cassava, rice, potatoes, jack fruits, bananas, and sugarcane.

The scale of human injuries and death is increasing especially by buffalos and elephants. Affected communities are farmers attacked within the gardens and women attacked by dangerous animals as they collect firewood in the nearby bushes. Hippos are often a threat to fishermen along Lake Albert and River Nile and have led to numerous deaths, injuries and loss of canoes. Further more, crocodiles have become a problem especially along Lake Albert shores where a number of people and livestock are being killed.

The current Wildlife Act does not provide for compensation for crop damage and loss of lives. However people feel that the park should compensate for deaths, injuries, and loss of properties caused by wildlife. This issue is being addressed in the ongoing revision of the Wildlife Act.

However, even in absence of compensation provisions within the law, park management working closely with the affected communities has put in place some interventions including promoting simple traditional methods which use a range of noisemaking approaches e.g beating drums, tins, yelling and whistling. Experience however has shown that traditional methods tend to become ineffective over time as animals get used to them because they cause no actual harm.

Scare shooting by rangers along the front line parishes has also been effective although elephants are also getting used this intervention.

Trenches are being constructed along the boundaries of the park in Kochgoma to stop elephants from crossing into public land. So far this has been successful in stopping elephants though obstacles like rocky surfaces, rivers and maintenance is challenging. The initial investment of trench construction is very high.

Other interventions implemented in Kochgoma include the use of capsicum (Chilli or red pepper) to protect gardens. Capsicum reacts through repellents based on resin from *Capsicum species*. The resin of chilli contains chemical that produces a burning sensation that mammals find extremely unpleasant. Chilli is used in two ways i.e. it is mixed with grease or used oil and smeared on a rope placed round the garden. On encountering these ropes the elephants are repelled off. Another way is by mixing the chilli in cow dung and moulding the mixture to form chilli brick that are burnt at the edge of the garden. The resultant smoke also acts as a repellent to elephants.

Bees have also been used to scare away elephants. The sting of the bee is very irritating to the animals. Since it is known that elephants fear bees, the communities of Karuma, Mutunda, and Diima have laid beehives along the park boundaries as a means of driving away the elephants but at the same time benefiting from harvesting and sale of honey.

For the case of crocodile, water points are being fenced with steel bars to enable communities have safe access while fetching water from rivers for domestic uses.

Crop destruction is sometimes done by vermin. Management of vermin is the responsibility of the vermin control officers. Although these officers lack training and requisite equipment, their recruitment alone is a step in the right direction and shows commitment of the two districts in dealing with the problem of vermin.

#### **Actions:**

Management will assess and document all problem animal incidences around the protected area. Data collection tools will be designed and availed to communities to help identify hot spots that require urgent intervention.

A Problem Animal Control Unit (PACU) will be established in MFNP and based in the northern bank where problem animal cases are rampant. Staff under the unit will be

trained with skills in managing problem animals. The unit will be equipped with a vehicle and motorcycles and field gears to enable quick and effective response to reported cases of problem animals.

Interventions using Community Based Conflict Mitigations (CBCM) will be promoted in the areas of Purongo, Anaka, Kochgoma, Kamdini and Mutunda by training farmers and community members on the use of red pepper commonly known as chilli made into grease, chilli bricks, increased vigilance and equipping problem animal scouts to back the limited number of rangers on the ground.

Trench excavation will be extended in the sub-counties of Purongo, Anaka and Mutunda to deter elephants from invading the communities in these sub counties.

In Kiryandongo and parts of Mutunda, economically viable buffer crops will be identified and promoted for production.

Being forested, bee keeping along the park boundary in these two sub-counties is already being practiced. This will be extended to other areas not yet covered by this intervention.

Problem animal awareness and sensitization will be carried out in the neighboring communities and among stakeholders to make them appreciate the coexistence and also understand that wildlife requirements are not necessarily confined in protected areas.

The local government of Nwoya and its communities will be encouraged to develop a land use plan that will be compatible to wildlife existence. Some of the problem animals such as buffalos and hippos will be utilized through sport hunting to generate revenue that can benefit communities.

Vermin control in the neighboring districts of Kiryandongo and Masindi will be strengthening by giving technical support to the local government through training and awareness to build the capacity of vermin guards to effectively control vermin in their areas.

Fundable research topics on HWC will be generated and publicized in relevant higher institution of learning for possible research that will guide management on problem animal issues.

### Summary of actions

Activity	Responsible person	Other	Time	Cost
Assess and document Problem Animal hotspots	WCC	WRM	Every year	0
Establish and equip PACU (training, vehicle,	CAM	WCC	Year 1	300m

Empower local community to implement community based mitigation measures	WCC	CDO, private sector	Every year	50m
Implement problem animal control interventions (trenches, buffer crops, bee hives, scare shoots, trumpets)	WCC	CCC, CDO, private sector, CSO	Every year	728m
Sensitized communities and stakeholder on problem animal	WCC	CDO, CSO	Every year	118m
Work with the local government and communities to undertake land use planning	CAM	WCC, CDO, LG, NGO, District planner	Year 2	40m
Increase direct benefit to the communities through utilization of problem animal	CAM	CCC, WCC, LG, private sector	Year 1	0
Support LG in management of vermin	WCC	CAM	Year 2,8	20m
Produce fundable proposals for PAM	CAM	CCC, WCC	Every year	0

## 6.2 Park/community relationship

**Output 2:** Relationship and cooperation between the PA and the neighboring communities strengthened throughout the planned period

### Issues and Rationale

The relationship between park management and local communities has not been smooth in some park-adjacent communities. There are several counter accusations both by rangers and the communities of harassment from both sides. Communities claims rangers are killing their people found poaching in the park where as rangers are also raising their concern over armed poachers killing and injuring their colleagues during patrols.

Fishermen often fish within the park boundaries and in some cases poachers disguise themselves as fishermen to lay traps inside the park. This is the case especially along the Albert Nile. When arrested, they complain of harassment. This has led to bitter resentment among the communities and park authority, thereby escalating conflict.

Bearing in mind the size of the park and the number of communities (parishes) surrounding the park, coordination and communication has not been effective with the



local communities. With the few number of community conservation rangers coupled with logistical challenges, few communities are frequently visited.

Much as UWA is encouraging community leaders to play a role in protected area management, some of them are reluctant and have no interest to deal with issues of protected area. It has been noted that many of the local leaders including district officials take time to know what is happening in the park.

### **Actions**

Regular meetings will be organized with the local communities, sub-county and district leaders to raise awareness.

Annual leader forum will be organized to bring together area Members of Parliament, Local Government, stakeholders and community leaders to brainstorm on protected area management issues.

Frequent exposure visits to the park will be organized for stakeholders to make them appreciate their roles and responsibility in conservation. This will be conducted yearly for all the 14 sub-counties surrounding MFNP.

Regular consultative meetings will be organized with political leaders and other stakeholders to discuss new developments and management challenges that require their support.

Traditional and cultural leaders will be encouraged to participate in resolving conflicts between the park and communities as a way of promoting reconciliation.

### **Action table**

Activity	Responsible person	Other	Time	Cost
Regular CC meetings with communities, LG and other stakeholders	WCC	CDO,CSO CAM	Every year	88m
Hold the leaders forum to improve on relationships between the communities and the PA	WCC	CAM	Every year	100m
Exposure visits of stakeholders to the park	WCC	CAM	Every 3 years	48m
Hold consultative meetings with political leadership and other stakeholders on emerging challenges	CAM	WCC	Every year	100m
Work with cultural leaders and elders to promote other methods of conflict resolution	WCC	SWLE	Every year	80m

### **6.3 Revenue sharing**

**Output 3:** Revenue sharing funds are equitably, timely and transparently disbursed to the beneficiary communities

#### **Issues and rationale**

Revenue sharing funds are derived from the mandatory 20% of park entrance fee paid by visitors and are shared between the neighboring communities from the bordering parishes. The funds are provided to support projects which are geared towards improving livelihood and income generating activities in the communities. Since the revenue sharing program was started in 2002 in Murchison, over 1.4 billion shillings has been collected on the revenue sharing account for districts surrounding MFPA.

The previous Revenue sharing guideline provided that funds are remitted to the beneficiaries through the Community Protected Area Institutions (CPI) who vet the projects for funding. This policy had shortcomings and has been revised. A new policy has been approved will take effect from the financial year 2012/13. In the new guideline, funds are remitted to the beneficiaries through the district local government financial and planning system. Projects for revenue sharing are identified by village planning team who forwards them to the parish planning committee and eventually is embedded into the sub-county development plan.

Remittance of Revenue Sharing funds to beneficiaries is based on the funding proposals generated by the target beneficiaries. Disbursement of funds has not been timely due to delays in developing the funding proposals and vetting at various levels.

With creation of new districts, more administrative units like sub-counties and parishes emerged around MFNP and the trend is likely to continue. Such development reduces the amount of money that could have been shared with the few beneficiaries to undertake large projects.

Most of the projects generated for funding are centered on small projects such as goat rearing, piggery and a few on tree planting which most often have little impact in the communities. Evaluation of revenue sharing project was done and the result indicated very little impact on the ground. Some sections of the communities also lacked information on revenue sharing as a benefit derived from conservation.

Before 2004, Revenue Sharing funds were geared towards supporting social services projects such as schools, roads, health centers and community development centers that benefit the entire community in a given parish. This approach was later changed to livelihood income generating activities that has not still shown any tangible results on the ground.

During project proposal selection, it has been noted with concern that responsible personnel (CPI) are rigid on specific type of project to be funded basing on individual interests. In the process, many viable projects are not funded.

As a way to reduce poaching, some parts of the revenue sharing funds were allocated to fund project proposals generated by ex-poachers which were basically goat rearing to provide alternative diet. However, it was later discovered that most of the said project did not exist and the few that were there were mismanaged and funds were directly being distributed among scrupulous members who were not actual reformed poachers.

UWA has recently reviewed the revenue sharing guidelines and it is hoped that once implemented, many the bottlenecks experience during the entire revenue sharing management chain (project identification, proposal development, vetting and approval, revenue disbursement and project implementation) will be addressed.

### **Management actions**

Communities will be sensitized on revenue sharing right from project proposal writing, project implementation and monitoring/evaluation. This will help communities to identify relevant projects that will be beneficial to them. Project proposal generation by the communities will be done with guidance from the community development officer in order to select viable projects for funding.

During local government planning process, park management will produce and distribute Indicative Planning Figures (IPF) to local government to help them integrate the funding within their planning cycle.

Funds will be disbursed at the end of every financial year to enable timely implementation of approved projects.

Monitoring of the Revenue Sharing will be done by the line department both at the district and sub-county levels. UWA conservation department will frequently monitor Revenue Sharing projects in collaboration with local government at different levels and report to relevant offices.

### **Summary of Actions**

<b>Activity</b>	<b>Responsible person</b>	<b>Other</b>	<b>Time</b>	<b>Cost</b>
Sensitize community on RS issues	WCC	CAM, CDO	Every year	187m
Work with the lower LG to come with viable projects for funding	WCC	CAM	Every year	30m
Produce and distribute IPF to local governments	CAM	WA, WCC	Every year	0

Disburse fund	CAM	WCC	Every year	0
Monitor RS projects and enforce compliance	WCC	CDO	Every year	10m

## 6.4 Alternative Livelihoods

**Output 4:** Pressure on park resources reduced

### Issues and Rationale

MFNP is surrounded by large population of communities that often derive their livelihood from resources inside the park. Such resources among others include firewood, grass, medicinal plant and building materials. This pressure comes as a result of inadequate alternative livelihoods in those areas.

With the rapidly increasing population, demands for use of the MFPA's resources are intensifying. At the same time the ethnic diversity of the migrant communities surrounding MFPA is not conducive to natural resource conservation and sustainable use, since these communities have no traditional relationship with the PA.

As more people settle close to the boundary of MFPA, conflicts are escalating between local communities and the PA due to issues arising including limited awareness amongst communities about the PA, or the rules that govern it and in most cases, lack of knowledge may be feigned to justify illegal activities. Communities also feel that they are unjustifiably refused access to the PA's harvestable resources

Being remote, most of the youth living adjacent to MFNP did not go far with modern education. Some of the few that went to school are lacking jobs that can occupy them in the formal sectors, hence resort to poaching, fishing and extracting PA resources like grass and firewood to earn a living.

Initially, communities living around MFNP were peasant farmers while others were surviving bush meat. This subsistence kind of living is no longer sustaining livelihood coupled with the increasing costs of living today.

Communities around MFNP have community based tourism potentials that can transform livelihoods but are not tapped for development. The rich cultures, historical sites, traditional dances and handcrafts are unique enough to attract tourists who will pay money direct to the communities for those services. Huge chunks of unutilized land surrounding MFNP can be developed by communities into tourism facilities that can attract income.

During consultation, some community members complained of UWA denying opportunities to taking up concessions development inside the park. Their concerns were basically on management of tourism facilities like hotels.

MFNP is surrounded by different ethnic groups that share their cultural background with conservation. The Acholi honor elephants while the Alur chose Rhinos as their symbols for unity. Those aspects of cultural values are not yet integrated in conservation.

Lack of employment among the youth has affected social life of communities neighboring the park. Being idle most of the time, the youth get involved in illegal activities within the park but are also a social problem smoking drugs and engaging in un gainful acts. These acts have accelerated the spread of HIV/ AIDS in the community, weakening the productive labor force. Such affected people view protected area resources as the only source for survival. In addition, the LRA war survivors of land mines that cannot afford to tilt land have resorted to PA resources as to earn their living.

Apart from fishing, sale of firewood and grass, there are limited income generating activities within the communities living adjacent to MFNP. Opportunity for industrializations are limited by poor infrastructure. As a result of inadequate income generating activities coupled with poor soil that cannot support proper crop cultivation, endemic poverty is prevailing highly among the communities.

Dependence on fuel wood and charcoal burning and as a source of income, most of the landscape around Panyimur, Pakwach, Purongo and Agung has remained bare. The call by government and other NGOs to plant more trees are not being taken seriously.

**Actions**

The Warden in charge of community conservation (WCC) will work with CDOs and other relevant agencies to select appropriate enterprises that can be developed to generate income among the communities.

WCC will further work with CDOs to support production of viable community project proposals will be marketed for possible funding to donors.

Successful enterprises will be supported by providing technical advice and expertise for sustainability.

Many a time, community projects collapse during implementation stage and to avoid that, UWA will participate frequently in monitoring aspects to ensure such projects grow.

**Action table**

<b>Activity</b>	<b>Responsible person</b>	<b>Other</b>	<b>Time</b>	<b>Cost</b>
Work with relevant agencies for enterprise selection priorities	WCC	CDO	Year 1	87m

Support proposal production	WCC	CCC,CAM,CD O	Year 1	0
Support the enterprises	CAM	WCC,	Year 2	0
Monitor enterprise implementation	WCC	CDO,	Every year	Under RS budget.

## 6.5 Conservation education and awareness

**Output 5:** Conservation awareness in schools and neighboring communities strengthened

### Issues and rationale

One of the roles of Community Conservation department is to create conservation awareness in the neighboring communities, schools and institutions to solicit support for conservation. This is achieved through group discussions, informal village meetings and workshops. Under the Community collaboration program, community conservation wardens and rangers explain MFPA management policies to the communities bordering the protected area. Furthermore, the CC department conducts extension programs on tree nursery establishment and tree planting, bee keeping, energy saving methods and waste disposal systems among the communities.

For people to understand and value of wildlife, they need to learn through meetings, park visits and touring other successful conservation projects. School children and students will be engaged in discussions on wildlife conservation through competition and quizzes.

Bearing in mind the size of community around MFNP in terms of districts, sub-counties and parishes the number of staff under CC department is inadequate to cause effective information sharing with those administrative units. Currently, CC in MFNP has only 6 rangers who are ill equipped with transport to perform their job. As a result, information sharing is limited.

During school conservation programs, pupils/students are encouraged to form wildlife clubs that registered with Wildlife Club of Uganda (WCU). The process is suppose to be initiated by the CCRs and finalized by the WCU that scanty on the ground.

Neighboring schools are encouraged to frequently visit the park on education tours to enable them learn more about conservation. Arrangement for travels including transport expense is met by the respective school administration. Most schools around the park could not afford such costs and abandon the exercise.

Communities adjacent to the PA have poor attitudes towards wildlife conservation. Perceptions of wildlife among rural communities range from interest in meat value to

fear and hate. Hunting of wildlife is regarded by some people as part of their history but is increasingly being done for food among the community but also as a source of income when wild meat is traded in. The majority of the communities around MFNP are illiterate and unable to read conservation education materials by themselves.

### **Management actions**

MFPA Community Conservation Department shall compile its program of community outreach activities to parishes and schools. The outreach and education programs will include liaison with the district education offices and the Wildlife Clubs of Uganda to teach wildlife and environmental education.

The PA will offer basic assistance for establishing local wildlife clubs (e.g. transport, free entry fees) and assist community groups, local environment institutions (e.g. the environment committees, local councils (LCs), wildlife societies) and school groups to visit the PA, through provision of free entry into the PA and will acquire a mini-bus (30 seater) for the community park visitors.

The student hostel will be renovated to offer better and improved accommodation for the various groups. The education centre will also be renovated and equipped with artifacts and other information about conservation in general and the PA in particular.

The Community conservation Unit will liaise with FM radio companies in the area (Radio Paidha, Freedom Radio, Kitara Broadcasting Services, etc.) to hold live 'phone in' talk shows as frequently as resources allow on wildlife and environmental education.

In order to try and address the low levels of literacy within the communities, Park management will work with local governments to support functional adult literacy program.

To further enhance appreciation for conservation, the PA will introduce bursary schemes for the best performing pupils in each sub-county around the park.

As part of the Community Outreach Program, the MFPA Community Conservation Department will produce a range of materials concerned with environmental education, and teaching environmental awareness. These materials will include training manual for community conservation rangers, covering the essentials of MFPA policies, CPI operation, environmental education, etc. leaflets and brochures on environmental issues, video programs on wildlife and environmental awareness.

In addition, the MFPA Community Conservation Department shall procure a mobile education van equipped with video equipment to show conservation videos to communities at parish level on a scheduled program.

### Action table

Activity	Responsible person	Other	Time	Cost
Create conservation awareness to community (radio talk-shows, sensitization meetings, MDD)	WCC	CAM	Every year	210m (radio talk shows) 65m (sensitization) 20m (MDD)
Renovate the student hostel	CAM	WCC, WE	Every 3 years	200m
Renovate and equip education center	CAM	WCC, WE	Year 2,7	240m
Develop and install artifacts	WCC	CAM	Year 1	100m
Develop and produce Information Education Communication materials (IEC)	CAM	ICTM	Year 2, 7	100m
Acquire a mobile education van	CAM	ED	Year 2	200m
Support formation of Wildlife Clubs at schools	WCC	WCU	Every year	27m
Acquire a bus for community park visits	CAM	ED	Year 8	100m
Work with the LG to support Functional adult literacy program	WCC	CDO	Year 1	0
Introduce bursary schemes for best performing pupils in each subcounty around the park	CAM	CCW, CDO	Year 3	360m

## 6.6 Collaborative resource management

**Output 6:** Collaborative resource management with the communities strengthened

### Issues and rationale

The Wildlife Act provides utilization of wildlife outside protected area such as sport hunting through the wildlife use rights. A sport hunting scheme was developed in former Aswa Lolim Game Reserve adjacent to MFNP which has significant populations of wildlife for sport hunting. A concession for the hunting block was awarded to Uganda



Wildlife Safari that carries out regulated hunting according to the quota approved by UWA and the accruing revenue is shared between UWA, local government and the communities.

The Tripartite agreement for this concession was signed when Nwoya was under Amuru district and when Nwoya became independent; communities were not sensitized on sport hunting issues and have not been receiving their share from sport hunting.

Community wildlife association was supposed to be formed as the engine for awareness and ensure protection of wildlife in the hunting zone. A few youth were identified for that purpose but their role and responsibilities were not fully explained.

Revenue generated from sport hunting is supposed to be distributed between UWA, Local Governments (sub-counties and District), wildlife associations and landowners at a ratio stipulated in the concession agreement. This has not been clarified to the beneficiaries who are not receiving the funds yet.

