2016-2026

ELEPHANT CONSERVATION ACTION PLAN FOR **UGANDA**

UGANDA WILDLIFE AUTHORITY

UWA

Conserving for Generations

ELEPHANT CONSERVATION ACTION PLAN FOR **UGANDA 2016-2026**

UGANDA WILDLIFE AUTHORITY
P.O. Box 3530
Kampala Uganda
Tel: +256 312 355 000
www.ugandawildlife.org
info@ugandawildlife.org

Availability

This publication is available in hardcopy from UWA. A fee may be charged for people or institutions that may wish to obtain hard copies. It can also be downloaded from the UWA website: www. ugandawildlife.org

Copies are available for reference at the following libraries:

- Uganda Wildlife Authority Libraries
- Public Libraries

Layout and coordination: Eria Fred Kisame

Design : Musiime P. Muramura

Cover Photo: Herbert Byaruhanga

Printing: Digiprint Systems (U) Ltd

TABLE OF CONTENTS

ACKNOWLEDGMENTS

First, we thank the Ministry of Tourism, Wildlife and Antiquities (MTWA) for its contribution to make this plan a success. Second, we thank Uganda Wildlife Authority (UWA) Executive Director Dr. Andrew Seguya and the Board of Trustees for priotising this activity and approved funds to enable the preparation of this Elephant Conservation Action Plan.

We also thank the staff of Uganda Wildlife Authority especially UWA Ecological Monitoring and Research Unit for making this plan a reality. Special thanks to the presenters and facilitators during the workshops; Dr. Andrew Plumptre, Dr. Aria Patrick, Dr. Daniel Aleper, Dr. Charles Mosyoki, Mr. Kisamo Emilly, Dr. Patrick Byakagaba, Mr. Charles Tumwesigye, Mr. Fred Kisame Eria and Mr. Aggrey Rwetsiba. We are greatly indebted to all the partner institutions and organizations which included WCS, MUBFS, MUK, Nature Uganda, UWS, Busitema University, AWF, FFI, LATF, Local Government representatives, ITFC, MUST, WWF, UWEC, NFA, NEMA, UCF, Budongo Conservation Field station, representatives from Kenya Wildlife Services (KWS) and Tanzania National Parks (TANAPA). We also thank individual contributors; Dr. Akankwasa Barirega, Dr Diana Nalwanga, Mr. Edgar Buhanga, Mr. George owoyesigire, Mr. John Makombo, Dr. Paul okullo, Dr. Collins chapman, Mr. Sam Mwandha, Dr. Joel Hartter, Dr. Simon Nampindo, Dr. Douglas sheil, Dr. Bitariho Robert, Mr. John Emitchel, Mr. Fredrick Wanyama, Dr Andama Edward, Mr. Ruhinirwa William, Dr. Grace Kagoro, Ruth Starkey, Prof. Buyinza Mukadasi, Ms Ruth Musgrave, Mr. Tom Okello, Dr. Robert Aruho, Dr. Eric Enyel, Mr. Julius Obwana, Mr. Odokorwot Walter and Mr. Aaron Sandel for their time and also providing very useful information during the review and proof-reading. We thank Stop Ivory for funding the printing of the Elephant Conservation Action Plan.