### **Management actions**

In order to ensure sustainable use of resources, management will undertake resource inventories for those resources identified for access by the communities. Resource Use Committees will be formed to ensure self-compliance monitoring to the MoU provisions. In addition park management will undertake compliance monitoring.

### **Summary management actions**

<b>Activity</b>	<b>Responsible person</b>	<b>Other</b>	<b>Time</b>	<b>Cost</b>
Carry out resource inventory for community access	WCC	WRM	Year 2	30m (consultancy)
Form and train resource use committee	WCC	CDO	Year 3	13m
Negotiate for resource use and enter MoU	WCC	CDO	Every two years	26m
Monitor the resource use compliance	WCC	WLE/WRM	Every year	13m
Review MOU	WCC	WRM	Every 2yrs	130m
Joint partnership with relevant stakeholders (LGs, NGOs)	CAM	WCC, WLE	Every year	0 (covered under other coordination meetings)

## 7.0 MONITORING AND RESEARCH PROGRAM

### Introduction

The **Monitoring and Research** program builds on the current research efforts already taking place in the PA. However, emphasis has mainly been put on monitoring. The ecological research and monitoring Unit undertakes periodic monitoring censuses of large mammals inside the PA and the adjoining areas. Therefore population estimates of large mammals in MFPA are derived from aerial surveys through Systematic Reconnaissance Flights (SRFs) of the ecosystem. Despite this there are phenomena that require scientific research upon which to base to make management decisions.

However with the new challenges in the PA and new development projects, more management oriented research will need to be carried out in order to inform decisions. In this regard a number of research topics have been suggested under this program which will need to be advertised to get researchers to implement them.

**Program objective: Ensure management decisions are based on scientific information**

### *Specific objectives*

1. To establish the impact of climate and vegetation changes on the ecosystem health by the end of the plan period
2. To monitor ecosystem health, socio-economic dynamics of neighboring communities and generate information for decision making throughout the planned period
3. To establish the impact of oil, hydropower and tourism developments on ecosystems by the end of the plan period
4. To establish the socio-economic impacts of conservation and tourism on the neighboring communities by year 2017

### 7.1 Research Issues

**Objective:** To establish the impact of climate and vegetation changes on the ecosystem health by the end of the plan period

#### **Issues and Rationale:**

Murchison Falls National Park has been experiencing the impacts of global climatic change where temperature as high as 40 °c have been recorded. This change in climate adversely affects wild fauna and flora. The change can lead to change in

breeding, feeding, social patterns and in extreme cases can lead to extinction or emergence of new species over time as species adaptation strategy.

Some parts of the PA have undergone vegetation change from open grassland to closed woodland. This is evident in the southern section of the park and most of Karuma wildlife reserve which have closed up. As a result species that are predominantly grazers like Uganda Kobs, Hartebeest and Oribis, which are favored by open grassland, are hardly seen in these areas. This calls for research to determine the cause of this change. This has led to game viewing experiences by the tourists to be concentrated on the north bank sections of the park.

In order to return the area to its original status as spectacular open grassland that will support numbers of wildlife for tourism and other recreational values, vegetation manipulation is inevitable. However, before this can be done there is need for research to determine which intervention will be effective in reversing the vegetation dynamics trends.

Murchison Falls National park used to be home to the northern white rhino that was also ranging in the Ajai wildlife reserve. Due to high demand of the rhino horn worldwide and following years of civil disorder in Uganda especially during the Amin regime, rhinos were hunted to extinction in Uganda. Later on however, there was a drive to bring back rhinos to Uganda. Rhino Fund spearheaded this move and as a result, 6 southern white rhino were offered by the South African Government and were brought in the country and taken to Ziwa Ranch in Nakasongola. These rhinos are the out of range rhino species i.e. they are the southern white race as opposed to the northern white race that lived in Ajai wildlife reserve and parts of Murchison before they became extinct in the eighties.

Another group of 4 southern white were brought in from the USA to join the population at Ziwa. The population at Ziwa is increasing and the total population at the ranch is currently 14.

The area where these rhinos are being kept is relatively small and as the population increases the sanctuary will no longer be able to hold the rhino population. There is therefore need to introduce these rhinos into the wild. Murchison Falls National Park, having been home to the northern white is considered a suitable area for this introduction.

The issue however is that it is not known whether the habitat in Murchison is suitable for this introduction hence the need for habitat suitability studies before the introduction can be implemented. It is important to note that this will be an introduction and **not** a re-introduction since this southern race is an out of range species.

#### **Actions:**

To manage vegetation change and its impacts on wildlife conservation, Murchison Falls National Park will conduct research to find out the causes and impacts on health,

breeding and behaviour of wildlife and determine interventions to address vegetation change. Management will work with various partners; local government, local community, research institutions to undertake recommended intervention measures in the management of the vegetation.

Management will under take habitat suitability and species viability studies, which will inform the decisions to introduce the rhinos at Ziwa into the national park.

Park management will establish weather monitoring units in Paraa to monitor open savannah vegetation climate and in Rabongo forest for forest ecosystem in order to establish an early warning system for wildlife management.

### Action table

Activity	Responsible person	Other	Time	Cost
Carry out research on causes and impacts of vegetation change on health, behaviour and breeding etc	WRM	MRC	Year 2-5	100m
Determine the interventions to address vegetation change	WRM	MRC	Year 6	50m
Implement the interventions	WRM	MRC	Year 7-10	200m
Carry out habitat condition and suitability studies	WRM	MRC	Year 3	20m
Carry out species viability studies on out of range species	WRM	VC/MRC	Year 2 onwards	700m
Establish early warning systems	WMR	MRC	Year 1-10	30m

## 7.2 Monitoring issues

**Objective:** To monitor ecosystem health, socio-economic dynamics of neighbouring communities and generate information for decision making throughout the planned period

### Issues and Rationale:

Population estimates of large mammals in MFPA are derived from aerial surveys through Systematic Reconnaissance Flights (SRFs) of the ecosystem.

Efforts have been made to undertake SRFs every 2 years over the last five. This method has especially been effective in monitoring population trends of large mammal species like elephants, buffaloes, hippopotamus, giraffe, hartebeest and Uganda kob.

In addition to monitoring the populations of large mammals, MFPA has been monitoring other key species. These species include crocodiles, hippopotami, shoebills which are also important to determine trends in 'flagship' species that are endangered, or provide a general indication of ecosystem health.

Ranger-based data collection (RBDC) has been a useful tool for input into UWA Management Information System (MIST). Data collected by rangers under this program is opportunistic, as it is dependent on patrol plans of the law enforcement department. It is, however, useful in calculation of indices for use in monitoring of wildlife populations, locations of illegal activities, etc., and for planning of deployment of patrols.

Despite these efforts in monitoring however, serious challenges still remain. Wildlife fire is one of such issues. Every year during the dry seasons there are bouts of wildfires that ravage some parts of the park. The Macro and micro impacts in terms of extent, intensity and severity are not known.

Given the close interface between wildlife, humans and their livestock, the challenge of disease interactions and likely transmissions either way has not been researched and yet it is very important to avoid serious disease outbreaks. Because of lack of research it has been difficult to understand the source of the current, emerging and re-emerging diseases that affect human, domestic and wild animal populations.

For effective wildlife conservation, there is need to know the different weather pattern and climate change effects that affect the wellbeing of wildlife. Some of these effects have direct bearing on animal behaviour, breeding and social interactions.

Research is very critical to inform management decision making over the observed vegetation changes over the last two decades. The right interventions to halt or manipulate the current vegetation change patterns can only be determined by research.

There are occasional interactions between wildlife and domestic animals that stray into the PA especially during the dry seasons. This is particularly the case in the areas of Waisoke and Bugana in Bugungu wildlife reserve; in areas of Nyakarongo, Kimina and Nyamahasa in Karuma Wildlife Reserve and in Apala A & B, Acimi, Purongo, Latoro areas adjacent the park. This interaction increases the risks of disease transmission between wildlife and live stock.

Murchison Falls Protected Area has initiated a number of community conservation program which include; Revenue sharing, Problem Animal Management interventions, resource access, conservation education and sport hunting. The socio-economic impacts of these projects on the community have not been evaluated.

Murchison Falls Protected Area is surrounded by communities that vary differently, economically, socially and culturally. The profiles of these communities need to be assessed in order to guide management when undertaking development projects in these communities.

**Management actions:**

Murchison Falls National park will carry out regular animal censuses to update management information on wildlife numbers for informed decision making. The wildlife

number, sex, species, age groups, herd size among others are important parameters in wildlife resource management.

Management will continue to undertake Ranger-based data collection (RBDC) and will form a basis for park level planning of deployments for law enforcement patrols.

Park management will carry out regular monitoring of impacts of fires and generate information on fire incidences including frequency, extent, and intensity.

Management will conduct regular monitoring of these interactions for the purpose of establishing if there any disease reservoirs and controlling disease transmission between the two interfaces.

Coordination mechanisms will be established with Meteorology Department to establish weather stations at PA headquarters at Paraa and Rabongo forest to generate and share weather data.

The Protected Area management will carry out periodic vegetation monitoring to find the rate of open land take by the woodland and tree cover and establish the new plant communities that are coming up.

#### Summary action table

Activity	Responsible person	Other	Time	Cost
Carry out periodic animal censuses	WRM	MRC	After every 3 years	Headquarter budget
Carry out regular monitoring of impacts of fires and generate information on fire incidences including frequency, extent, intensity,	WRM	MRC/WLE	Every year	10m
Conduct regular monitoring of wildlife and domestic animal interactions	WRM	DVO/VC	Every year	25m
Coordinate with Meteorology Dept. to establish weather stations at PA headquarters and share data	CAM	WRM	Year 2	50m
Carry out periodic monitoring of vegetation changes	WRM	MRC	After every 5 years	50m
Carry out periodic monitoring of impacts of community conservation programs	WCC	CDO/WRM	Year 2,7	300m (consultancy)

(Revenue sharing, PAM interventions, resource access, conservation education, sport hunting) on the community				
Conduct periodic monitoring of community socio economic profiles and dynamics and impacts on the PAs	WCC	CDO/WRM	After every 5 year	120m (consultancy)

### 7.3 Impacts of oil, hydropower and tourism developments

**Objective:** To establish the impact of oil, hydropower and tourism developments on ecosystems by the end of the plan period

**Issues and rationale:**

There are different developments currently taking place within the park. These include hydropower development, petroleum exploration and other tourism infrastructural developments. All developments impact positively and negatively on environment hence the need to monitor and ensure that the developers comply with the mitigation measures against negative impacts identified during environmental impact assessments. However, EIAs for these developments only provide for short term impacts especially during the project implementation. Long-term impacts are never assessed.

**Actions:**

Park management will conduct research on all developments in relation to oil development, hydropower development and other infrastructural developments on animal behaviour, distribution, breeding as well as impacts of these developments on vegetation, geological and hydrological changes within the Protected Area.

**Summary action table**

Activity	Responsible person	Other	Time	Cost
Conduct research on impacts of <ul style="list-style-type: none"> <li>• Oil developments</li> <li>• hydropower developments</li> <li>• tourism developments</li> </ul> on animal behaviour, distribution and breeding	WRM	WOil/WT/MRC	Year 2-4, 8-10	300m
Conduct research on impacts of oil and hydropower on vegetation	WRM	WOil/MRC	Year 2-4, 8-10	100m
Conduct research on impacts of oil and hydropower on water, air and soil quality	WRM	WOil/MRC	Year 2-4, 8-10	100m

## 7.4 Socio-economic impacts

**Objective:** To establish the socio-economic impacts of conservation and tourism on the neighbouring communities by year 2017

### Issues and Rationale:

The impacts of population increase, changing land use, blocked animal migration corridors have created animosity between local community and Protected Area Management. This has in turn created human wildlife conflicts being experienced now more than before. However, there is inadequate information on impacts and significance of these Human Wildlife Conflicts on human livelihood. There is lack of information on impacts of tourism on local community livelihoods and socio-economic impacts of community on Protected Area management.

There are a number of initiated development projects around the Protected Area. The socio-economic impacts of these projects on the community need to be evaluated.

### Actions:

For continued coexistence between Park management and the local community, Murchison Falls National Park, will conduct research on impacts and significance of problem animals on neighboring community livelihood, impacts of tourism on ecosystem health and impacts of tourism on the neighboring communities. The findings will help management in making informed decision for its day to day operations.

Murchison Falls Protected Area will carry out community socio-economic survey to determine the impacts of park related interventions and benefits specifically community tourism, revenue sharing and resource access programs.

### Summary action table

Activity	Responsible person	Other	Time	Cost
Conduct research on impacts and significance of problem animals on neighboring community livelihood	WCC	WRM	Year 3, 8	100m
Conduct research on impacts of tourism on ecosystem health	WRM	WT/MRC	Year 6	50m
Conduct research on impacts of tourism, revenue sharing and resource access programs on neighboring community	WRM	WCC/WT	Year 7	50m



## **8.0 PARK OPERATIONS PROGRAM**

### **Program Objective**

#### **Specific objectives**

1. To effectively and efficiently manage the protected area
2. To ensure well developed and maintained protected area infrastructure and facilities by end of planned period.
3. To establish and strengthen stakeholder collaboration for effective wildlife management by 2015
4. Ensure improved communication systems are in place in order to enhance efficient and effective service delivery

### **8.1 Human resource issues**

**Objective:** To effectively and efficiently manage the protected area

#### **Issues and Rationale:**

Murchison Falls National Park has total area of 3,877sq km, and the present human manpower against the area coverage is inadequate. Most outposts are manned by 2-3 rangers on average, making it difficult to conduct effective patrols. For effective patrols, a minimum of four rangers is required to go on patrol at any one given time and two would remain to guard the camp. In addition to low staff numbers, the problem is further exacerbated by the low level of training and inadequate skills.

Staff is not well equipped to carry out their duties effectively.

The mandate to manage vermin is the functions of respective Local Governments but they lack capacity to do so. Experience has shown that local governments do not prioritize vermin control in their planning and budgeting cycles hence very little or no budget line is provided for vermin control in the local government budgets. Therefore the burden of controlling vermin has more often been thrown back to the PA, constraining further the man power shortage constraint.

There have been complaints amongst staff about low remuneration and often delayed supply of uniforms and other field protective gears. The reported cases of staff indiscipline conniving with poachers to carry on illegal activities in the Park could be attributed to the low remuneration.

**Management actions:**

Park management will recruit to fill the existing staff gaps as has been identified in table 1 below. Staff training needs at all levels will be identified and training programs conducted.

Efforts will be made to provide staff with adequate uniform and other protective field gear timely.

Requisite equipment as summarized in table 2 will be procured.

Management will establish functional disciplinary unit to handle cases of indiscipline from time to time. For smooth running of the Protected Area activities, effective financial and administrative functions will be adopted including the cashless system of payment at the gates as is being planned to be introduced by the organisation.

**Action table**

<b>Activity</b>	<b>Responsible person</b>	<b>Other</b>	<b>Time</b>	<b>Cost</b>
Carry out PA administration	CAM	WiC	Every year	494m
Establish staff positions, qualifications and ceiling for the PA	CAM	DC/HRM	Year 1	0
Recruit adequate and qualified staff	CAM	DC/HRM	Year 3,6,9	21m
Carry out financial administration	CAM	DC/HRM	Every year	120m
Provide staff with adequate and timely protective clothing and uniforms	CAM	DC/HRM	Every year	Hdqr budget
Carry out regular and relevant trainings for all PA staff	CAM	DC/HRM	Every year	200m
Establish functional disciplinary committee and handle staff discipline cases	CAM	HRM	Every year	5m

## 8.2 PA Infrastructure

**Objective:** To ensure well developed and maintained protected area infrastructure and facilities by end of planned period.

### Issues and Rationale

Murchison Falls National Park, has over the years been struggling to improve staff welfare by providing staff accommodation, logistics, safe water and field gears. Park management through the World Bank funded project, Protected Area Management and Sustainable Use (PAMSU) project managed to construct decent accommodation for staff and offices at Mubako.

Despite this intervention by the PAMSU project, not all the accommodation needs were addressed by the project. Accommodation facilities constructed are still inadequate to house all staff. Many of the outposts are temporary, constructed out of mud and wattle. These include Tangala, Bugana, Bugungu Wildlife Reserve headquarters at Waisoke, Nyakarongo, Punurii, Simanya, Gotafoyo, Kololo, Latoro, Nyamahasa, Chobe and Adebuk. Other outposts constitute uni-ports and these include; Bugungu gate, Kimina, Aringokech and Tangi. The outposts that are permanent but need renovation are, Kichumbanyobo gate, Wairingo, Rabongo, Top of Falls, Para North Bank quarters, Ayago, Wangkwar, Delta, Karuma, guides' quarters at the North bank and Paraa. The outpost at the former Pakuba lodge was displaced by the private sector company that was offered a concession to reconstruct and manage the former Pakuba Lodge.

Under the PAMSU project, management procured some field equipments, vehicles, motorcycles road equipment unit. However this was eight years ago and these equipment, vehicles and machinery have since aged. The aging vehicles and equipment have adversely impacted on the capacity for PA management to efficiently and effectively implement management programs.

There is a health unit at Mubako under dual management i.e International Health Network (IHN) and Buliisa District Local Government serving staff that are accommodated on the south bank of River Nile. This leaves staff on the North bank to move a long distance to access health services. This is further complicated by the fact that they have to cross River Nile hence very difficult to handle during emergency situations especially at night.

There are a number of road net works in the Protected Area; trunk road connecting Masindi-Buliisa-Paraa and Masindi-Paraa roads are under central government. Local trunk roads include Paraa-Nebbi and Paraa-Nwoya roads. In addition there are several tourist trails and tracks under park management. Being seasonal roads, these roads

wear away very fast especially during the rainy season making them impassable due to heavy rains. The situation is made worse by the heavy trucks that ply these roads especially those carrying very heavy oil exploration equipment in the PA.

The remoteness of Protected Area makes connection to internet and other technologies very difficult.

**Management actions:**

Park Management will construct accommodation units in different parts of the park for effective ranger patrols and coverage as summarized in table 3.

Management will in addition procure vehicles, plants and other equipments as detailed in table 2.

In order to improve on the tourist access network, the following tourist tracks will be opened.

<b>Name of track</b>	<b>Distance</b>
Kibaa-Tebito-Top of Falls	20km
Tangi-Tebito-	25
Nyamsika-Top Of falls	7km
Marabou loop	16km
Ayago-Chobe	25km
Waisoke Falls	15km
Rabongo-Nyakarongo	25km

In order to address challenges of water shortage, two bore holes will be constructed at Waisoke and Tangala, and another two at Rabongo and North Bank Sector Hqtrs.

Rain water harvesting systems will be installed at each outpost and Mubako Park Headquarters. The water pumping system at Karuma will be renovated.

**Summary action table**

<b>Activity</b>	<b>Responsible person</b>	<b>Other</b>	<b>Time</b>	<b>Cost</b>
Construct 2 six units blocks for ranger accommodation with kitchens, toilets and bathrooms at Waisoke Bugungu WR headquarters,	CAM	CCAM	Year 1-2	240m
Construct two houses for	CAM	CCAM	Year 1-2	240m

Wardens at Waisoke				
Construct one office block with 4 rooms at Bugungu WR and install radio communication and solar power	CAM	CCAM	Year 1-2	120m
Procure a vehicle and a motorcycle for Bugungu WR	CAM	CCAM	Year 1-2	168m
Construct 1 four unit block with kitchen, toilet and bathroom at Tangala ranger post	CAM	CCAM	Year 3	120m
Construct 1 four unit block with kitchen, toilet and bathroom at Bugana ranger post and rain harvesting facility	CAM	CCAM	Year 3	120m
Drill 2 boreholes and rain harvesting facilities at Waisoke and Tangala	CAM	CCAM/ WIC	Year 1-2	50m
Shift Bugungu gate near junction of airstrip and construct modern gate house	CAM	CCAM	Year 3-4	600m
Construct 2 four unit blocks for staff accommodation at Bugungu gate with a bore hole and rain water harvesting facility	CAM	CCAM	Year 3-4	240m
Improve the waiting lounge with attendant facilities (toilet, equipments e.g fire fighting system) at Bugungu airstrip	CAM	CCAM	Year 1-2	150m
Shift the workshop to Mubako	CAM	CCAM	Year 3	150m
Construct additional 3 houses for senior staff at Mubako	CAM	CCAM	Year 2	360m
Construct 2 eight unit blocks for additional 28 staff at Mubako	CAM	CCAM	Year 3	240m
Construct office block with 4 rooms for Law Enforcement at Mubako	CAM	CCAM	Year 2	120m
Install a water tank at Mubako (50,000 litres)	CAM	WE	Year 1	100m
Construct a gate at Mubako	CAM	DTBS/C CAM	Year 2	100m
Construct 3 six unit blocks with kitchen and latrines at Paraa to cater for marine, guides and security staff	CAM	CCAM	Year 2	360m
Re-design Paraa area to cater for G&C, Red Chilli and UWA staff	CAM	WE	Year 2	Headquarter budget

operation				
Construct 1 house for Warden tourism	CAM	WE	Year 2	120m
Construct a social hall for staff with a canteen	CAM	WE	Year 3	200m
Construct an incenerator at Mubako and Paraa north	CAM	WE WRM	Year 1	15m
Constuct an armoury and other stores (food, uniform, exhibit )	CAM	WE, WLE	Year	250m
Construct 3 eight unit blocks for staff accommodation for 24 rangers and office block at Rabongo southern sector mobile unit headquarters	CAM	CCAM	Year 3	360m
Provide vehicle for Rabongo	CAM	CCAM	Year 3	150m
Drill borehole at Rabongo	CAM	CCAM	Year 3	25m
Shift & construct the top of falls gate before campsite and install radio communication	CAM	CCAM	Year 6	Covered under top of falls development plan
Renovate present staff houses at Top of Falls	CAM	WE	Year 2	Covered under top of falls development plan
Shift Wairingo outpost to a raised ground and construct a 6 unit accommodation block with radio room and install radio communication, water harvesting system, solar system, tsetsefly traps	CAM	CCAM	Year 8	150m (block, solar, water harvesting system)
Provide one motorcycle for Wairingo outpost	CAM	CCAM	Year 2	20m
Demolish old revenue office at N. Banks, construct modern toilets and design a parking yard	WE	CAM	Year 1	50m
Renovate the Guides houses, install solar power and extend piped water from Paraa Safari Lodge quarters	CAM	CCAM/ WE	Year 1	50m
Renovate the houses at Paraa Northern Sector Hqt (athird) and replace the asbestos to house 24 rangers.	CAM	CCAM	Year 3	150m
Construct toilet with bathroom at Paraa Northern Sector Hqt.	CAM	WE	Year 3	25m

Extend power from Education Center (CEC)				
Drill a borehole at NSH	CAM	WE		25m
Construct a water tank/supply system	CAM	WE		27m
Provide vehicle at Paraa Northern Sector Hqt	CAM	CCAM	Year 3	150m
Provide space for health center at education center	CAM	WCC	Year 1	0
Re-design and construct parking space at CEC	WE	CAM	Year 1	5m
Build 3 four stance pit latrines at CEC	WCC	WE	Year1-2	21m
Construct a modern gate house at Tangi with resale shop, toilet facilities and install solar power	CAM	DTBS/C CAM	Year 4	600m
Construct 1 six unit block for ranger accommodation at Tangi gate	CAM	CCAM	Year 4	120m
Construct 1 six unit block for ranger accommodation at Simanya Marine outpost	CAM	CCAM	Year 3	120m
Renovate ranger accommodation at Ayago 1 and install rain harvesting tanks	CAM	CCAM, WE	Year 6	80m
Construct ranger post of 2 six unit blocks with radio room, store and rain water harvesting system , borehole at Kololo	CAM	CCAM	Year 2	270m
Construct 2 six unit ranger accommodation at R. Ayago (Chobe road) at the Northern Bank with kitchen, pit latrine and bathroom. Harvest rain water.	CAM	CCAM	Year 1	240m
Construct Wangkwar gate including office of warden in charge,	CAM	DTBS/C CAM	Year 2	600m
Construct Warden's house at Wangkwar	CAM	CCAM	Year 6	80m
Renovate existing staff houses at Wangkwar	CAM	WE	Year 2	80m

Provide a vehicle and one motorcycle for Wangkwar	CAM	CCAM	Year 3	170m
Construct a 6 unit block staff accommodation at Ogelo Hill	CAM	CCAM	Year 1	120m
Provide motorcycle and radio communication for Ogelo	CAM	CCAM	Year 1	30m
Re-open access road from Karuma-Pakwach to Ogelo outpost (10km)	CAM	WE	Year 2	200m
Construct 6 unit block at Apala B with kitchen ant pit latrine	CAM	CCAM	Year 2	120m
Renovate the houses at Karuma WR headquarters, finish the lower block as office	CAM	WIC/WE	Year 3	80m
Repair water pumping system at Karuma headquarters	CAM	CCAM/ WIC	Year 3	13m
Convert the current office block into guest house with attendant hall	CAM	WIC, WE	Year 1	120m
Convert lower house(store) into office	CAM	WIC,WE	Year1	40m
Provide one vehicle and motorcycle for Karuma WR	CAM	CCAM	Year 3	170m
Construct Chobe gate 300m from the road with sanitary facilities	CAM	CCAM	Year 4	600m
Construct ranger accommodation of 8 unit block. Install the borehole at Chobe gate.	CAM	CCAM	Year 4	150m
Construct ranger accommodation of 2 six unit blocks at Chobe with radio room and store. Negotiate with lodge to extend water and power to the camp	CAM	CCAM	Year 2	240m (excl.water 29m+36m power)
Construct a revenue collection point at the Chobe air strip	CAM	WT	YR1	8M
Construct staff accommodation-one 6 unit block at Nyamahasa	CAM	CCAM	Year 6	120m
Provide radio communication and one motorcycle at Nyamahasa	CAM	CCAM	Year 3	25M
Renovate the staff house at	CAM	WE	Year 6	15M



Kiroko				
Process the land title for land where house is located at Kiroko and negotiate to expand the land to the park boundary to ensure access	PLC	CAM/W CC	Year1	60m
Provide radio communication and one motorcycle at Kiroko	CAM	CCAM	Year 2	25m
Construct 1 block of 6 units at Kimina with radio communication and one motor cycle	CAM	CCAM/ WE	Year 6	145m
Construct a standard gate at Kichumbanyobo with flush toilets with solar power and radio communication systems	CAM	DTBS	Year 3	600m
Renovate staff houses at Kichumbanyobo gate with rain harvesting facilities and solar system.	CAM	WE	Year 3	80m
Install internet facilities at PA headquarters (Karuma, Masindi, Bugungu)	CAM	ICTM	Year 1	Hqr budget
Maintain the present 530km road and tracks network	WE	CAM	Year 1-10	1.25bn
Open road from Waisoke through campsite to Waisoke falls	WE	CAM	Year 5	600m
Open up track from Rabongo to Nyakarongo	WE	CAM	Year 6	500m
Negotiate with UNRA to put speed humps and signage on the Pakwach-Karuma highway near Tangi oil base camp	CAM	WE	Year 2	0
Lobby UNRA to rehabilitate Tangi bridge	CAM	WE	Year 2	0
Work with UNRA to erect speed control sign posts and speed humps	CAM	DC	Year 2-3	5m
Work with MoW to demolish all dilapidated buildings and restore site	CAM	WE/Mo W	Year 1	2m (coordination meetings)

### **8.3 Collaborative management with other agencies/partners**

**Objective:** To establish and strengthen stakeholder collaboration for effective wildlife management.

#### **Issues and rationale:**

The delta, where the White Nile enters Lake Albert is a Ramsar Site i.e a wetland of international importance designated by UNESCO. Ramsar site management is a mandate of the Wetland Management Department in the Ministry of Water and Environment. The entire wetland ecosystem of the delta is inside Murchison Falls National Park. There is therefore an overlap between the Ramsar site and the National Park. Since its designation as a Ramsar site in 2006, the wetland management department has never held any coordination meeting with UWA or Murchison Falls National Park management to discuss co-management of the Ramsar Site.

Both Bugungu and Karuma Wildlife Reserves overlap with Budongo Forest Reserve creating a dual management area of Kaniyo-Pabidi. However there are issues that require collaborative management of this area of overlap. The area has been managed entirely by National Forest Authority (NFA). Incidents of poaching and illegal timber harvesting have been reported within this area and because UWA has no presence in the area the poachers have often escaped arrest since NFA lacks armed forest guards to conduct routine patrols and effect arrests of poachers and timber cutters.

The National Forestry Authority gave a concession to a private operator to establish and manage tourism facilities at Kaniyo Pabidi known as Kaniyo-Pabidi ecotourism Centre. Tourism trails have been established in the forest and visitors to the centre undertake nature walks and chimpanzee tracking. However the forest has dangerous animals like bufaloes which pose a security risk to visitors in the absence of rangers.

Currently, there are no revenues that accrue to park management despite the fact that the tourism facility falls within Murchison Falls protected area.

Fisheries Resources Management Department is responsible for management of the fisheries resources in the country. The Victoria Nile and Delta lie inside the national Park and are important fish breeding areas. Communities especially from Wanseko, Panyegor, Kiryango and Panyimur cross into the park and illegally fish in the fish breeding areas. In the open waters of Lake Albert and the Albert Nile, communities also fish in the shores which are also breeding sites for fish and hippos. Park management has had no formal collaboration mechanisms with the fisheries officers in the respective districts to address these illegal fishing activities.

#### **Management actions:**

UWA will engage the wetland management department and agree on management interventions that are required for the sustainable management of the Ramsar site and roles and responsibilities of each institution in implementing the identified interventions.

A memorandum of understanding will be negotiated between UWA and NFA that will clearly spell out the roles and responsibilities of each institution with regard to the illegal activities currently taking place within the dual management area of Kaniyo-Pabidi. The MoU will also define the roles of each institution in providing security for the visitors and improving the overall tourism experiences of the visitors. The MoU will further spell out how benefits accruing from the on going tourism activities in the area will be shared between the two institutions.

Discussions will be held with the Fisheries Management Department to establish collaboration mechanisms to deal with illegal fishing in fisheries breeding zones.

### Summary action table

Activity	Responsible person	Other	Time	Cost
Negotiate MoU with DWM for management of Ramsar sites	CAM	ED/DC	Year 2	5m
Negotiate MoU with NFA for management of dual management areas	CAM	ED/DC	Year 1	5m
Negotiate MoU with Fisheries department for management of breeding grounds	CAM	ED/DC	Year 2-3	5m
Work with LG to resolve park community conflicts	CAM	WCC	Every year	0 (covered under CC)

## 8.4 Communication

**Objective:** Ensure improved communication systems are in place in order to enhance efficient and effective service delivery

### Issues and rationale:

The tourism industry within Murchison Falls PA has a number of stakeholders including concessionaires with hotel and lodge facilities within the park, tour operators that bring tourists to the park, private hoteliers around the park among others, all of whom contribute to the overall enjoyment and tourist experience for the visitors. However currently there is no established mechanism for communication and information flow between park management and the private sector players. This has led to sometimes

providing contradicting information and messages to the tourists. Communication to the tourists about the on-going oil exploration and development activities in the park has not been well streamlined although oil companies have tried to hold regular meetings for tourism stakeholders. Internally within Murchison National Park management, there is limited information flow within departments.

### Management actions

Park management will hold regular meetings with the various private sector players operating within and around the PA. Management will also hold regular internal interdepartmental meetings to ensure that available information is shared across the departments. Management will in addition carry out team building interventions such as get together events, social gathering, sports among others.

### Action table

Activity	Responsible person	Other	Time	Cost
Hold meetings with concessionaires, tour operators, and private hoteliers around the park	CAM	WT	Every year	20m
Hold interdepartmental meetings to share information	CAM	WiC, WLE	Every year	120m
Encourage staff to use internet to share information (intranet)	CAM	SADS	Every year	Headquarter budget
Carry out team building through meetings, get together events, inter PA visits,	CAM	WiC	Every year	60m

Table 4: **Staffing requirements for the Murchison Falls Protected Area – Sept 2013**

Category of staff.	Current Number.	Optimal Number required.
<b>Administration:</b>		
Conservation Area manager	01	01
Senior Warden Accounts	01	01`
Warden Accounts	01	01
Warden in –charges(KWR,BWR)	02	02
Assistant warden Accounts	01	01
Secretary (Assistant warden)	01	01
Typist Clerk	01	01
Office attendant	02	02
Accounts Clerks	15	17
<b>Tourism Department:</b>		
Warden	02	01

Assistant Warden	01	02
Ranger Guides	23	32
Information clerks	02	02
Ferry operators	04	06
Launch Operators	02	04
Boat Operators	02	04
Deck hands	03	06
Camp attendant	02	04
Guest House attendant	00	02
Retail shop attendants	00	02
<b>Engineering Department:</b>		
Warden	01	01
Assistant warden Eng.mech.	02	01
Assistant Eng.Civil	00	01
Senior mechanics	01	01
Mechanics	05	05
Drivers	14	16
Heavy plant operator	02	05
Store clerk	01	01
Fitter machinist(Lathe Machine)	00	01
Fuel clerk	01	01
Mason	01	04
Electrician(building)	00	01
Carpenter	00	02
Welder	01	02
Plumber	01	01
Spanner boys	01	01
Workshop attendants	00	01
<b>Community conservation Dept.</b>		
Warden	01	01
Assistant warden	01	03
Head CC rangers	00	01
CC Rangers	09	12
<b>Monitoring &amp; Research Dept.</b>		
Senior Warden	01	01
M&R Rangers	08	10
<b>Veterinary Dept.</b>		
Warden Veterinary	00	01
Veterinary Assistant	00	02
Laboratory technician	00	01
<b>Oil Monitoring compliance;</b>		
Warden	01	01
Assistant Warden	00	01
Oil Monitoring Rangers	100	100

<b>Law Enforcement and security.</b>		
Warden	01	00
Assistant Warden	00	02
Field rangers	206	286
<b>TOTAL</b>	<b>405</b>	<b>559</b>

Table 5: **List of equipment required**

<b>Equipment type</b>	<b>Required</b>	<b>Cost</b>
Tents	15 sets	6,000,000/=
Sleeping bags	175 pieces	35,000,000/=
Sleeping mats	175 pieces	21,000,000/=
Binoculars	15 pieces	2,250,000/=
GPS	17 pieces	4,760,000/=
Compass	30 pieces	1,500,000/=
PPE	assorted	150,000,000/=
Vehicle	7	840,000,000/=
Tipper lorry	1	200,000,000/=
Boat (launch)	2	4,000,000,000/=
Speed boat	4	200,000,000/=
Motor cycle	10	90,000,000
Computer	6	9,000,000/=
Scanners	6	3,000,000/=
Printers	6	9,000,000/=
Solar Panels	20 systems	100,000,000/=
DAT Guns	1	7,000,000/=
Vet Lab	1	25,000,000/=
Other Vet Lab equipment	1	25,000,000/=
Office/conference furniture	12	80,000,000/=
Weather equipment		2,000,000/=
Un detected and ordinary Camera	6 pieces	3,600,000/=
Voice recorder	2 pieces	1,500,000/=
Torches	35 pieces	3,850,000/=
Radios	54	7,560,000/=
spare radio batteries	300	29,400,000/=
First Aid Kits	32kits	2,400,000/=
Water bottles	513 pieces	11,799,000/=
Tool boxes	6	3,000,000/=
Equipt Education Centre		800,000,000/=
Total		5,619,019,000/=

Table 6: List of Outposts

<b>Sector</b>	<b>Outposts</b>
Bugungu	Tangala, Bugana
Karuma	Nyamahasa, Kiroko, Dikka
Chobe	Ogello, Adibuk, Ayago
Wangkwar	Latoro, Kololo, Punuri
PAM posts	Amuru farm, Got Apwoyo, Aringo Kech, Ayago, Apala B, Nyamahasa
Northern bank	Tangi, Pakuba lodge, Simanya, Delta Pakuba airstrip
Mubako	Top of falls, Bugungu gate, Marabou, Kicumbanyobo, Nyakarongo, Kimina
Rabongo	Rabongo

## **SECTION THREE: BUSINESS PLAN**



## 9.0 TOURISM DEVELOPMENT PROGRAM

### Introduction

The **Tourism Development** program highlights the major actions through which the protected area will improve revenue generation for the protected area. There are already measures in place to increase the revenue but these need to be strengthened. A number of new proposals have been proposed to improve tourism in the area. However these proposals have been included taking into consideration the limits of acceptable use. Proposals to promote community based tourism are also included in this program.

### **Program Objective: To increase annual tourism revenue to 12 billion by 2022**

In the 1960s Murchison Falls National Park was the highly visited Park in East Africa with over 60,000 non residents due to teeming wildlife populations and best available visitor facilities at the time.

However, due to political upheavals that engulfed the country in the 1970s led to the breakdown of institutions responsible for conservation and tourism. This was followed by massive poaching of wild animals some to extinction, destruction of park infrastructure and facilities such as lodges, access roads, etc .Matters worsened in 1987 when a civil war engulfed most parts of northern Uganda that continued making visiting and investing in Murchison National Park risky and unattractive. Rebels at one time in 2004 attacked and massacred students and staff of Sekassi catering training institute. Another incident happened in 2006, when the rebels murdered tourists in the park.

These scenarios and unfortunate incidents led to continuous negative publicity by international government agencies and press which depicted visiting Murchison Falls National Park as risky and unsafe, resulting in limited tourism investments in infrastructure and facilities such as lodges, tourist shops, hostels, campsites, roads, airfields, boats, tracks, signage and information centers. However over the years, there has been a sustained tourism growth. Tourist numbers visiting Murchison has grown from around 20,000 visitors in 2001 to about 60,000 visitors in 2012 as indicated in figure 15 below.

Figure 19: Tourist trends from 2001 to 2012  
 (source: UWA Visitor Statistics)



Compared to other national parks Murchison Falls National Park came second to Queen Elizabeth National park in terms visitation in 2009 as illustrated in Fig 16 below. This is because QENP had experienced relative peace over the years compared to MFNP. However in 2012, MFNP had surpassed QENP in terms of visitors (Fig 17)

Figure 20: Share of visitors to the PAs in 2009

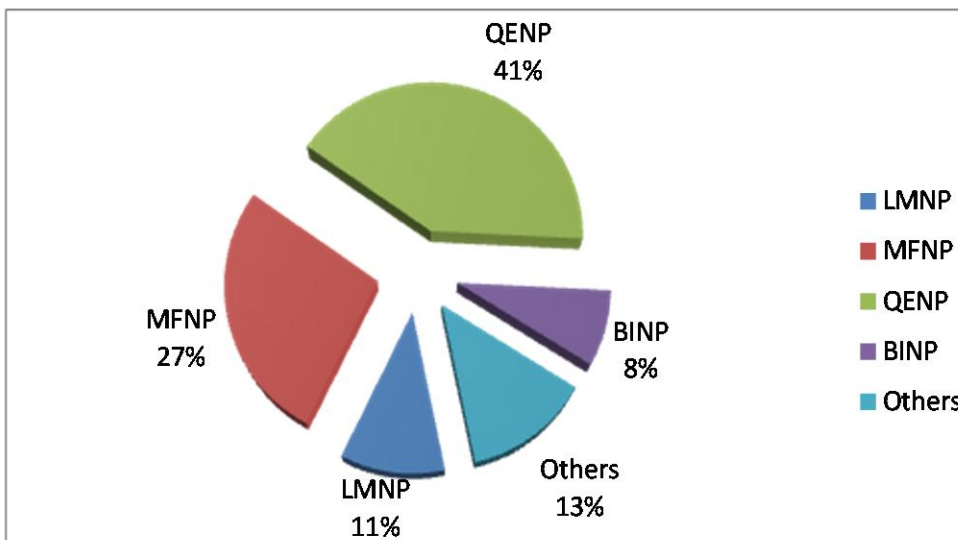
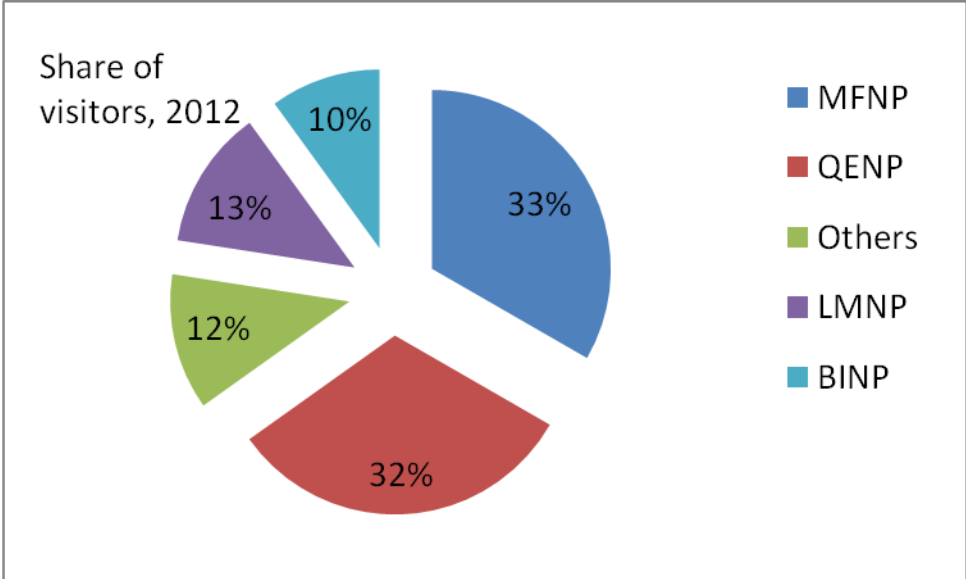


Figure 21: Share of visitors to the PAs in 2012



Tourism revenues have correspondingly increased since peace returned to northern Uganda after the rebellion, rising from about 500 million in 2001 to 5.4 billion in 2011 as illustrated in Fig 18 below.