ABBREVIATIONS AND ACRONYMS

AEAP	African Elephant Action Plan
ADF	Allied Democratic Front
AUTO	Association of Uganda Tour Operators
AWF	African Wildlife Fund
BINP	Bwindi Impenetrable National Park
CAA	Civil Aviation Authority
CAR	Central African Republic
CARE	CARE International in Uganda
CBOs	Community Based Organisations
CHAs	Controlled Hunting Areas
CITES	Convention on International Trade in Endangered Species
CMI	Chieftaincy of Military Intelligence
CSOs	Civil Society Organisations
DRC	Democratic Republic of Congo
EAC	East Africa Community
ECAP	Elephant Conservation Action Plan
EIA	Environment Impact Assessment
EPI	Elephant Protection Initiative
FAO	Food and Agricultural Organization
GEF	German Environmental Facility
GIZ	German Society for International Cooperation
HEC	Human Elephant Conflict
ICCN	Institut Congolais pour le Conservation de la Nature
IFAW	International Fund for Animal Welfare
IGCP	International Gorilla Conservation Project
ITFC	Institute of Tropical Forest Conservation
IUCN	International Union for Conservation of Nature
KCA	Kibale Conservation Area
KCWA	Karenga Community Wildlife Area
KNP	Kibale National Park
KVCA	Kidepo Valley Conservation Area
KVNP	Kidepo Valley National Park
KWS	Kenya Wildlife Service
LATF	Lusaka Agreement Task Force
LG	Local Government
LRA	Lord's Resistance Army
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MBIFCT	Mgahinga and Bwindi Impenetrable Forest Conservation Trust
MBWR	Matheniko-Bokora Wildlife Reserves
MEMD	Ministry of Energy and Mineral Development
MFCA	Murchison Falls Conservation Area
MFNP	Murchison Falls National Park
MFPA	Murchison Falls Protected Area
MGNP	Mgahinga National Park
MIKE	Monitoring Illegal Killing of Elephants
MLHUD	Ministry of Lands, Housing and Urban Development
MoES	Ministry of Education and Sports
MoH	Ministry of Health
MWE	Ministry of Water and Environment
MTWA	Ministry of Tourism, Wildlife and Antiquities
MUBFS	Makerere University Biological Field Station
MUK	Makerere University Kampala
MUST	Mbarara University of Science and Technology
NEMA	National Environment Management Authority
NFA	National Forestry Authority
NP	National Park
NGO	Non Government Organization
PA	Protected Area
PIKE	Proportion of Illegally Killed Elephants
PUWR	Pian Upe Wildlife Reserve
QECA	Queen Elizabeth Conservation Area
QEPA	Queen Elizabeth Protected Area
RBDC	Ranger Based Data Collection
RS	Revenue Sharing
TANAPA	Tanzania National Parks
TRAFFIC	Trade Records Analysis of Flora and Fauna (The Wildlife Monitoring Network)
UNEP	United Nations Environment Program
URA	Uganda Revenue Authority
USAID	United States Agency for International Development
USFWS	United States Fish and Wildlife Service
UTB	Uganda Tourism Board
UWA	Uganda Wildlife Authority
UWEC	Uganda Wildlife Education Centre
UWS	Uganda Wildlife Society
WCS	Wildlife Conservcation Society
WR	Wildlife Reserve
WWF	World Wildlife Fund for Nature
ZSL	Zoological Society of London

FOREWORD

The African elephant has been and still stands as one of the key contributors to habitat and finance sustainability through habitat modification and tourism. Its contribution to the maintenance of wild ecosystems and hence the provision of chance for other wildlife's survival can never be over emphasized. Elephants are some of the key attractions in the wild that many travelers crave to watch. The African elephant therefore, presents a significant opportunity towards attainment of Uganda Vision 2040.

World over, the concern over the dwindling elephant populations in all the range-state habitats and the desire to sustainable conservation of this key species has taken central stage at many debates that are focused on their survival. Range States are being urged to strengthen strategies that are focused on uplifting their conservation status. The development of this Elephant Conservation Action plan (ECAP) is a key cornerstone intervention Uganda has put in place to contribute to policy in elephant conservation.

This plan is built around the auspices of the Uganda Wildlife Policy 2014 and complements the National Development Plans. The ECAP focuses on implementation of the six strategic objectives that are aimed at "halting poaching of elephants and trade in elephant products, minimizing human elephant conflict, controlled habitat loss and degradation, raising awareness about elephant conservation, attaining effective protection of elephants through awareness, collaboration, resource mobilization and management, and benefits from elephant conservation accruing to Ugandans". These strategic objective areas emerged out of a stakeholder consultative process and are believed to be the key areas in achieving Uganda's dreams in attaining its goal in sustainable elephant conservation.

The priority project areas for implementation under this plan have been comprehensively articulated to reflect pertinent issues in conservation of elephants in Uganda. I therefore call upon all the partners, stakeholders, communities and community leaders at various levels, academicians and policy makers to pull their efforts together in this common fight against the extinction of our great heritage in Uganda so that we may together, in future, rejoice to see the results of our efforts and contribution to the survival of this endangered species and to national development. It's not doubtable that the successes that we will achieve will be a challenge to our children and grand children in maintaining the legacy that we shall have left for them to perpetually uphold.

I wish to express my sincere gratitude to all who have contributed in one way or the other to the development of this plan.

Benjamin Otto

Chairman, UWA Board of Trustees

PREFACE

The African elephant is facing serious threats now more than ever before. The two key threats to elephant conservation are habitat loss and poaching for ivory. Trade in illegal ivory has also increased over the last five years. Poaching undermines decades of conservation, drains source countries of their natural heritage, threaten the economic safety of rural communities and heavily affects revenue from wildlife tourism. Elephants in Uganda remain listed under Appendix I of CITES and the country is committed to its protection under the Uganda Wildlife Act Cap 200 of 2000. Uganda actively participated in the development of the range-states African Elephant Action Plan (AEAP). However, there was need to domesticate the actions identified in the AEAP at the country level. The development of a country-specific elephant conservation action plan is one of the key steps towards this domestication. A number of countries in the region already have country-specific elephant conservation strategies/plans and Uganda has realized a need to develop one that will provide specific actions that are relevant to the country's challenges in promotion of elephants conservation.

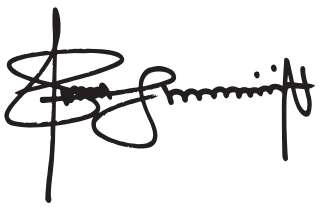
Elephants are such iconic species for conservation and tourism. I am glad that the elephant population in Uganda has been on the increase since the late 1990s despite the general population decrease on the African continent. We cannot take this increase for granted. It comes at a huge cost in respect to protection and ensuring the security of the elephant population. We need to consolidate this increasing trend and ensure that this positive trend is maintained. This can only be achieved if we have a clear and concise elephant conservation management strategy/plan.

I wish to note that the Uganda Wildlife Act mandates the Executive Director of UWA to prepare management plans for protected areas and species. Whereas we have been doing very well in developing management plans for protected areas, we have not done very well in the development of species specific plans. I am glad that we have now come up with a species specific plan for elephants. I am hopeful that this elephant conservation action plan will attract support from all stakeholders, partners and the donor community.

We are grateful to the president of Uganda H.E Yoweri Kaguta Museveni who led the African leaders at the launch of the Clinton initiative to tackle wildlife trafficking, particularly the fight against illegal ivory trade. We are also grateful to UNEP for availing the African elephant fund that has played a vital role towards strengthening the capacity of law enforcement against elephant poaching and illegal ivory trade. Such initiatives from our development partners are important for strengthening the conservation of African elephants. We are optimistic that with the Action Plan in place, more partners will come on board to address challenges affecting elephant conservation in Uganda.

I call upon all stakeholders to support the implementation of this action plan.

Conserving for Generations



Dr Andrew G. Seguya

Executive Director-UWA

SECTION 1.0

INTRODUCTION

Elephants (Loxodonta africana and Loxodonta cyclotis), the largest terrestrial mammal on earth, exhibit complex intelligence, social behavior, and play a key role in the wild ecosystems. Despite their important roles in maintaining ecological balances and the flow of tourism income to the range states, the African elephant remains one of the top most species faced with high risk of extinction. Globally, the elephant is classified as vulnerable by the IUCN. As a result of the high levels of commercial poaching largely attributed to illegal trade in ivory and its products, the elephant population is facing substantial pressure. This is exacerbated by habitat degradation and loss mainly due to land use changes driven by an increased human population in the region. In Uganda, the 1970s and early 1980s were devastating times for the African elephant, instigated by lawlessness that resulted in heavy commercial poaching