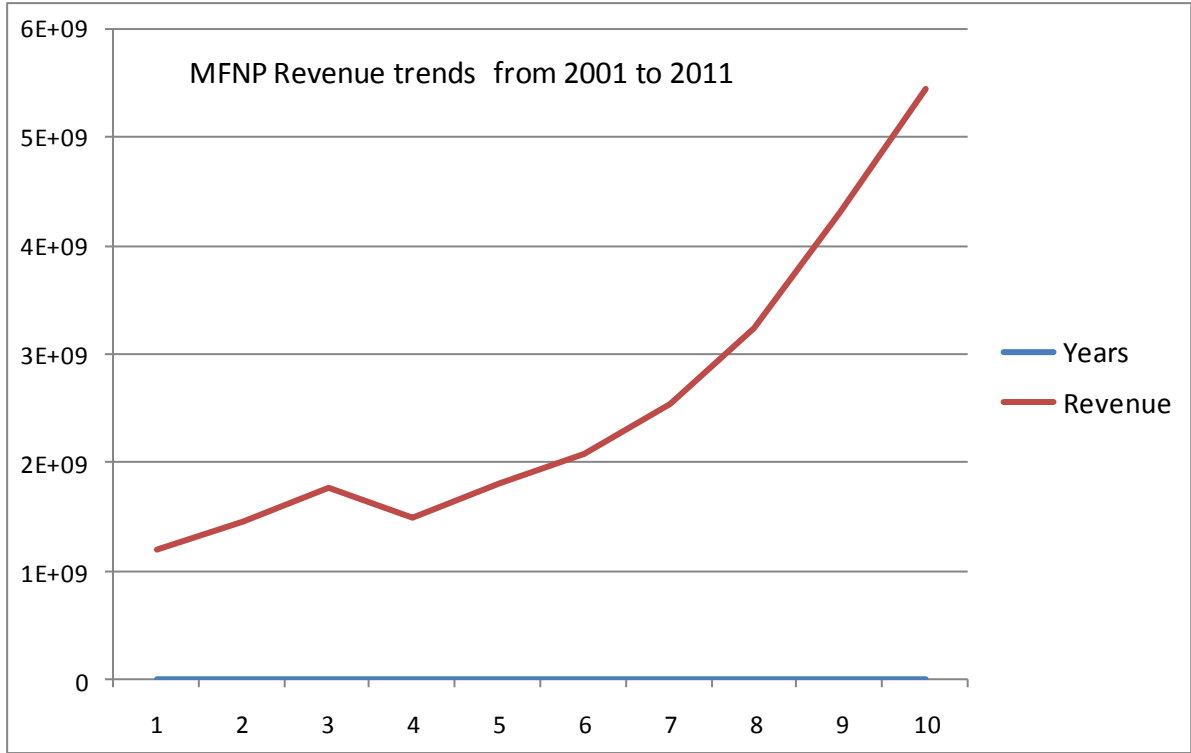


Figure 22: Revenue trends for MFPA (source: UWA Finance department)

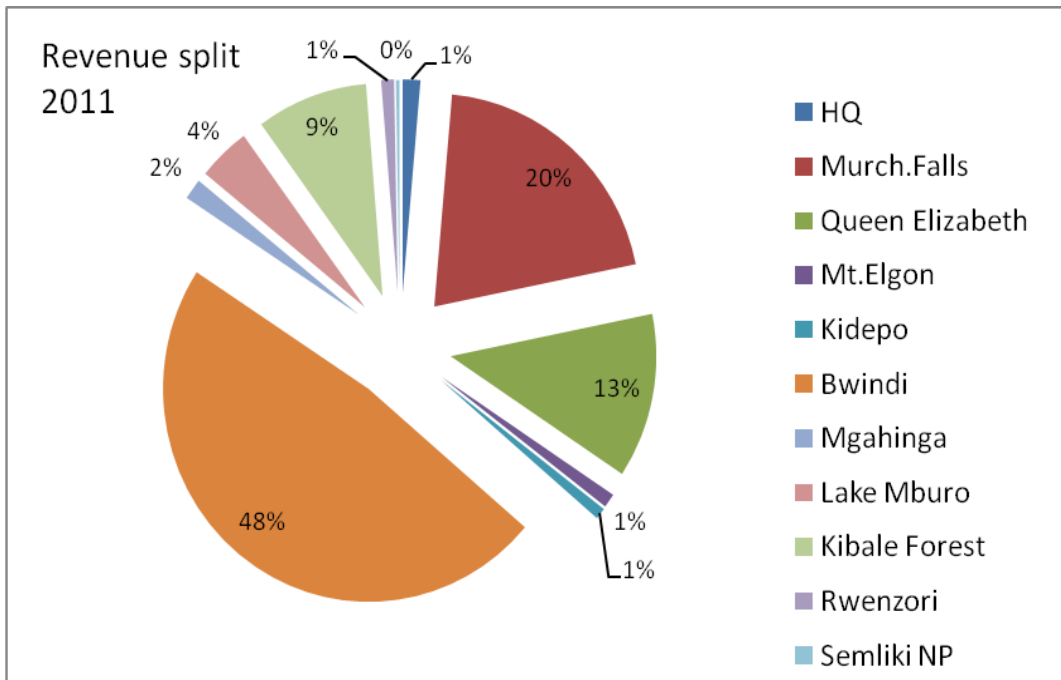


Figure 23: Revenue split for National Parks and Headquarters in 2011

Figure 24 above shows the share of revenue that MFNP contributed to the overall organizational revenue earnings for UWA in 2011. Head office was included in this analysis since it is a Centre for revenue collection. It is evident that Murchison Falls National Park is now second to Bwindi in terms of revenue collection having surpassed Queen Elizabeth National Park.

Despite these gains there are still opportunities for increasing revenues that will ensure sustained management of the PA resources especially amidst the challenges highlighted in the resource conservation program. The overall program goal of increasing revenue to sustain resource conservation will be achieved through the following outputs:

**Outputs:**

1. Tourism products improved and diversified to increase visitor satisfaction and stay in the PA
2. Tourist numbers in the PA increased by 50% by 2022
3. Visitor orientation, information and interpretation improved
4. Standard and adequate tourism facilities affordable by all visitor categories established
5. Infrastructure (existing and new) improved and established to meet the increasing demand
6. Community based tourism initiatives supported

## **9.1 Product Development**

**Output 1:** Tourism products improved and diversified to increase visitor satisfaction and stay in the PA

### **Issues and Rationale**

Under this output issues that have constrained visitors staying longer within the PA have been related mainly to a limited range of products that the Park offers.

Tourism activities have long been concentrated around Paraa and the Delta area offering the traditional activities of game drives; launch cruises and viewing top of falls with little inclusion of other areas that have the potential of offering different experiences. Subsequent surveys have put the average stay of a visitor in MFPA at an average of 1.8 days. Thus visitor's retention in the park has been negatively impacted by inadequate activities for visitors while in the park. Factors hindering product development are inadequate capacity and innovation of PA staff to identify and develop tourism activities, limited financial resources to invest in area.

However, despite the constraining factors above, there has been no deliberate effort to exploit the potential for tourism product development within the adjoining Karuma and Bugungu wildlife reserves that were created as buffer zones to the national park.

Murchison Falls National Park is surrounded by diverse nationalities with a rich cultural and historical heritage such as the mighty Bunyoro Kingdom, the Luo and their mystic migrations, the early colonial adventurers, explorers and trophy hunters, archeological sites, many of which still have standing artifacts today are a very important area that can attract a big tourist segment that are interested to know the culture and history of the people around Murchison Falls Park, presenting great opportunities for development of cultural tourism.

### **9.1.1 Paraa Area**

Paraa remains the main tourism hub where most tourism activities are planned and coordinated. Trails around Red Chilli and Paraa north bank shall be redesigned and delineated from the birding trails to give visitors optimum satisfaction about the natural phenomena in which they pass.

The launch trip remains the highlight of all visitors that come to Murchison falls by daily morning and afternoon trips to the bottom of falls and occasionally the Delta trips. Currently there are two concessionaires running boats alongside the UWA boats. However as the visitors increase management shall consider the possibility of introducing other operators or increasing on the UWAs current fleet in view of the river's carrying capacity. To increase on the river experiences, management will diversify and offer specialized products such as sundowner cruises, cruise dinners and weddings on water. Private concessionaires will be encouraged to undertake these activities.

### **9.1.2 North-East Paraa (Punuri, Tangi River, Nyamusika, Tebito, Wangkwar)**

This area covers a stretch north and north east of Paraa student center up-to Wangkwar down to Top of Falls (north bank). In the last plan there were few activities suggested for tourism development because the area was also bedeviled with insurgency resulting in few tourism activities. Besides, Buligi and the Delta area was and is still the tourism hub for game viewing activities.

Murchison Falls National Park has large expanses of open and flat landscape teeming with wildlife particularly the area north of the Victoria Nile. **Hot air balloon** flights introduce new aerial experiences to view wildlife and landscapes for visitors in Murchison Falls National park. They require flat and open areas with no obstacles such as trees, rocks, etc for easy takeoff and landing. They are piloted on just one principle of when the air is warm it raises and descends when cool. They use methane gas to blow the envelope whenever a pilot wishes to gain altitude or lower it while the horizontal direction is determined by the direction of wind. However, the pilot does not control the

direction it has to blow. They only need to study the wind pattern of the area they are operating in. Most safaris begin at 6.00am and end at 7.00 am therefore may require a closer take off point.

Management shall identify an operator and concession out the activity. Together with the operator an area shall be identified north of Paraa that is suitable for balloon safaris particularly the flat and open areas between Punuri and the barracks. Other suitable possible areas are near Tebito and Wangkwar gate. The takeoff and landing will also be determined with the operator before commencing business after ascertaining suitable ground and wind patterns. The only infrastructure required is an area less than an acre where the operator needs to put containerized offices/stores for balloons accommodating a few attendant staff since the pilots and booking clerks normally stay at hotels where they pick clients. The concession shall be on contract of 10 year basis renewable, but to be evaluated every three years

**Nyamusika Cliffs:** The area has got a picturesque geological landscape as a result of erosion along Nyamusika River. A number of wildlife congregates around this point to feed and drink water in the Nyamusika River as it winds its journey to the Nile. The current access track will be improved and signposted.

A small picnic shelter shall be erected at a convenient location. An outdoor interpretation panel will be erected at the top of the cliffs to describe the features seen at the site. A nature walk trail shall be reopened and maintained for those avid birders and those who would wish to come closer with nature.

### **9.1.3 Buligi/Delta/Pakuba/Tangi Area**

Apart from the launch trip to the bottom of falls, tourism in Murchison Falls Protected Area is currently concentrated in the Buligi area for game-drives, with some visits made to the Delta by boat for bird watching up to Delta Point. However, with oil developments in this world class zone of exceptional importance, the impact and extent of disruption on tourism and wildlife conservation is not yet fully known but could be disastrous.

The 'Buligi circuit' still remains the primary area for vehicle game viewing. The circuit is long enough to maximize the wildlife viewing experience. The circuit is linked to a number of tracks i.e. the Victoria, Albert, Research and Commonwealth tracks. The existing Buligi game drive experience is limited by the absence of any specific destination to mark the extent of the lengthy outbound drive and the start of the return to Paraa.

As park visitor number and oil developments increase in Buligi circuit, it is expected that pressure will mount in this area therefore diminishing the visitors' appreciation of the Buligi experience. In addition the area around Tebito, Wangkwar and areas towards Kibaa have plenty of wildlife making them potential areas for developing game viewing

tracks. The Tebito-Falls and Wangkwar-Paraa roads form hubs where other tracks can easily spike from.

Despite the above, Buligi circuits will continue to play a key role as the major and popular destinations for viewing large game through planned game drives. However as tourism numbers continue to grow, there will be need to decongest the Buligi circuits and divert tourists to other spectacular parts of the park that offer amazing wildlife population especially in the Tebito areas by opening up more game viewing tracks. Visitors coming to the park by public means find it difficult to enjoy the spectacular game drives. To further enhance game driving experience for those who come by public transport, management will procure 2 game drive vehicles.

### **Management actions**

In order to decongest Buligi and spread tourism activities to other equally spectacular areas for game viewing, areas to the east of the Buligi will be surveyed to determine the suitable location of the game viewing tracks. The identified tracks will be opened.

A new riverside viewpoint, named the 'Delta Point,' will create a destination for game drives at the outermost point of the Buligi tracks at the confluence of the Victoria and Albert Niles

At Delta Point, a 1.5m high platform will provide an uninterrupted view above the waterside papyrus of the Nile and the West Nile/Congo mountains. A rail-mounted orientation panel will explain points of interest within the panorama. A defined parking area will be established to prevent off-road driving along the shoreline.

The **Delta** area is about 35km from Paraa Jetty, located at the main Nile river confluence with Lake Albert. It can be accessed on water by boat and on land by vehicle. It is a point where the shoebill is commonly sighted and a congregation of other migrant bird species such as pelicans, black terns, African skimmers, etc

#### **9.1.4 The Marabou Stork Area (The Murchison Grand Canyons):**

The site is characterized by stunning panoramic views of a big canyon and river Nile. These unique features were mainly a result of erosion and other geological processes.

A 3km track will be constructed originating from the main Paraa-Masindi road. A viewpoint and picnic site/campsite will be established at this site

An outdoor exhibit panel overlooking the gullied landscape explaining the geology, erosion, soil structure and the role of wildlife in the whole feature formation process will be constructed. A trail along the rim of the canyon shall be developed to ease scenic views of the landforms and those interested in bird watching and other wildlife such as the hartebeests. Arrangement to carry out guided walks into the canyon shall be explored with an armed ranger guide.



### **9.1.5 Sambiya Area:**

#### **Issues and rationale**

Sambiya River Lodge is a well known facility for anglers and birders alike because of its close proximity to the top fishing spots below the bottom of falls. It also lies within an area with varied habitats, Sambiya River, riverine forest, woodland and patches of savannah grassland that are suitable for bird watching. Management of the lodge has complained about the lack of game viewing trails and that visitors have to be driven all the way to Buligi Area across the river to do game drives. The issue however is that the area to the south is generally closed up by thick vegetation with limited spectacular views of large wildlife for game drives.

#### **Management actions**

The existing birding and nature trails will be maintained with clear signage to direct visitors. A game viewing loop connecting the road the falls (south bank) with the road to Rabongo Forest will be opened to offer visitors for the lodge an opportunity to engage in game viewing.

### **9.1.6 The Murchison Falls Area (South bank)**

#### **Issues and rationale**

The Murchison Falls site is one of the top tourist hot spots that offer visitors a memorable experience close to the exhilarating environment in the wilderness of the River Nile course. The superb views from the top of the Murchison Falls coupled with those on the Paraa launch trip provide visitors with the most enduring memories of MFPA. However the full spectacle is best appreciated from the superb viewpoints at the top and bottom of the Falls. The visit to the 'Top of the Falls' is a highlight for all tourists who come to MFPA.

While this is a strategic and potential site for tourism convergence in Uganda, it has not been able to realize its full potential because the attendant facilities are not developed.

#### **Management actions**

This site will form a major tourism hub. Infrastructure and other developments shall be carefully designed to give all visitors irrespective of age or agility the fullest exposure to the spectacular beauty of the falls whilst taking care of conserving its unique values. All infrastructural developments will be confined within this site and will follow the site designs and plans which aim at improving and sustaining the tourist experience and offering better value to tourists by providing essential infrastructure and services to the visitors. A detailed Development Plan for the Top of Falls south bank has been developed and the details are as described in a report by Arch Tech Consults (U) LTD 2011 (Tourism Facility for the Top of Falls , Final Design Report, June 2011)

### **9.1.7 Top of Falls Area (North bank):**

#### **Issues and rationale**

The experience of viewing the Murchison Falls from the North bank is quite different but complimentary to that on the south bank. The re-opening of the 20 km Tebito-top of the falls scenic drive track (north bank) provides an opportunity to visitors to have a complete experience of the Murchison Falls. In addition it provides access to visitors that may not have time or willing to drive all the way to the south bank to see the thunderous Murchison falls. A variety of wildlife along this scenic and fascinating stretch that can be seen include many of the large mammals namely giraffe, hartebeest, kob, buffalo, elephant and many bird species that are commonly found in the National Park.

#### **Management actions**

In order to bring the visitors into close proximity to the Falls, steps that lead visitors from the picnic site to the falls have been constructed and reinforced by rails to provide safety for visitors. Picnic shelters and a toilet shall be constructed at the parking yard. Rails shall be erected at viewing points near the edge of the river to avert any possible accidents.

*Uhuru trail:* A guided walking trail linking top of falls (north bank) to bottom of falls will be surveyed and developed to give visitors close views of the two falls (Uhuru and Murchison) on both the south and north banks. The proposed stretch has deep and sharp gorges making it difficult to cross. It will require building hanging bridges.

*Interpretation:* Information and orientation panels will be mounted at key points and sites at the top of falls to give information to visitors on the different features such as the gorge, rock types, vegetation types, history and culture of the people. The trails will be adequately maintained and signage installed where necessary. The panels will be beneficial to visitors approaching the site without a guide and caution visitors on their conduct while at this site.

### **9.1.8 Rabongo Forest**

#### **Issues and rationale**

Situated east of Paraa, Rabongo forest is an extension of the Kanio-Pabidi ecosystem that forms up the Budongo forest. The Rabongo forest camp is 40km from the Paraa-Masindi road. The small iron wood forest (*Cynometra*) forest shares many similarities with the nearby forest at Kanio Pabidi. Rabongo forest consists of eight different forest patches most of which are currently inaccessible except one patch which is traversed by a small trail network and a collapsed bridge that would allow access to the other forest patches. Construction of this trail network is under way.

The area is remotely located over 60km and far from the tourism hub in Paraa. The camp that was established in this area mainly for research and tourism purposes is in a pathetic state with some houses collapsing because of lack of maintenance and use. There are no tourism activities going on at the site as there are no well established accommodation facilities and maintained trails. The three wooden cottages, two long wooden cabins, a museum and a conference hall are all in poor state. Five field rangers occupy some of the rooms on the dilapidated long cabin structures. Field patrols are planned and coordinated at this camp.

Despite these setbacks, Rabongo forest camp has great potential for tourism and research. The tourism potentials in the area include; bird watching, nature walks, butterfly watching.

### **Management actions**

Rabongo Forest will be developed as a tourism area for visitors who prefer a solitude and exclusive private experience away from other visitors. The following products will be developed to enhance visitor experience in this area.

#### *Bird and butterfly watching:*

Rabongo forest is among the known bird watching spots in MFPA with many unique, wetland and savannah species. Birds commonly associated with Rabongo include the African fin foot and the Shining blue King Fisher that are normally sited along Rabongo river and other streams that run through the forest. The forest margins are known to harbor a variety of butterfly species. The butterfly and bird checklists for Rabongo will be up dated and forest trails opened.

#### *Staff Accommodation*

- The leaning wooden cabins currently used by rangers will be removed and replaced by a new structure to provide accommodation for both tourism and law enforcement staff.

### **9.1.9 Heart of Murchison**

It has already been noted that tourism in Rabongo has not been successful mainly because of being far and remotely located from the main tourism hubs. The proposal in the old management plan to reopen the Rabongo - Top of falls road and construct access roads to 'Heart of Murchison' for game viewing, walking safari and access to R. Nile for water activities such sport fishing and white water rafting has not been possible as the area is very inaccessible. In addition the proposed Ayago hydropower development has rendered this area not suitable for tourism development. This area has therefore been left as a wilderness zone.

### 9.1.10 Karuma/Chobe Sector

#### Issues and rationale

Tourism into the Karuma WR and Chobe sector has not fully recovered due to lack of tourism activities visitors can engage in. The area that was once open savanna grassland has gradually become closed bush land and woodland. The likely reason is that the large wildlife that was responsible for maintaining the open grassland was wantonly killed during the rebellion in northern Uganda. The closed up large tracts of forests and woodland provide little potential for tourism development. Visitors to the newly renovated Chobe Safari lodge have limited tourism activities to participate in.

Nevertheless, activities such as bird watching, long distance walks, wilderness camping and white water rafting could be ideal for the area. The long spell of insecurity under LRA rendered the once vibrant Chobe sector unsafe for tourists.

Government recently earmarked two sites along the Victoria Nile for hydropower development at Karuma and Ayago Falls. The dam and other related infrastructure construction are likely to adversely affect the proposed tourism developments in this zone (scenic falls, rafting and sport fishing). Chobe and Karuma is located over 90km from the main tourism sector of Buligi.

#### Management actions

A number of tourism activities and developments have been proposed to revitalize this less visited area.

*Habitat manipulation:* There are a sizeable number of grazers that are commonly seen around Chobe such as kob, hartebeests and other antelopes that prefer open grazing areas. By opening up some areas it will remove stress and give them opportunity to easily produce and multiply. It would also give visitors chances to view the many otherwise available animals by opening open areas around the lodge.

*Game viewing tracks around Chobe and east of Ayago:* There are a few game viewing tracks that have been recently re-opened to provide game viewing opportunities to visitors. Animals such as kob, buffalo, giraffe, and sometimes elephants are seen in this area. Other areas that contain a number of game is towards Ayago river along the main Chobe-Paraa road. Preliminary surveys to establish the tracks have been done; more exploration of this area is required. However, this will require clearing some areas to allow visitors view more wildlife.

*White water rafting:* The stretch between top of falls and Karuma Falls has a number of rapids that provide opportunities for white water rafting. At least two white water rafting concessions should be allowed. The concessionaires will select own camping sites, and create access routes to them, subject to normal EIA procedures. However, camping will be done while rafters are on the river and will be pulled down as soon as the clients leave until the issues of exclusion zone is resolved. Identify and establish sites for bush lunches.

*Golf:* The planning team considered the proposal of constructing a golf course at Chobe in light of the negative impacts it is likely to cause as most areas within proximity of the river are grazing and watering grounds for hippos, elephants, buffaloes, giraffes and many antelopes. This can be evidenced by many tracks that run through the proposed area for the golf course. This plan therefore condemns the construction of the golf course within the national park. However; alternative sites could be sought outside the PA.

### **9.1.11 Bugungu Wildlife Reserve**

#### **Issues and rationale**

The reserve currently has no developed tourism products to offer to visitors yet it has potential. The Bugungu (Kikonko) Escarpment offers one of the most exhilarating scenic views of the Rift Valley and Lake Albert. Further inside the reserve are the Waisoke falls plunging into the reserve as the river descends the escarpment, providing a cool and refreshing natural picnicking opportunity for visitors.

#### **Management actions**

In order to improve visitor experience, tourists entering or leaving MFPA through Bugungu wildlife reserve will stop at a vantage point on top of *Butiaba escarpment* for stunning panoramic views of the Rift valley, Lake Albert and the Blue mountains across in DRC. A view point/resting platform and interpretive panels describing the surrounding scenic landscapes will be erected. A site plan and designs to guide the proposed infrastructure developments on site shall be developed.

*The dilapidated Pearson's memorial monument* shall be rehabilitated and a new plaque describing the historical significance of this site will be made and restored. Park management shall partner with Lubega (*Lubega cultural shrines*) to develop the cultural shrines into a tourism product. A new guided trail shall be developed to loop the new proposed lodge, the view point, Pearson memorial site and Lubega cultural ancestral shrines. Interpretive panels to orient and give information to visitors about the site will be developed.

In Waisoke, near the reserve headquarters, a public campsite will be developed to provide overnight accommodation or picnicking for visitors that come for bird watching and or visiting Waisoke Falls. Visitor facilities for day or overnight use shall be developed (toilet, bath, and resting shelter)

Waisoke Falls will be developed as a product to offer visitors to the reserve a picnicking site, will attendant infrastructure and facilities such as toilets and a resting shelter. A new track originating from Bulisa-Hoima road to Waisoke falls shall be surveyed and developed to facilitate easy access to the Falls.

*Birding trails:* Apart from the spectacular falls there is a big potential for bird watching. A bird inventory shall be developed to produce a checklist for this area. A trail shall be developed along Waisoke River as the area is endowed with both savannah and wetland birds.

### **Tourism activities that are not site specific**

**Game drive vehicles:** Multi-purpose customized game viewing safari vehicles shall be procured to stop-gap the needs of many tourists that come without vehicles or those who come with small vehicles but need good viewing of wildlife as many times lodge vehicles are few and expensive for this category of visitors. Those who cannot afford normally skip game drives, do a launch cruise and stay for one night and leave. This has a negative implication that these visitors go back with a partial experience as they cannot do all activities due to lack of affordable transport facilities. The vehicles shall also be used for night game drives and experiential tourism.

**Night game Drives:** Currently, visitors do game drives in the park only during the day which activity ends by 7pm. However, a lot of animals especially predators are active at night. Also, listening to animal sounds in the night is an attraction for a number of visitors. Most of the visitors would have experienced a number of cities' night-life; this service is being introduced to provide an option to visitors to experience a protected area's night life.

The park management will identify areas where night game drive activities can take place. Normal game drive roads would be used. Off road driving would not be allowed. Areas for night game drives can be revised from time to time as deemed necessary. However before commencement of the activity assessment studies will be done to determine which nocturnal animals are found in the area.

### **Experiential tourism:**

This is an activity that gives a visitor a hands-on and everlasting memorable experience through direct participation into wildlife management interventions or any other practical experience a visitor may engage in on his/her vacation. It allows adventurous explorers to absorb the full color and flavor of where they are and what they're doing.

The proposed activities for experiential tourism include but not limited to; large predator tracking, hippo census, bird monitoring and ringing, crocodile census or any other that may be safe to engage in. The activities will be pre-booked as they need adequate preparations. Operational and safety guidelines on each activity shall be developed on how to conduct specific activities.

This activity shall be jointly conducted with the monitoring and research unit and independent field researchers working in the PA as most of activities require professional skills. However, guides will be trained on how to use the tracking equipment and interpretation of some phenomenon

**Bird watching:** Murchison Falls continue to be one of the leading bird watching destinations in Uganda. However in order to fully develop this product, the following will be under taken:

*Birding trail improvement:* A number of trails have been developed around Paraa but require proper signage and continuous maintenance. These are located at north bank, Mubako junction, around Red Chilli and on boat along the stretch between Bottom of Falls to the Delta.

*Birding equipment:* such as binoculars, telescopes and guide books shall be purchased for guides and hire to enhance this product.

*Training:* Birding is a specialized product that requires a lot of skill and knowledge about the birds. Continuous training for guides shall be maintained to enhance the quality of guiding.

**Sport fishing:** The stretch between the Delta and Bottom falls is considered one of the world class port fishing sites in the world. However, the product has not had enough marketing and publicity. A few private tour operators market sport fishing in MFPA. A deliberate effort to market sport fishing product shall be embarked on. The river stretch shall be zoned for public and private sport fishing concessions.

*Train sport fishing guides:* At least 8 UWA guides will be trained in sport fishing to supervise fishing activities along the river.

*Fishing boats and rods for hire:* Two fishing boats and rods shall be bought for hire to generate revenue. Many anglers prefer to use boats meant for fishing, *Mamba* the only boat for UWA that is normally used for fishing is old and needs replacement or refurbishment.

*Develop sport fishing regulations:* Regulations to regulate the operations of the sport shall be developed and harmonized the national fisheries policy and regulations.

*Study the breeding pattern/ impact of the sport on the fish ecology:* Although the standard procedure is a catch and release method, there is no data to show what impact it has on the fish species released. It has over time been observed that the fish weight records and ease of catch has been declining. Studies will also be extended to establish the fishing zones of all the species.

**Summary management action table:**

Activity	Responsible person	Other	Time	Cost
<b>Butiaba Escarpment and Bugungu WR</b>				

Develop cultural and historical thematic trail to Pearson and Lubega cultural sites	WT	CAM, WIC	Year 3	10m
Develop Waisoke Falls as a tourism product	WT	CAM	Year4	20m
<b>Marabou stork site</b>				
Identify and develop nature trails along the rim of the canyon for birding and erosion features.	WT	WE	Year 2	12m
Sambiya Area: -Maintain existing birding and nature trails	WT	CAM	Every year	16m
<b>The Falls Area:</b>				
Maintain a trail from bottom to top of falls (South Bank)	WT	CAM	Every year	8m
Develop access trails and signage to sport fishing points below the bottom of falls	WT	CAM	Year 1	15m
Maintain bird watching trails at the bottom of falls	WT	CAM	Every year	8m
Maintain nature walk trails around top of falls	WT	CAM	Every year	3m
Develop a picnic site on the hill overlooking the crocodile bar (Fajao hill)	WT	CAM	Year 1	8m
Maintain the picnic site (North bank)	WT	CAM	Every year	4m
<b>Rabongo Forest:</b>				
Re -open trails for: - bird and butterfly watching -forest hikes -nature walks	WT	CAM	Year 1	20m
<b>Karuma/Chobe Area:</b>				
Develop bird	WT	CAM, WIC	Year 1	24m



watching/nature walk trails(Nogotec,Chobe ,Karuma south bank)				
Give out at least 2 white water rafting concessions (Karuma-ayago, Ayago-top of falls)	WT	CAM, CM	Year 2	Headquarter budget
Identify and establish sites for bush lunches	WT	CAM	Year 1	1m
<b>Kibaa Area:</b>				
Develop trails for: -Forest walk around Kibaa river -Bird watching	WT	CAM	Year 6	10m
<b>North-East Murchison(Punuri,Nyamusika,Tebito,Wangkwar)</b>				
Establish game viewing tracks	WT	WE	Year 2	480m
Survey and establish Walking safari routes( from Tangi gate/ river-Nyamsika, Nyamsika cliffs to River Nile)	WT	CAM	Year 1	1m
Survey and establish hot air balloons Wankwar/Punuri areas	WT	CM, PDE,CAM	Year 1	0
<b>Buligi/Delta/Pakuba/Tangi Areas</b>				
Introduce house boats between Wanseko and the Jetty	WT	CM, PDE, CAM	Year 3	2m
Maintain birding trails at Kapunu and Delta point.	WT	CAM	Every year	8m
Construct Bird hides/blinds, board walks	WT	CAM	Year 1	12m
<b>Paraa Area</b>				
Maintain game viewing tracks.				
Procure 2 game drive vehicles	CAM	DTBS, MME, WT,	Year 1	400m
Conduct refresher guiding training.	WT	HRM, CAM, PDE	Every 3 years	150m
Equip guides (binoculars, guide books, )	WT	PDE,	Every 5 years	50m
Buy 2 fishing boats and	WT	CAM	Year 4	50m

rods for hire		MME		
Develop sport fishing regulations	WT	CAM	Year 1	0
Train fishing guides	WT	PDE	Year 1,6	16m
Study the breeding pattern/ impact of the sport on the fish ecology (R&M)	WRM	WT	Year 2,5	60m
Introduce night game Drives (vehicle covered under game drives)	WT	CAM	Year 2	10m
Develop Experiential tourism as a product	WT	WRM	Year 1	10m
Diversify river Cruise/launch experiences: -Sundowner cruises -Dinner cruises	WT	PDE	Year 2	0
Introduce 3 more boats of 10, 20 and 50 capacity each on the river	CAM	CM, MME, WT	Year 3,6	720m
Maintain bird watching trails	WT		Year 1	8m
Maintain nature walk trails (Nyamusika, Paraa North bank, around red chilli)	WT		Year	28m
Carry out exposure visits	WT	CAM, PDE	Every 3 years	20m
Develop partnerships for product development	CAM	DTBS, PDE	Year 2	5m

## 9.2 Marketing and promotion

**Objective: To increase tourist numbers in the PA by 50% by the end of plan period**

### Issues and rationale

Low tourism revenues realized by the park continue to be a major issue yet these revenues are necessary for financing PA management activities. Internal revenue generation by the PA would lead to increased effective and efficient implementation of management programs. Without sufficient revenue, initiatives to develop and improve

infrastructure, staff salary and motivation, running of vehicles and equipment, resource conservation operations among others would not be implemented.

Over the 20 years, Murchison Falls National Park suffered from negative publicity as a result of the civil war by the LRA in Northern Uganda. Some travel advisories had ranked the park among the most dangerous spots to visit in Uganda. This low visitation negatively impacted on development of infrastructure and services. Since the end of the civil strife in northern Uganda, efforts have been made to market Murchison Falls PA as a top tourism destination in the country and re-assure the world that MFNP is a safe destination. However, despite these efforts, visitation to Murchison is still low compared to what it was in the 1960s where a total of 60,000 foreign visitors were registered against the 30,000 visitors in 2011. This is attributed to lack of a marketing strategy, inadequate funds allocated to marketing and lack of market research.

During the time Uganda was unstable, the rest of the East African states especially Kenya and Tanzania took advantage to consolidate their positions in the market for tourists. This has put Uganda at a disadvantage to compete favorably with some of her neighbors.

#### **Management actions:**

Park management will undertake vigorous marketing campaigns especially through designing and developing marketing materials. In addition deliberate efforts will be made to carry research to identify potential markets especially beyond the current European markets. The park will continue to participate in promotional activities by participating in local and international trade fairs. Management will in addition develop and regularly update a website for the PA, advertise the park in the local and international media, identify and develop promotional events. Specifically, Murchison Day will be promoted as a way of promoting this PA.

#### **Summary action table**

<b>Activity</b>	<b>Responsible person</b>	<b>Other</b>	<b>Time</b>	<b>Cost</b>
Design and produce marketing materials	WT	TCM, CAM	every year	Headquarter budget
Carry out market research to identify the tourism markets	WT	TMRO	Every 3 years	Headquarter budget
Participate in local and international fairs	WT	MM, DTBS	Every year	120m
Brand the park	WT	MM	Year 1	Headquarter budget
Develop and regularly update a website for the Park	CAM	Website Executive, TCM	Year 2	45m

Advertise in the local and international media	CAM	WT, WCC, TCM	Every year	80m
Identify and develop promotional events e.g Murchison Day	WT	MM, CAM	Every year	100m
Develop funding proposals	CAM	DTBS, WT,MM	Every year	0
Initiate a donation program to raise funds for development of marketing materials	CAM	WT, DTBS	Year 3	4m

### 9.3 Interpretation

**Objective: Improve visitor orientation, information and interpretation**

**Issues and rationale:**

The tourism circuits within the Buligi area are well identified by reasonably well placed signage. However this signage is relatively old and needs to be renovated. The overall organizational signage plan for the entire protected area estate has not been implemented. Currently there is no visitor information center in the park. The former museum however acts as an education center mainly for school groups that come to the park. There are no interpretation panels along the existing trails that help visitors to appreciate the park.

**Management actions**

The new designs for the modern gates provide for mini-information centers at the main entrances of the PA. It is hoped that once implemented, these information centers located at the gates will provide useful information to the visitors.

The current education center will be re-designed to also serve as a visitor information center at the northern bank. It will be furnished with interpretive themes and materials.

The dilapidated Pearson's memorial at the Bugungu escarpment will be renovated and interpretive panels placed at the monument. Signage to help visitors orient themselves will be developed and maintained in strategic areas of the protected area.

Guide books, maps and brochures will be developed. In order to provide information to visitors while inside the park, information kiosks at the “Top of the falls-north bank” and at the main airstrips within the park will be established.

Specific interpretation panels will be developed where white missionaries met at the spiritual shrines at Pakuba, and top of falls in addition to the Te-bitto tree believed to be important for the Acholi and Alur tribal separation.

### Summary management actions

Activity	Responsible person	Other	Time	Cost
Renovate the Pearson monument and place interpretive panels and themes	WT	CAM, WIC	Year 3	10m
Construct and equip a visitor information centre at the northern bank near the office	WT	CAM, WE	Year 5	400m
Develop interpretive themes and materials	WT	TCM, CAM	Year 4	150m
Install and maintain signage	WT	TCM, CAM	Year 1	50m
Develop guide books, maps, brochures	WT	TCM	Year 1	Headquarter budget
Establish information kiosks at each gate, Top of the falls-north bank,	WT	TCM, CAM	Year 4	30m
Develop interpretation panels where white missionaries met ( spiritual shrine at Pakuba and top of falls), Te-bitto tree	WT	WCC	Year 3	30m

## 9.4 Tourism facilities

**Objective: Ensure standard and adequate tourism facilities which are affordable and accessible by all visitor categories**

### 3.1.2 Hotels and Lodges

#### Issues and rationale

After Government put an end to the rebellion and war in Northern Uganda, there have been deliberate efforts to rejuvenate tourism in the park by encouraging private sector investments such as lodge and hotel accommodation and other tourist facilities within

and around the park. A number of lodges and other tourist activity concessions have since been constructed and managed by the private sector. Murchison Falls National Park currently boasts of a wide range of accommodation facilities from camping and traditional bandas at Red Chilli to the luxury of Paraa Safari Lodge, Nile Safari Camp, Chobe Safari Lodge and Sambiya River Lodge. There are five camping sites near Paraa Rest camp, at the Top of the Falls, Rabongo Forest next to Wairingo River and the two chimpanzee tracking sites at Kaniyo Pabidi and Busingiro.

Paraa Safari Lodge, a big hotel complex on the northern bank of the Nile complete with a modern swimming pool conference hall and modern interior design is another facility for up market accommodation. Though outside the park, the Nile Safari Camp lies at the periphery of the park boundary and offers tented units in a romantic setting overlooking and close to the Nile.

The most recent addition is the newly refurbished Chobe Safari Lodge, a five star hotel with breath taking panoramic views coupled with the sounds of the River Nile and magnificent rapids, setting the scene for a memorable adventure. The Safari lodge also has a conference room, swimming pool, 21 standard tents, family cottages, bridal suites, 61 standard rooms and deluxe tents.

It is located 17km from the main Gulu/Kampala road junction. Its strategic location on the banks of the Victoria Nile gives stunning views to the visitor. The lodge facility is served by an airstrip bringing visitors by air. Currently however, there is no park entrance gate for the visitors going to the lodge. In addition, there is no facility at the airstrip to allow UWA staff to collect entrance fees from guests arriving by air. PA staff find it difficult to collect the park entrance fees once the visitors have gone to the lodge.

Sambiya River lodge offers mid –range accommodation where separate self contained units are available. Budget accommodation and camping is available at Red Chilli Rest Camp and Kaniyo Pabidi Camp.

At Para south bank, the former staff houses that were occupied by the GTZ project staff have been used as guest houses mainly to serve government officials, UWA staff who visit the national park. However these structures were constructed out of very temporary materials and are thus currently in a very dilapidated state.

Table 7: **Summary of tourism facilities in MFPA**

**Table**

<b>Name</b>	<b>Type</b>	<b>Location</b>
Para Safari Lodge	High-end accommodation	North Bank of R. Nile
Chobe Safari Lodge	High-end accommodation	North Bank of R. Nile
Sambiya River Lodge	Medium-budget accommodation	South Bank of R. Nile
Nile Safari Camp	High-end accommodation	South Bank of R. Nile
Pakuba Lodge	Medium-budget accommodation	North Bank of R. Nile
Red Chilli	Low-budget accommodation	South Bank of R. Nile

Despite the available accommodation facilities, the growing visitor number in Murchison Falls National park can not be sustained by these facilities and the need for additional tourism facilities therefore can not be over emphasized. The following actions will be undertaken

### **Management actions**

A modern revenue gate with an office, toilet, staff accommodation, and sales office shall be erected about **100** meters on Chobe road to be able to monitor visitors going to **NOGATEC camp** and the new lodge. A revenue checkpoint/kiosk will be erected at the Airstrip to collect statistics and revenue from visitors who come by air to Chobe Lodge

### **Kibaa Hotel:**

The area around Kibaa Falls has got fascinating panoramic views of the Nile River and is located midway between Paraa and Chobe. The area has a varied habitat setting of a riverine forest, wetland, savannah and woodland that contain a variety of wildlife species such as birds, primates, and other mammal species. It is at the confluence of the river Kibaa and Victoria Nile. In order to meet the growing demand for the high-end market segment, a high-end hotel accommodation of 100-bed capacity will be constructed at Kibaa. This will be by a concessionaire yet to be identified through the formal Government procurement processes.

### **Karuma guest house**

The building structures were left behind by the road construction company. They are currently used as the reserve headquarters as offices, clinic, stores and some staff accommodation. Some of these buildings will be converted to a low to middle budget accommodation with restaurant facilities for transit visitors passing through Karuma who would wish to have overnight accommodation and visiting other tourism sites.

### **40-bed accommodation facilities at Karuma Falls**

Above the Karuma Falls but within Murchison Falls National Park and along the ridge that overhangs the banks of the river gives stunning views of Karuma Falls but this is likely to disappear as the construction of hydropower dam commences. During field reconnaissance the site was recommended for 40 bed middle budget accommodation but subject to the character of the falls once Karuma Hydropower Project has been constructed. A few birding and nature trails around this site are in place however there is need to realign them to enrich visitor experiences visiting this site.

### **Low-budget tourism facility near the former temporary ranger camp at Para**

In order to cater for domestic tourist market segment, new low budget accommodation facility of 40 bed capacity with a restaurant will be constructed near the former ranger camp at Para

### **Expansion of the student center**

The current student center accommodation will be expanded in light of the increasing student visitation in the park. This expansion will create 60 more beds. The existing

accommodation facilities at the education center will be re-furnished and parking area re-designed to give the Centre a new look.

### **Para south Guest houses**

Currently staff from headquarters and other visitors use the former accommodation for the then expatriate staff of the GTZ project as guest houses. However these houses were constructed using temporary materials. The facilities are now dilapidated. The current guest houses will be renovated and expanded into a 25-bed capacity self-catering units to cater for park administrative visitors.

### **Rabongo 30-bed luxury tented accommodation**

Rabongo forest offers exhilarating experience in terms of forest nature walks and bird viewing in an un disturbed environment. The site will offer visitors who prefer exclusivity will find staying in Rabongo Forest a memorable experience. In order to offer accommodation for such visitors, tourism accommodation facilities (30-beds) will be established at Rabongo (30 beds) under concession arrangement.

### **Bugungu escarpment 40-bed budget accommodation facility**

In order to offer visitors to Murchison through Bugungu Wildlife Reserve an exciting panoramic views and enjoyment, a new mid-upper market 40 bed accommodation facility is proposed to be constructed at Bugungu escarpment just before descending into the rift valley floor to be run as a concession. A handicraft enterprise center to benefit the local community shall be allocated a site near the lodge.

### **Public Campsites**

Due to demand for camping in the wilderness, public campsites will be established at the following locations:

*NOGATEC campsite:* The Northern Gateway Campsite is located opposite the Arua/Gulu-Kampala road junction and offers budget camping to visitors. However the planning team failed to ascertain the legality of the concession since the concession agreement could not be found. The current status of the concession needs to be clarified and if there is no basis of ownership, UWA should take possession of the site. The site is ideal for a stopover facility for tourists to relax and take a drink and or meal before proceeding to their various destinations.

*Wilderness camping:* Bush camping is a popular activity in Buligi circuit particularly areas facing the Nile. These activities shall be maintained as they generate some substantial revenue and have minimal impact on the environment. However, camping fees should be maintained high because that valuable experience in the wilderness setting and to discourage big numbers participating it as it is located in the main tourism activity hub.



*Buligi special campsite:* Special campsites are normally located in areas of exceptional values similar to bush camps but are occupied for a specified number of days normally not more than three months on an exclusive basis. The proposed site used to be a ranger outpost in Buligi has strategic overlooks to the islands on the Nile that are normally are inhabited by the shoebill.

### Summary action table

Activity	Responsible person	Other	Time	Cost
Establish tourism accommodation facilities at Rabongo (30 beds) - concession	CAM	WT, WE, WMR	Year 2	0
Establish an accommodation facility at Bugungu escarpment (40 beds) and concession it out	CAM	WIC, WT	Year 1	0
Construct accommodation facility at Kibaa (high end, 100 beds)	CAM	CM	Year 5	0
Construct an accommodation facility at Karuma falls (40 beds)-awaiting negotiation of exclusion zone	CAM	CM, WIC	Year 5	Concession
Renovate the current guest houses into self catering units to cater for park visitors	CAM	WE	Year 1	180m
Construct a low budget accommodation facility (40 beds) with a restaurant near the current workshop	CAM	WT	Year 2	800m
Expand and improve the accommodation at the education centre (60 beds)	CAM	WCC, WT	Year 1, 2	900m
Convert the current office block at Karuma WR headquarters into a guest house	WIC	CAM	Year 2	200m
Re-establish a campsite at Waisoke near the reserve quarters	WIC	WT	Year 3	20m
Construct access tracks to special /exclusive campsites which requires advance booking: - Simba hill - Buligi	WT	CAM	Year 3	30m
Maintain wilderness/Bush camps: -Delta Area	WT	CAM	Every year	0

-Albert Nile				
Establish picnic sites near Nyamusika cliffs, top of falls, north bank	WT	CAM	Year 3	20m
Provide incentives to encourage private sector to invest in the public transport to the park e.g free entrance fees	WT	CAM	Year 2	2.4m
Implement master plan for top of falls	WT	CAM, DTBS	Year 1	2.3bn

## 9.5 Tourism infrastructure

**Objective: To improve existing and establish more infrastructure to meet the increasing demand**

### Issues and rationale

The access roads to the PA are murrum/gravel roads that easily erode during the rainy seasons. The road into the park from Buliisa is most of the time in very sorry state. The Masindi-Para road through Kichumbanyobo requires constant repairs. The bridge at Tangi is very old and poorly located with a bend. This poses a risk of accidents yet most tourists to the park use this gateway.

The roads and tourism tracks under park management need constant repairs as they equally get eroded very fast during the rainy season. The road connecting to Chobe lodge from Wangkwar needs constant repair and so are other roads like the Nanda road connecting to Rabongo Forest from Karuma Wildlife Reserve. These are important roads that would boost tourism in the different sections of the park.

Tourism circuits currently are concentrated within the Buligi area of the park. With increasing tourist numbers there is need to decongest Buligi as the only tourism hub and expand tourism activities towards the eastern sections of the national park. On the south bank there are no tourism circuits for game drives and visitors staying in Sambiya River Lodge find it difficult to cross to the north bank for the early morning game drives. There is need therefore to expand on the tourism tracks.

### Management actions

In order to enhance visitor experience, management plans to open up more tourism circuits, create loops within circuits, repair and re-align the Tangi Bridge as summarized in the action table below.

### Summary management actions

Activity	Responsible person	Other	Time	Cost
Re-align and repair Tangi Bridge	W Eng.	CAM	Year 2	200m
Develop a panoramic view point at Kikongo escarpment	WT	CAM	Year 3	18m
Develop nature/ birding trails around the escarpment and Waiga swamp.	WT	CAM	Year 3	40m
Loop track from top of falls north to Nyamusika (7km)	WT	WE, CAM	Year 3-4	280m
Tebito-Tangi –Wankwar track (60km)	WT	CAM, WE	Year	2.4bn
Loop top of falls north bank to Kibaa bridge (40km)	WT	WE, CAM	Year 7	1.6bn
Develop a tourism loop from top falls track via Marabou area crossing the Masindi road to opposite Sambiya Lodge (16km)	WT	CAM	Year 5	640m
Develop game viewing tracks around Chobe and east of Ayago	WT	CAM, WE, WIC	Year 1	800m
Create a trail at bottom of falls north bank to link to the Te-bito track (1.5km)	WT	CAM	Year 4	16m
Construct a floating jetty at Kapunu (Buligi/Delta area)	WT	CAM	Year 2	10m
Redesign and improve the jetty	WT	WE CAM	Year 1	800m

### 9.6 Community based tourism (CBT)

**Objective: To support community based tourism initiatives.**

#### Issues and rationale:

Community Based Tourism (CBT) involves identification of any cultural and historical artifacts, norms, beliefs etc that has unique attribute to attract or provide such valuable information to the visitors. This could be inform of; art work, traditional dances and songs, monuments, forts, burial grounds for prominent chiefs and missionary sites and others. Unfortunately, MFNP and adjacent reserves do not share much of some of the cultural and historical attributes aforementioned. The PAs existence amidst the Luo and Bantu cultural dialects could stimulate cultural tourism that need to be properly assembled to give great enjoyment and education to tourists. Assessment on both the

cultural and historical sites and their subsequent development and improvement could steer more community support and involvement in tourism development around the PAs. It is believed that tourist interests are currently shifting from wildlife watching to culture appreciation of the communities living close to the PAs. However, Protected Area managers and local communities do not have sufficient skills and knowledge to fully identify and develop community based tourism activities that could be of appeal to visitors.

Communities living adjacent the PA's have not fully been involved in tourism business. Nevertheless, some members of the neighboring communities are employed in the tourism service industry. However, a small fraction communities around operates transport and offer accommodation service. Much of the big tourism business enterprises are taken up by private individuals who have bigger capital and investments

Districts are mandated to make annual plans to steer development within their area of jurisdiction in accordance to the Local Government Act. The plans include activities to be implemented under varying sectors of development. One gap in planning identified is lack of tourism development plans across most Districts. Lack of such plans leads to failure to secure funds to start up tourism related ventures. Availability of funds could support construction and repair of historical and cultural sites.

### **Management actions:**

The communities will be supported to identify and equipped with skills and knowledge to develop cultural, historical tourism sites and other products. Some of the already known potential areas for development into historical/cultural sites include Pearson Memorial and Te-bito.

In addition to cultural tourism, park management will support neighboring communities to identify business enterprises such as handcraft, eco-drama, restaurants and home-stays for communities around the park. Building the capacity through training and exposure for such organized groups will be supported.

Park management will work with local communities to identify tourism enterprise that are affordable by communities or involve the partners in community development to support community initiatives. In addition, park management will lobby districts to develop and implement Tourism Development plans.

Movement into the park by public transport is a big challenge. Often times, visitors and workers find it difficult to connect in and out of the park. Improving on transport could pave way for increased domestic tourism development and ease staff movement to access various services outside. One way to bridge the challenge is to encourage the

communities to start up transport services to bring people and visitors into the park. Such ventures are a good form of enterprise where communities can benefit.

Action: identify, organize and train operators in visitor handling and basic guiding skills.

### Summary management actions

Activity	Responsible per	Other	Time	Cost
Support communities to identify and develop cultural, historical tourism sites and other products: (pearson memorial, purongo , kochgoma, Pakwach, Panyimur, Kicumbanyobo gate,Biiso, Wanseko, Nora, Karuma south)	WT	WCC, CDOs	Year 1	100m
support communities to establish community based tourism enterprises e.g handcrafts, homestays, eco-drama, restaurants, guiding	WCC	WT, CDO, PDE	Year 2	Budget covered above
Work with the community to renovate Bugungu Fort	WT	WCC	Year 2	0
Work with community to develop interpretive themes and install signage	WCC	WT, CDO	Year 4	0

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## Birds of Murchison Falls National Park (Terrestrial and Aquatic).

Common Name	Scientific Name
<b>Fin foot</b>	
African Fin foot	<i>Podica senegalensis</i>
<b>Ducks and Geese</b>	
▪ Fulvous Whistling duck	<i>Dendrocygna bicolor</i>
▪ White - faced whistling duck	<i>Dendrocygna viduata</i>
▪ Egyptian goose	<i>Alopochen aegyptiacus</i>
▪ Pintail	<i>Anas acuta</i>
▪ garganey	<i>Anas querquedula</i>
▪ tufted duck	<i>Aythya fuligula</i>
▪ Southern pochard	<i>Netta erythrophthalma</i>
▪ Spur - Winged goose	<i>Plectropterus gambensis</i>
▪ Knob - billed duck	<i>Sarkidiornis melanotos</i>
<b>Cranes</b>	
▪ Crowned crane	<i>Balearica pavonina</i>
▪ Black crowned crane	<i>Balearica regulorum</i>
▪ Little grebe	<i>Tachybaptus ruficollis</i>
<b>Pelicans</b>	
▪ White pelican	<i>Pelecanus onocrotalus</i>
▪ Pink – backed pelican	<i>Pelecanus rufescens</i>
<b>Cormorants</b>	
▪ Long – tailed cormorant	<i>Phalacrocorax africanus</i>
▪ Greater cormorant	<i>Phalacrocorax carbo</i>
<b>Hérons</b>	
▪ Grey heron	<i>Ardea cinerea</i>
▪ Goliath heron	<i>Ardear goliath</i>
▪ Black - headed Heron	<i>Ardea melanocephala</i>
▪ Purple heron	<i>Ardea purpurea</i>
▪ Green - Backed Heron	<i>butorides</i>
▪ Squacco heron	<i>Ardeola ralloides</i>
▪ Night heron	<i>Nycticorax nycticorax</i>
Black heron	<i>Eagretta ardesiaca</i>
<b>Egrets</b>	
▪ Cattle egret	<i>Bubulcus ibis</i>
▪ Great white egret	<i>Egretta alba</i>
▪ Little egret	<i>Egretta garzetta</i>
▪ Yello – billed egret	<i>Egretta intermedia</i>
<b>Storks</b>	
▪ Open – billed stork	<i>Anastomus lamelligerus</i>
▪ Abdim's stork	<i>Ciconia abdimii</i>
▪ White stork	<i>Ciconia ciconia</i>
▪ Wolly - necked stork	<i>Ciconia episcopus</i>

▪ Saddle - billed stork	<i>Ephippiorhynchus senegalensis</i>
▪ Marabou storks	<i>Leptoptilos crumeniferous</i>
▪ Yello billen stork	<i>Mycteria ibis</i>
<b>Ibises</b>	
▪ Hadada	<i>Bostrychia hagedash</i>
▪ Glossy ibis	<i>Plegadis falcinellus</i>
▪ Sacred ibis	<i>Threskiornis aethiopicus</i>
<b>Spoon bill</b>	
▪ African spoon bill	<i>Platalea alba</i>
▪ Eurasian spoon bill	<i>Platalea leucorodia</i>
<b>Hamerkop</b>	<i>Scopus umbretta</i>
<b>Shoe bill</b>	<i>Balaeniceps rex</i>
<b>Flamingos</b>	
▪ Lesser flamingos	<i>Phoeniconaias minor</i>
▪ Greater flamingos	<i>phoenicopterus</i>
<b>Darters</b>	
▪ Darter	<i>Anhinga rufa</i>
<b>Giant King fisher</b>	<i>Ceryle maxima</i>
<b>Crown plover</b>	<i>Vanellus coronatus</i>
<b>African skimmer</b>	<i>Rynchops flavirostris</i>
<b>Terns</b>	
▪ White – winged black tern	<i>Chlidonias leucopterus</i>
▪ Gull – billed tern	<i>Gelochelidon nilotica</i>
<b>Rails, Galinules and Coots</b>	
▪ Allen’s gallnulle	<i>Porphyrio alleni</i>
▪ African water rail	<i>Rallus caerulescens</i>
▪ Red- knobbed coot	<i>Fulica cristata</i>
<b>Jacanas</b>	
▪ Jacana	<i>Actophilornis africanus</i>
▪ Lesser jacana	<i>Microparra capensis</i>

**Source:** Sandra Erickson Wilson, 1995, Uganda National parks , Bird and Manual checklists for Ten National Parks in Uganda, the National Biodiversity Databank



## Appendix 1: **PLANNING TEAM MEMBERS**

1-	Edgar Buhanga	Senior Planning and EIA Coordinator/ Team Leader
2-	Tom Okello	Conservation Area Manager/Co-Team Leader
3-	Justine Namara	Senior Planning and EIA Officer
4-	Tushabe Patrick	Product Development Manager
5-	Ghad Mugiri	Senior Warden Oil Monitoring
6-	Eric Enyil	Research and Monitoring Warden
7-	Odokworot Walter	Community Conservation Warden
8-	Jushua Masereka	Tourism Warden
9-	Genesis Okello	Assistant Warden In charge, Karuma
10-	Luis Onzima	Warden Law Enforcement
11-	Dhabasada Moses	Warden In charge
12-	Bosco Okullo	C/M LCIII Kochgoma, Nwoya
13-	Okwang P'Welle	Project Coordinator, JCCRDT - Nebbi
14-	Barugahare Bernard	CDO, Buliisa
15-	Giira Chris Otim	Senior Community Development Officer, Oyam
16-	Joseline Nyangoma	Environment Officer, Hoima
17-	Businge David	CDO, Kiryandongo

## Appendix 2: Stakeholder Analysis

Category	Stakeholders
<b>District level</b>	<ol style="list-style-type: none"> <li>1. District Chairperson</li> <li>2. District Environment Officer</li> <li>3. Forest Officer</li> <li>4. District Production Officer</li> <li>5. CAO</li> <li>6. NRO</li> <li>7. RDC</li> <li>8. CDO</li> <li>9. DPC</li> <li>10. DISO</li> <li>11. Brigade CO</li> <li>12. UPDF</li> <li>13. Fisheries</li> <li>14. Water</li> <li>15. Agriculture</li> <li>16. Veterinary</li> <li>17. UNRA</li> <li>18. District Health Officer</li> <li>19. District Vermin officers</li> <li>20. Secretary for Production and Environment</li> <li>21. Area MP</li> </ol>
<b>Subcounty</b>	<ol style="list-style-type: none"> <li>1- SC/Chairperson</li> <li>2- GISO</li> <li>3- Secretary for Production and Env.</li> <li>4- CDO</li> <li>5- Sub county Chiefs</li> <li>6- NAADS Coordinator</li> <li>7- Vet</li> <li>8- Agric. Officer</li> <li>9- Fisheries</li> </ol>
<b>Tourism Stakeholders</b>	<ol style="list-style-type: none"> <li>1. MARASA</li> <li>2. Wild Frontiers</li> <li>3. Red Chilli</li> <li>4. Sambiya River Lodge</li> <li>5. Geolodges</li> <li>6. Acacia Safaris</li> <li>7. Murchison River Lodge</li> <li>8. Murchison River Camp</li> <li>9. Murchison Safari Camp</li> <li>10. Yebo Safari Camp</li> <li>11. Bomu Women Group</li> </ol>

	<ul style="list-style-type: none"> <li>12. Albert Safaris</li> <li>13. Global Village</li> <li>14. Uganda Wildlife Safaris</li> <li>15. Great Lakes Safaris</li> </ul>
<b>Partners</b>	<ul style="list-style-type: none"> <li>1. NFA</li> <li>2. UNRA</li> <li>3. UPDF</li> <li>4. Ministry of Energy (Hydropower)</li> <li>5. PEPD</li> </ul>
<b>NGOS</b>	<ul style="list-style-type: none"> <li>1. WCS</li> <li>2. WWF</li> <li>3. STAR-Uganda</li> <li>4. Soft Power Masindi</li> <li>5. Jonam Community Conservation Development and Training (JCCDT)Nwoya</li> </ul>
Tour operators	<ul style="list-style-type: none"> <li>1. AUTO</li> <li>2. USAGA</li> </ul>
Training institutions	<ul style="list-style-type: none"> <li>1. Nyabyeya Forest Collage Masindi</li> <li>2. Kigumba Petroleum Institute Masindi</li> </ul>
Oil companies	<ul style="list-style-type: none"> <li>1. Tullow</li> <li>2. Total</li> <li>3. CINOOC</li> </ul>
Resource users	<ul style="list-style-type: none"> <li>1. Amo Women group (Nebbi)</li> <li>2. Karuma United Fishing Group (Kiryandongo)</li> <li>3. Butyaba grass Users (Buliisa)</li> <li>4. Buvungu Women group-grass users (Nebbi)</li> <li>5. BMUs (Buliisa, Nebbi, Hoima)</li> <li>6. Kaiso-Tonya Comm. Wildlife Association (Hoima)</li> </ul>
Others	<p><b>Cultural leaders</b>  Acholi (Nwoya)  Nebbi (Nwoya)  Jonam (Nwoya)  <b>Developers-</b> Nwoya farmers Association</p>

### Appendix 3: Issues from stakeholders

Category	Issues	Solutions
Tourism	<ul style="list-style-type: none"> <li>• Low tourism revenue</li> <li>• Limited marketing to promote tourism (domestic, international)</li> <li>• Few tourist sites in the communities</li> <li>• Lack of capacity to identify community based tourism opportunities</li> <li>• Competition from neighbouring countries</li> <li>• Poor infrastructure developments around PAs (hotels, lodges)</li> <li>• High capital to invest in tourist hotels</li> <li>• Low tourism numbers</li> <li>• Undeveloped cultural tourism</li> <li>• Lack of public transport to the park</li> <li>• Poor state of tourism facilities</li> <li>• Inadequate tourism tracks in the southern part of the river</li> <li>• Lack of access to tourism business opportunities by neighboring communities</li> <li>• Inadequate involvement of communities in tourism</li> <li>• Impacts of oil and gas on tourism</li> <li>• Inadequate accommodation facilities in the park</li> <li>• Concessions given to only outsiders</li> <li>• Poor roads in and around the park</li> <li>• Inadequate tourism products/attractions</li> <li>• Lack of tourism attractions in Karuma Wildlife Reserve</li> </ul>	<ul style="list-style-type: none"> <li>• Aggressively advertise</li> <li>• Diversify tourism products</li> <li>• Promote local tourism</li> <li>• Re-introduce the rhinos</li> <li>• Promote cultural tourism</li> <li>• Develop marketing materials e.g films to promote CBT</li> <li>• Lobby government to improve roads to PAs</li> <li>• Work with/ assist locals to come up with appropriate /low cost facilities</li> <li>• Build modern hotels in each of the neighboring districts</li> <li>• Expand tourist facilities and activities</li> <li>• Identify areas to establish visitor facility at the delta.</li> <li>• Encourage local people to venture into tourism business opportunities/affirmative action</li> <li>• Establish more tracks in the southern bank to decongest the northern bank</li> <li>• Allow expansion of existing tourism facilities</li> <li>• Deliberate policy for community to visit the park</li> <li>• Create awareness in neighbouring comm. about the available tourism facilities</li> <li>• Improve roads to accommodation facilities (e.g</li> <li>• Liase with communities to identify cultural tourism sites and market them</li> <li>• Construct cheaper accommodation to encourage domestic tourism</li> <li>• accommodation and lodges should be established in Buliisa</li> <li>• affirmative action in hotel ownership in the park to encourage locals</li> <li>• Oil camps should be outside the park</li> <li>• Identify and market attractions</li> <li>• Maintain the roads</li> <li>• Establish campsites on the periphery of the park</li> <li>• Develop community based tourism</li> </ul>

		<ul style="list-style-type: none"> <li>• Create awareness among communities to be involved in CBT</li> <li>• Develop low budget accommodation facilities for local people</li> <li>• Create incentives to encourage communities to the PAs</li> <li>• Identify and develop cultural tourism <ul style="list-style-type: none"> <li>- Gipir and Labong separation</li> <li>- Site where the first missionaries were received (Gisi, Kabule)</li> </ul> </li> <li>• Encourage locals to put up accommodation facilities</li> </ul>
Community Conservation	<ul style="list-style-type: none"> <li>• Crop raiding/vermins, elephants</li> <li>• Problem animals <ul style="list-style-type: none"> <li>- crocs, elephants, hippos, (Mubako, Kampala, Bugoigoi, Butiaba,</li> <li>- wild pigs and baboons</li> </ul> </li> <li>• Elephants crossing from the park (destroying storage facilities)</li> <li>• People being killed by rangers and vice versa</li> <li>• Land conflicts due to unclear boundaries</li> <li>• Inadequate alternative livelihoods</li> <li>• Denying people to fish in waters in the park</li> <li>• Limited awareness by communities on conservation</li> <li>• Improper Revenue sharing funds disbursement</li> <li>• Poverty and food insecurity causing poaching</li> <li>• Unemployment</li> <li>• Land shortage</li> <li>• Lack of active participation by communities in tourism concessions</li> <li>• Elephant poaching</li> <li>• Guns used for poaching also used in robbery</li> <li>• Lack of transparency in RS disbursement</li> <li>• Unresolved land disputes/claims</li> <li>• Inadequate information sharing</li> <li>• Resource demand (resource use zones not enough)</li> <li>• HIV/AIDS</li> <li>• Low community sensitisation programs</li> <li>• Inadequate intervention for management of problem animals</li> </ul>	<ul style="list-style-type: none"> <li>• Compensate (cash)</li> <li>• Give revenue sharing money to some of the Problem animal victims</li> <li>• Construct trenches</li> <li>• Identify unpalatable crops that deter animals from crossing to people's crops</li> <li>• Electric fencing, chilli ropes, barbed wire</li> <li>• Introduce goat rearing, bee keeping</li> <li>• Sensitise the communities</li> <li>• Extend RS funds to other communities in the district (policy issue)</li> <li>• Use RS funds to alleviate poverty</li> <li>• Encourage local participation by giving incentives</li> <li>• Compensate the affected communities</li> <li>• Train comm. on use of non lethal methods</li> <li>• Massive sensitisation</li> <li>• Create a special elephant rapid response unit</li> <li>• Plant irritants e.g lemon grass, bee hives,</li> <li>• Frequently patrol areas affected</li> <li>• Construct trenches</li> <li>• RS to be given to districts</li> <li>• Need to advocate for increase of RS</li> </ul>

	<ul style="list-style-type: none"> <li>• Inadequate IGAs in neighbouring communities</li> <li>• Poor community- park relations</li> <li>• Increasing poverty levels</li> <li>• High levels of illiteracy</li> <li>• Increasing population in areas around the park</li> <li>• Increase revenue sharing funds (<b>policy issue</b>)</li> <li>• Delays in remittance of RS funds to beneficially</li> <li>• Poor accountability of RS funds</li> <li>• Lack of flexibility in selection of RS projects</li> <li>• RS funds should be given to the districts for devt.</li> <li>• Benefits to communities from existence of the park</li> <li>• Resource access- firewood, grass</li> <li>• Delays in handling human wildlife conflicts</li> <li>• Poor park - community relationship</li> <li>• Strict conditions on RS projects</li> <li>• Inadequate awareness on wildlife laws and policies</li> <li>• Poor relationship between park and community</li> <li>• Lack of compensation for damages</li> <li>• Need for continued linkage between community and park</li> <li>• Inadequate coordination and communication btn PA and comm.</li> <li>• Poor attitude of the comm towards conservation</li> <li>• No impact on RS projects</li> <li>• Support to ex-poachers mismanaged</li> <li>• Inadequate monitoring and publicity of RS funds</li> <li>• Problem reptiles- cobras, pythons, crocodiles</li> <li>• Lack of interest of some local leaders in park management</li> <li>• Management of wildlife outside the park</li> <li>• Inadequate revenue sharing funds (<b>policy issue</b>)</li> <li>• Revenue sharing guidelines (should take care of community social services, opening of roads)</li> <li>• No sensitization of people on</li> </ul>	<p>percentage</p> <ul style="list-style-type: none"> <li>• Put in place a task force to resolve the conflicts</li> <li>• Pay off people with genuine claims</li> <li>• Publish Quarterly newsletter</li> <li>• Allow communities to access resources</li> <li>• LG to encourage tree planting</li> <li>• Emphasise education awareness within comm.</li> <li>• Management of Kasongoire area which has more than 40 chimpanzees</li> <li>• Compensate people killed by wild animals</li> <li>• Allow institutions around the park free entry in the park</li> <li>• Need a clear formula for RS</li> <li>• Release RS annually</li> <li>• Opening of wildlife clubs around the PA</li> <li>• Establish bursary for best students</li> <li>• Establish water points for comm.</li> <li>• Fencing the park</li> <li>• Ring fence the water collection points on the river/lake</li> <li>• translocate the problem animals (crocs, employ problem animal scouts</li> <li>• Improve communication</li> <li>• Sensitise communities on importance of the park</li> <li>• Bee keeping</li> <li>• Compensate people who are affected by problem animals</li> <li>• Dig PA control trenches around the PA</li> <li>• Improve relationship btn park and comm.</li> <li>• Sensitise communities on importance of conservation</li> <li>• Deploy rangers to respond to problem animals</li> <li>• Support W Clubs in schools</li> <li>• Organise community tours to the park</li> </ul>
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	<p>conservation</p> <ul style="list-style-type: none"> <li>• Awareness in schools</li> <li>• Inadequate community awareness</li> <li>• Lack of community participation in planning</li> <li>• Unclear guidelines in selection of revenue sharing projects</li> <li>• Monitoring and evaluating impacts of RS lacking</li> <li>• Harassing of fishermen by rangers in the river</li> <li>• No compensation for loss of lives/property by wild animals</li> <li>• Inadequate school visits to the park/sensitisation of students</li> <li>• Payment for resource access</li> <li>• Inadequate communication channels to report problem animal incidences</li> <li>• Number of wards increasing</li> <li>• Inadequate alternative livelihoods</li> <li>• lack of capacity (human resource and training) by LG to manage vermins/problem animals</li> <li>• Endemic poverty within communities neighboring the park</li> <li>• Failure to enhance partnerships between LG and Park in managing the PA</li> <li>• Negative impacts of oil and gas activities in the park and tourism</li> <li>• Illegal harvesting of timber- Kanio Pabidi</li> <li>• Inequitable revenue sharing funds- <b>policy issue</b></li> <li>• Lack of support to wildlife management units/vermin control units</li> <li>• (give special attention to water problem animals e.g hippos, crocs etc)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide facilitation to stakeholders to sensitise communities and help in some park operations</li> <li>• LG should form a wildlife management units</li> <li>• Construct trenches</li> <li>• Implement other PAM interventions e.g red chilli,</li> <li>• UWA should put a hotline for quick communication</li> <li>• Establish more ranger posts</li> <li>• Compensate the loss</li> <li>• Increase rangers</li> <li>• Sensitise comm.</li> <li>• Permanent visible markers</li> <li>• Sign MoUs</li> <li>• Identify vermin guards in each subcounty</li> <li>• Create awareness of Local leaders</li> <li>• Wildlife units at the district</li> <li>• Capture the crocs, pythons</li> <li>• Work with security personnel</li> <li>• Landuse planning and management of available land</li> <li>• Involve communities in planning</li> <li>• Design and implement awareness programs</li> <li>• Revenue should be given to community projects</li> <li>• Implement new guidelines</li> <li>• Consider projects that directly benefit affected communities</li> <li>• Digging of trenches, growing of chilli, mauritius thorns,</li> <li>• Establish root causes why animals move out of the park (oil activities, pop increase, cultivation in the corridor, changing vegetation)</li> <li>• Park should employ more rangers</li> <li>• To be catered for under the policy review</li> <li>• Communities should develop MoUs with Park management to access resources</li> <li>• Sensitise communities on proper channels of accessing resources</li> <li>• Zone the areas of resource access</li> </ul>
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		<ul style="list-style-type: none"> <li>• Encourage communities to plant trees, be innovative in other methods</li> <li>• PA managers should work with BMUs</li> <li>• Use of cultural knowledge in conservation</li> <li>• Fish farming/caging</li> <li>• Livestock rearing</li> <li>• Involve communities</li> <li>• Mark the areas not marked</li> <li>• Provide incentives to informants</li> <li>• Telemetry for elephant monitoring</li> <li>• Improve communication</li> <li>• Translocate animals to southern bank</li> <li>• Sensitise communities</li> <li>• Supplement NFA law enforcement</li> <li>• Establish partnerships with DLG including security and law enforcement agencies to manage wildlife outside PAs</li> <li>•</li> </ul>
Monitoring and Research	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Disease transmission from wildlife to livestock and vice versa</li> <li>• Oil activities driving animals out of the park (need for research)</li> <li>• Diseases</li> <li>• Changing vegetation</li> <li>• Disease transmission to man from wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Plant trees along the park boundary</li> <li>• Encourage farmers to establish plantations (comm. Based tree planting)</li> <li>• Treat and vaccinate livestock around the park</li> <li>• Control vectors e.g tsetse flies</li> <li>• Allow people to cut trees and turn into fuel</li> <li>• Vaccinate the people/livestock</li> <li>• Conduct research on causes of elephant movements into crop lands</li> </ul>
Resource Conservation	<ul style="list-style-type: none"> <li>• Negative impacts of oil and gas activities on the park (can tourism and oil co-exist)</li> <li>• Low animal numbers</li> <li>• Poaching</li> <li>• Poaching outside the PA</li> <li>• Blocked animal migratory corridors</li> <li>• Deforestation outside PAs</li> <li>• High charcoal prices</li> <li>• Over fishing</li> <li>• Vegetation changes in the park</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Construct alternative water points to provide water to wildlife</li> <li>• Increase animal numbers</li> <li>• Explore wildlife farming opportunities e.g cane rats, guinea fowls</li> <li>• Sensitise</li> <li>• Apprehend and prosecute poachers</li> <li>• Recruit community vigilantes/informers</li> <li>• Establish a reward system for communities who report poaching cases</li> </ul>



	<ul style="list-style-type: none"> <li>• Increasing oil and gas activities versus conservation and human survival</li> <li>• How to develop community wildlife areas (btn waiga and Waisoke rivers)</li> <li>• Management of wildlife outside PAs</li>   <li>• Unmarked boundary in Wanseko</li> <li>• Road kills- near Bugoigo</li> <li>• Poaching</li> <li>• Cattle grazing</li> <li>• Pollution</li> <li>• Conflicting land use</li> <li>• Bombs being fired into the park</li> <li>• Unclear boundary between park and forest reserve (Biiso)</li> <li>• Poaching (armed poaching)</li> <li>• Bad attitude of people towards conservation</li> <li>• Boundary conflicts/demarcation</li> <li>• Vegetation changes from grassland to woodland</li> <li>• Deforestation around the park</li> <li>• No wildlife clubs in schools</li> <li>• Negative impacts of oil and gas on wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Rotate staff</li> <li>• LG should develop a bye law on poaching</li> <li>• Create Aswa Lolim Wildlife corridor</li> <li>• Manipulate vegetation back to grasslands</li> <li>• Minimise infrastructure development during all stages</li> <li>• Reintroduce animal species in the park (after analysis of habitat conditions)</li> <li>• Should engage govnt on environmental management</li> <li>• Dialogue with fishermen and mark the boundary</li>   <li>• Put road signs, speed humps, observe speed limits,</li>   <li>• Work with NFA</li>   <li>• Continue sensitisation targeting especially the youth</li> <li>• Enforce the law</li> <li>• Forces should Coordinate with PA management to curb armed poaching</li> <li>• Areas with conflicts-Anaka s/c, kochgoma, Agung, Ogelo</li> <li>• Soln- work with cultural leaders</li> </ul>
	<ul style="list-style-type: none"> <li>• Un clear boundary around Kibyama area, Diika, kituka, Kigaragara, Kaborogota</li> <li>• Environmental degradation because of developments</li>   <li>• Poaching</li>   <li>• Inadequate number of animals/species</li>   <li>• Impacts of hydropower developments on fisheries resources</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Communities should be given trees to plant along the boundary</li> <li>• Encourage communities to establish seed beds (NFA)</li>   <li>• Build capacity of expoachers</li> <li>• Sensitisation</li> <li>• Prosecute the poachers</li> <li>• Improve on technology</li> <li>• Identify the culprits and target them for sensitisation</li> <li>• Create sustainable incentives for informers</li>   <li>• Re-introduce the animal species that formerly existed in the park</li> </ul>

<p>Park Operations</p>	<ul style="list-style-type: none"> <li>• Inadequate manpower to control poaching</li> <li>• Health centre at Paraa</li> <li>• Connivance btn staff and poachers</li> <li>• Poaching by staff and former staff</li> <li>• Poor road condition (e.g Buliisa-Paraa)-</li> <li>• Conflict btn cattle keepers and park management in areas of Bugoigoi, Butiaba and Walukuba</li> <li>• Failure to employ people from communities</li> <li>• Rangers arrest people outside the park</li> <li>Inadequate staff</li> <li>• Insecurity – people using the park as a hide out</li> <li>• Staff collaborating with poachers, charcoal burning in Kimina, Nyakarongo</li> <li>• Inadequate staffing</li> <li>• Recruiting the people from neighbouring areas (<b>policy</b>)</li> <li>• Poaching</li> <li>• Poor management of waste in oil activities</li> <li>• Unclear boundary</li> <li>• Negative impacts of oil on animals</li> <li>Encroachment</li> <li>• Inadequate ranger posts</li> </ul>	<ul style="list-style-type: none"> <li>• Involve local authorities to identify culprits</li> <li>• Disciplinary action for staff</li> <li>• Cross transfers</li> <li>• UWA and LG to lobby UNRA to improve condition of roads leading to the park</li> <li>• Place warning and informative signs along the tourism roads</li> <li>• Recruit staff from neighbouring communities (<b>consider all tribes</b>)</li> <li>• Recruit more staff</li> <li>• Coordinate with comm. and security agencies</li> <li>• Improve technology for surveillance</li> <li>• Prosecute culprits,</li> <li>• Discipline the staff</li> <li>• Improve remuneration, increase supervision</li> <li>• Provide livelihood to poachers</li> <li>• Employ/recruit poachers</li> <li>• Recruit from neighbouring communities</li> <li>• Organise game viewing for locals to appreciate the park</li> <li>• Prosecute the offenders found in the park</li> <li>• Fencing the park</li> <li>• Poachers should be prosecuted in their districts</li> <li>• Involve S/C in operations on water</li> </ul>
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#### Appendix 4: Stakeholder consultation workshops: List of participants

Sub-county consultations

#### PAKWACH SUB-COUNTY MEEETING ON 19-09-2011

No	Name	Designation	Contact / Address
1	Alithum. O,Mark	Sec. for production	Panyimur s/c 0781798063
2	Molly grace Akelo Kay	Chair person women group	0755621224
3	Ryeketho Jane	Secretary Amor East	0789017689
4	Oloyakon Rolly Junior	Sec. production	Pakwach sub- county /0774334075
5	Akaka john Bosco	Sub- county chief	Pakwach sub- county/ 0773246118
6	Oriek Ronald	Chair person Wanglad	0783333036
7	Ovurutho Stephenson	For town Clerk Pakwach	0772628779
8	Muswa J Kenneth	CCR -MFNP	
9	Donge Francis	H/tr Panyimur S.S	Panyimur SS /0782016199
10	Ongomo G Michael	Jonan Comm. Conservation Coordinator	0784651538
11	Opio Philip Ogalgiu	River view INN Pakwach	0778755492
12	Muswa B Angello	CPI Treasurer	0772662174
13	Upenytho Paul	H/TRS Chair Person Pakwach Sub- County	0782994652
14	Onzima B Louis	Senior Warden MFCA	0772562768
15	Ofoyuru Kenedy	Giso I/C Panyimur and law Enforcement and security Lake Albert and Albert Nile	0772584722
16	Wathum Charles	GISO Pakwach Subcounty	0774139688
18	Ochopgiwu Anthony	Giso Pakwach Town Council	0772693474
19	Olwor Patrick	CDO Panyimur	0773075332
20	Buatre Luke	H/ teacher Parokyo S.S	0779744836
2o	Okumu Benson	Chairman L.C III Pakwach Town Council	0772903005

21	Arombo Joy	Sec. production Pakwach Town council	0774468297
22	Chief Odong P'dt Mandir II	Chairman of the Chief of Jonan	0753555138
23	Okwong P'Welle	Prog. Coordinator / GMP planning Team	0782698007
24	Okwonga Fabiano	Chairman H/trs Ass. Pakwach Town Council Primary Schools	0772939561
25	Akaka John Bosco	Sub county Chief Pakwach S/C	0773246118
26	Ongei Francis	Community Leader Pakwach Town Council	0772980797
27	Donge Francis	C.M Headteacher Panyimur S/C	0782076199
28	Oloyacon Rolly Junior	Sec. Production Pakwach S/C	0774334075
29	Ryekocho Jane	Sec. Production	0789017689
30	Molly Grace Akelo Kay	Chairperson Women Group	0755621224
31	Ongom-G-Michael	Ass. Coordinator, Jonam Community Conservation	0784651738
32	Opio Philip Ogalgio	River View Inn	0778755492
33	Walter K Aceronga	Sub-county chief, Panyimur sub- county	0772955605
34	Ofoi Shaban Kinobe	Chairman LC III, Panyimur Sub-county	0776323058
27	Kermu Simon	C/P H/trs. Association - Panyimur sub-county	0782884583
28	Okende Musa	Ag C/Man LC111- Pakwach Sub-county	0789874463
29	Abalo Josephine	ACDO	0782154339
30	Okumu Pastore	Secretary Jonan Traditional chiefs	0774249815
31	Openjuru Wilfred	Jonan Traditional Chiefs	0777447651
32	Ocuna Richard	ACDO	0774081435
33	Opio Peter Onyongocok	Chairperson BMU Pakwach sub-county	0773413214
34	Atimango Florence	Aligo gropovungu west- PTC	0775294127
35	Tom Okello	CAM, MFCA	0772550294
36	Bagonza William	S/ Driver, MFNP	0782484754
37	Byenkya Stephen	H/qtrs Driver	0774532294
38	Okullu John Bosco	LC III C/Man Kochgoma	0717523105
39	Charles Tumwesige	AG. CCAM	0772461908
40	Edgar Buhanga	SPEIAC	0772450468
41	Justine Namara	SPEIAO	0772413432

**BULIISA SUB – COUNTY ON 23-09-2011**

No	Name	Designation	Contact / Address
1	Okello Genesis	AWCC, Karuma WR	0783468031
2	Barugahara Benard	DCDO Buliisa	0772372098
3	Mugonzebwa Esau	S/C Chief Ngwedo	0782875754
4	Kabagambe Edward	S/C Chief Biiso	0785381793
5	Dramadri Alfred Adroi	S/C Chief Kigwera	0778826684
6	Katusiime K Semeo	Parish Chief Karuma	0774671776
7	Wamara Geoffrey	ACDO Ngwedo S/C	0772371316
8	Mugenyi Denis	Bugungu Sec. School	0776646388
9	Asiimwe Alfred	Town Agent/ Buliisa District PAC	
10	Businge Godfrey	S/C chief Buliisa Buliisa S/C	0772360459
11	Kaijakubi G Businge	ACDO Butiaba	0774952425
12	Mujuni Richard	S/C Chief Butiaba	0772393042
13	Tumusiime Gilbert	NRO Buliisa LG	0777986467
14	Wasswa Fredrick	P/ Chief Buliisa	0753142297
15	Balyebuga Gerald	Organiser (O.A)	0789571295
16	Phillip K Ngongaha	Fisheries Buliisa	0772487542
17	Murubi J.A.T Kwesiga	C/Man BMU Bugoigo fish landing	0788964706
18	Isingoma Benson	H/tr Buliisa S/C	0782580866
19	Yallo John	Chairperson Bugoigo Resource Use	0789363795
20	Masereka Selevest	AWIC- BWR	0772634206
21	Odubi Wacibra James	H/tr Ngwedo P/S	0782658587
22	Isingoma Steven Daudi	Sec. Production Buliisa S/C	0785930010
23	Ezama Luiji	C/person Repr Kigwera S/C	0772675288
24	Ayerango Serepta	C/person Butiaba	0781283925
25	Openjtho Geoffrey	Sec. for Production Buliisa District	0773698852
26	Okech Peter	C/Person/ Sec Production Biiso	0782333379

		S/C	
27	Mugisha Violet	Sec. for production Butiaba Sub/C	0773637563
28	Balijunaki Abayo Julius	Sec. for production Kigwera Sub/C	0782386150
29	Mulimba Orimoth	C/person LCIII Butiaba S/C Buliisa	0773462604
30	Ayebale Robert Matyansi	S/C C/person Kigwera	0782556559
31	Abaasa Allan Kakuru	S/c - ASSP/ Fisheries Kigwera	0712023121
32	Mugisha Mark	ACDO Kigwera	0776969866
33	Aliangua Francis	D/CIO - Buliisa	077243623
34	Amute Fred	D/DISO Buliisa	0774624041
35	Byenkya John Joseph	Chairperson H/trs Ass	0773468885
36	Kubalirwa Nkuba	S/C Chairperson Buliisa	078244874
37	Onzima B Louis	Senior Warden MFCA	0772562768
38	Tom O Okello	CAM, MFCA	0772550294
39	Athokon Pascal	Driver UWA	0772376474
40	Byenkya	Driver, UWA H/trs	0774532295
41	Charles Tumwesigye	AG. CCAM	0772461908
45	Edgar Buhanga	SPEIAC UWA	0772450468
47	Justine Namara	SPEIAO UWA	0772413432

### KARUMA SUBCOUNTY MEETING ON 20-09-2011

No	Name	Designation	Contact / Address
1	Abonyo Pamela	Community development Officer Anaka	0782693277
2	Uma Vincent	CDO Purongo	0774730785
3	Ogwal Tom Oyar	Kamdin S/C Oyam	0752469193
4	John Ogwang Acila	Oyan	0779293323
5	Ojok Peter	Sec. production	0774300476
6	Komakech Geoffrey Alega	Sec. Production	0779654929
7	LubangaKene Geoffrey	Sec. Production Kochgoma	0775978551
8	Odong Christopher	C/man LC III Anaka	0754677307
9	Ulama Simon	ChairPerson H/trs Anaka	0777325998
10	Akao Vento	Sec. Production	0781823827

11	Lakony F Okumu	C/person LcIII Purongo	0777361078
12	Odokorwot Walter	AWCC MFNP	0772524129
13	Opio Bernard N	C/person Htr Minakulu / Oyam South	0789576354
14	Alimo Esther	S/county Chief Purongo	0754559200
15	Onzima B Louis	Senior Warden MFNP	0772562768
16	Okullu John Bosco	LCIII C/man, Kochgoma	0717523105
17	Okello Peter Byella	Kochgoma S/C Chief	0772711763
18	Axuma Geoffrey	S/C Chief Anaka / Nwoya	0782520139
19	Lakareber Filder Mary	Htr Goma Central P/school	0777363265
20	Opobo Faustine Centis	H/tr Orula Primary School	0777484693
21	Okello Fred	H/tr Acimi Primary School Myene S/c	0782433669
22	Tom O Okello	CAM MFCA	077255094
23	Lt Jolly Joe Ongar	C/person LCIII Myene S/C	0782911459
24	Olwii Robert	CDO Myene	0772949100
25	Okech Geoffrey	S/C chief Myene	0782282587
26	Okello Isaac	Sec. production Myene	0775063794
27	Okwanga Robert Alem	S/c Chief Minakulu	0772962526
28	Saidi Engola	Press	0773009473
29	Owani Ambrose	ACDO Minakula	0782167360
30	Otim Jimy	C/person LC3 Minakula	0777337686
31	Dawoko Francis	Giso Karuma	0772397069
32	Gira Chris Otim	S/C DO	0772618488
33	Okello Agwero	CDO Oyam	0772859065
34	Bagonza William	Driver, MFNP	0782484754
35	Byenkya stephen	Driver H/tr	0774532299
36	Charles Tumwesigye	Ag. CCAM	0772461908
37	Edgar Buhanga	SPEIAC	0772450465
38	Justine Namara	SPEIAO	0772413432

**KIRYANDONGO SUB-COUNTY MEETING 22-09-2011**

No	Name	Designation	Contacts / Address
1	Talemwa David	Sec. Production Mutunda	0782784138
2	Ojara Erifany	Agricultural officer / Kiryandongo S.c	0782553165

3	Mukasa Jonathan	For S/c Chief Mutunda	0779079871
4	Mpangine Edward Mapapala	LCIII C/person Kiryandongo S/c	0772541981
5	Kyategeka David	S/C Chief Kigumba	0782691062
6	Serunjoji Abdul	S/ c Chief Pakanyi	0772450185
7	James Kiiza	GISO Kiryandongo S/c	0772960836
8	Odong Vincent	H/tr Diima P/sch Mutunda	0772562659
9	Ato Marieta	Nyamahasa Parish C/person	077766124
10	Saidi Engola	Secretary Karuma United Group	0773009473
11	Okello Genesis	AWCC MFCA	0783468031
12	Katusabe Johnson	Chairperson P/ htrs association Kyadongo	0772394994
13	Oundu B Edward	Ag. SAS Kiryandongo	0782376006
14	Buhanga Richard	GISO Pakanyi S/c	0779982669
15	Kyomza W Rumbeka	C/M Lc III Pakanyi S/c	0782644429
16	Oyeny Rita	Sec Production, councilor LCIII	0784801328
17	Kwesiga Salim Kaahwa	Chairperson Pakanyi H/trs Ass.	0772914141
18	Atim Evelyn	CDO Kigumba S/c	0778460390
19	Onencan Nestore	Lc3 Chairman Mutunda	0785450238
20	Onzima B Louis	Senior Waden MFCA	0772562768
21	Businge David	CDO Kiryandongo	0772474511
22	Ziwalana Enoch	GISO Kigumba S/c	0772625544
23	Tom O Okello	CAM - MFCA	0772550294
24	Byenkya Issa Hassam	District Agricultural Officer	0782446765
25	Hakos Deo	C/person LcIII, Kigumba S/C	0782322167
26	Achayo Vicky	Sec. Production	0782163551
27	Ocheng Vincent	ACDO	Mutunda
	Nyakato Judith	C/Person Women's Group	
28	Mapapala Richard	ACDO	0779713859



29	Moris Okot	C/man Karuma Fishing	0753009473
30	Opar Joseph D	C/person Kituuka group	0785668906
31	Bagonza Moses	Nyakarongo	No Contacts
32	Oyirwotho Santos	Sec. Nyamahasa	0787600722
33	Onenarach John	Sec. Wanda group	0772912406
34	Oryema George	C/M Karuma user group	0782598621
35	Isingoma Sam	ADAO Kiryandongo	077661037
36	Athocon Pascal	Driver UWA	0772376474
37	Charles Tumwesigye	Ag CCAM	0772461908
38	Barugahara Bernard	DCDO- Buliisa	0772372098
39	Okullu John Bosco	Lc3 C/man Koch Goma	0717523105
40	Edgar Buhanga	SPEIAC	0772450468
41	Justine Namara	SPEIAO	0772413432

## District consultations

### DISTRICT MEETING {ANAKA} 21-09-2011

No	Name	Designation	Contact / Address
1	Hon. Opar Jackline	Sec. production Nebbi DLG	0774136391
2	Alia Seraphine	CAO Nebbi	0774490633
3	Okirio Peter	CDO - NDLG	0772683449
4	Muswa David	For DPC Nebbi	0772861597
5	Emuto Joseph	DFO - Nebbi	0772517499
6	Kisakye Michael Williams	Manager Murchison Safari Camp	0776799899
7	Okumu Collins	DVCO Nebbi District H/Qt	0784640478
8	Olobo . K Richard	TDO for District Fisheries Officer NDLG	0772543057
9	Kumakech F Innocent	Speaker Nwoya District	0777364264
10	Ojok M. Geoffrey	Secretary Finance	0773025087
11	Omony David	Reporter Mega	0781444570
12	Lugacha Fred Ocitti	District Vice C/person and sec.	0772313170

		health Education	
13	Onzima B Louis	Senior Warden MFNP	0772562768
14	Okullo John Bosco	Lc111 Chairman Kochgoma	0717523105
15	Charles Tumwesigye	Ag. Chief Conservation Area Manager, UWA H/TRS	0772461908
16	Tom O Okello	CAM MFCA	0772550294
17	Edgar Buhanga	SPEIAC	0772450468
18	Christian Weth	CEO Uganda wildlife Safaris Ltd	Po box 70513 Kampala
19	Zachary Olum	Aswa-Lolim Wildlife Association, Gulu	0772419708
20	Odokorwot Walter	AWCC MFNP UWA	0772524129
21	Omony Denis	Mega reporter	0781444570
22	Ocitii Tom Oryema	Sec. production Nwoya	0772604409
23	Gira Chris Otim	DCDO / Oyam	0772618488
24	Odyomo Patrick	DAO / Oyam	0772656148
25	Opio Moses	Ag DNRO / D. Env't Officer	0772676733
26	Okwong P'Welle	Project Coordinator, JCCRDT/GMP planning team member	0782698007
27	Odoch Bob Francis	Chief Coordinator, Global Village Guesthouse	0782287057
28	Ayo Celestrian Anyuru	Sec. Oyam DLC production/Marketin g/ Natural Resources	07872587186
29	IP Ojambo Stephen	DPC, Nwoya	0781254453
30	Alanyo Alice	D.H.O Nwoya	0772554485
31	Ogwal Geoffrey	C.D.O Oyam	0782515945
32	Onono James	DIA - Nwoya	0753882550
33	Abaho Jennifer	Champion LED - Nwoya	0777337803
34	Masereka Joshua	WT, MFNP	0783482298
35	Akidi Grace	Sec. Community Development NDLG	0777328232
31	Opiyo Walter	Field Coordinator	0714458061

		H/ Alert Uganda	
32	Arema Fred Nelson	For Planner Oyam	0774086600
33	Langoya Otto Patrick	CAO Nwoya	0772526191
34	Opio J. Grant	Reporter Radio Rupiny / Vision Group	0774232368
35	Ojok Patrick	District Councilor Nwoya District Local Government	0787065090
36	Charles Tumwesigye	AG - CCAM	0772461908
37	Justine Namara	SPEIAO	0772413432

### **DISTRICT MEETING { BULIISA, KIRYANDONGO AND MASINDI} ON 26-09-2011**

No	Name	Designation	Contact / Address
1	Philp K Ngongaha	District Environment Officer Buliisa District Local Government	0772487542
2	Allen Nambozo	Assistant Warden Community Conservation MFCA- Masindi	0772554072
3	Geoffrey Sebahutu	Principal Lecturer /Nyabyeya Forestry College Masindi	0772961341
4	Yiga Baylon. A	Manager Budongo Eco-lodge	0465424348
5	Asiimwe Harmony	Principal. UPIK Masindi	0772689583
6	Waako Innocent	HRCC	0775719312
7	Yemen . B . Boniface	Yebo safari camp Buliisa	0772637493
8	Byarugaba Christopher	Vermin Control Officer MDLG	0774694803
9	Byenkya Issa Hassan	DAO Kiryandongo DLG	0782446765
10	Ojera Kennedy	DISO-Kiryandongo	0772671830
11	Bakendalu Asuman	DISO-Masindi	0776-671190
12	Okello Genesis	AWCC -MFNP	0783468031
13	Hon. Abonyo Lucy Odongo	Sec. Production KDLG	0772466421
14	Lukumu Fred	LCV Chair-Buliisa	0783517411
15	Openjtho Geoffrey	Sec. Production Buliisa	0773698852
16	Businge David	CDO	0772474511
17	Dabanja Geoffrey	Ag. SCDO, Kiryandongo DLG	0772355182
18	Bagada John	Sec. production MDLG	0772985170

19	Kasangaki Fred	Vermin Control Officer /focal person Env	0782577238
20	Muruli Moses	Reporter Radio Kitara	0774293672
21	Matovu David	RDC Masindi	0712660077
22	Onzima B Louis	Senior Warden MFCA	0772562768
23	Tugume Benald	DNRO Buliisa	0782414508
24	Bimbona Simon	For CAO Kiryandongo	0772480598
25	Mugisa MM	DCDO	0782442523
26	Sp Okungo Juma	DPC - Masindi	0714667950
27	Mubiru Rashid { Dr}	DVO - Buliisa	0751611536
28	Biryetega Simon	DFO - Masindi	0772394129
29	Deb Lockyear	Red Chilli Rest camp Murchison Falls Manager	0772709150
30	Debbie Willis	Red Chill MD	0782547620
31	Lestie Piertas	Wild Frontiers Manager Murchison falls boats	0772721157
32	Barugahara B.A	DCDO Buliisa	0772372098
33	Nsiimire William	District Env. Officer	0772380840
34	Kakuto Patrick	Ag. Range manager Budongo system. NFA	0782457178
36	Katusabe Richard	Ecst L.V	0785559770
37	Makolo Mwumba	BBS Fm	0773803564
38	Edgar Buhanga	SPEIAC, UWA	UWA Head Quarters / 0772450468
39	Namara Justine	SPEIAO, UWA	0772413432

### NATIONAL STAKEHOLDERS WORKSHOP - 16<sup>TH</sup> NOVEMBER 2011

No.	Names	Designation
1	Kabi Maxwell	Utilisation Specialists, NFA
2	Ellen Kayendeke	Ast. Lecturer, MUIENR
3	Adrine Kirabo	Program Coordinator, ECOTRUST
4	Jan Brockius	Programme Director, WCS
5	Patrick Tushabe	Product Development Executive, UWA
6	Paul Goldring	Wild Frontiers
7	Priscilla Nyandoi	Executive Secretary, Uganda Wildlife Society
8	Patrick Atimnedi	UWA
9	Kabunga Yasin	Adrift Adventure Co.Ltd
10	Masereka Johnson	Community Conservation Coordinator, UWA
11	Gokaka Geoffrey	Wetlands Management Department, MWE
12	Aggrey Rwetsiba	UWA
13	Tom Okello	UWA-MFCA
14	Bakunda Aventino	Dept. of Fisheries Resources (DFR)-MAAIF

15	Muyambi Jotham	Senior Urban Officer, Ministry of Lands, Housing and Urban Development
16	Mugizi Francis	Makerere University, Tourism
17	Kaddu Sebunya	USIAD STAR
18	Peregrine Sebulime	Department of Wildlife and Animal Resources Management, School of Veterinary Medicine, Makerere University.
19	Emmanuel Sande Nsubuga	Ministry of Energy
20	George Owoyesigire	Ministry of Tourism
21	Okiror Stephen	Ministry of Tourism
22	Maureen Anino	Ministry of Water and Environment
23	Nabuwembo Josephine	Cycads African Safaris
24	Dianah Nalwanga	Nature Uganda
25	John Bosco Higeyi	College of Vet. Medicine (MUK)
26	Helen Lubowa	UCOTA
27	Musasizi Joel	Safariscopes
28	Pade Joseph Walter	Min. of Lands, Housing and Urban Development
29	Dr. Ahimbisibwe John	Fisheries, MAAIF
30	Lanyero Emily	Acacia Safaris
31	John Hliwwick	Murchison Safari Lodge
32	Musoke Hasifa	Rwenzori Trekking Services
33	Joseph Byonanebye	Conservation Through Public Health
34	Gloria Tumwesigye	AUTO
35	Francis Ogwal	NEMA
36	Natukunda Alice	Secretary, UWA
37	Justine Namara	SPEIAO, UWA
38	Musingo David	Chairperson, Governing Council
39	Dr. Andrew Seguya	ED, UWA
40	Panta Kasoma	ED-JGI
42	Kamanda Patrick	Environmental Specialist-UNRA
43	Charles Tumwesigye	Ag. CCAM, UWA
44	Edgar Buhanga	Senior Planning & EIA Coordinator, UWA

**Other stakeholders consulted**

1. TOTAL E&P Uganda
2. Tullow Uganda Operations Pty Limited
3. CNOOC
4. JICA Uganda Office