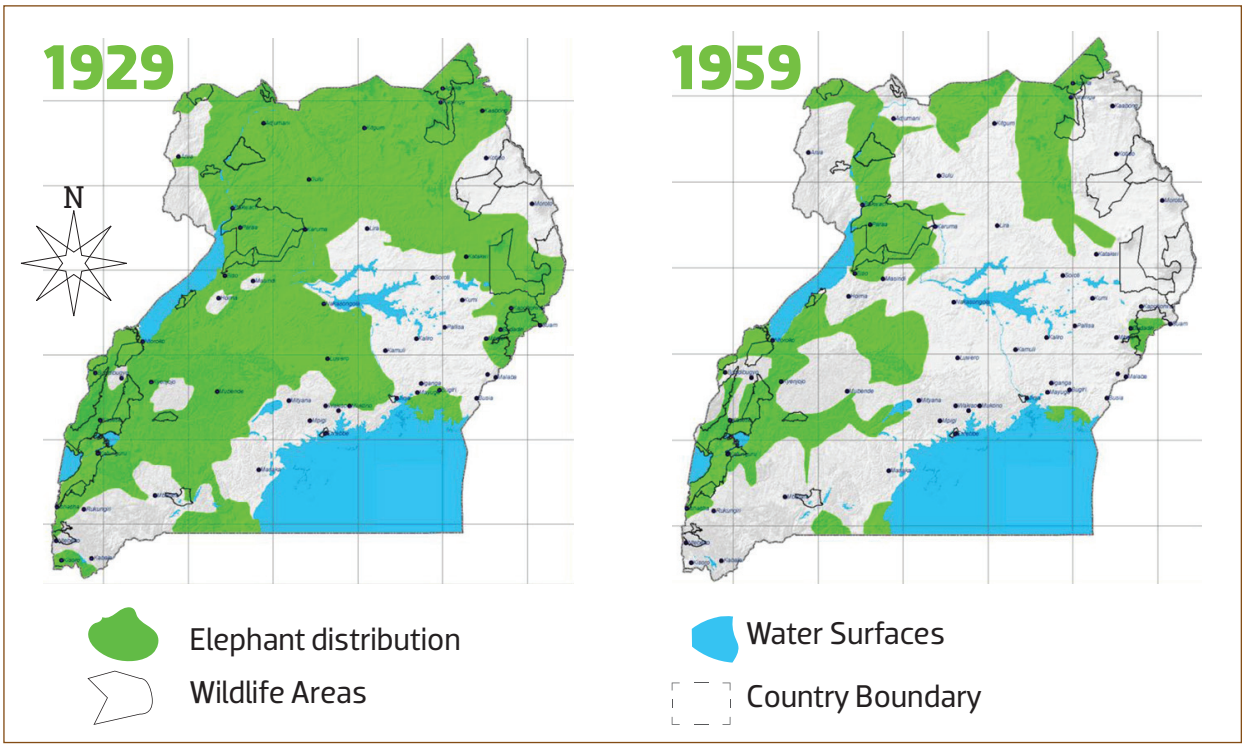


Figure 1. Elephant ranges in Uganda for 1929 (left) and 1959(right)

mostly for meat and ivory. Consequently, the elephant population declined from an estimated 30,000 individuals in 1960s to about 2,000 individuals in 1980s (Lamprey et al. 2003).

Elephants are vital to the web of life in Africa. As a keystone species in habitat modification, elephants play important roles in providing balanced conditions for all the other species to survive within their ecosystem, opening up forest habitats to create firebreaks and grasslands, creation of water pools for other wildlife, and leaving nutrients along their way required for the growth of flora and certain faunal species. Sometimes called the "gardeners", elephants are essential for the dispersal of seeds that maintain tree diversity (Scriber, 2014) in the wild. Despite all this, the contributions of elephants on ecosystem enhancement remain only partially understood (Ssali et al. 2012).

In the past, elephants had an extensive range of habitats, traversing across the country through migration corridors. However, the current increase in human population, coupled with the demand for arable land and settlement, has reduced the suitable habitat range for elephants in Uganda (Figure 1). This trend has contributed to the fragmentation of elephant habitats and affected their natural migratory pattern and dispersal behaviors. As a result, the distribution of elephants is limited to protected areas except for a few which are found in patchy habitats outside wildlife protected areas. Due to lack of effective or functional corridors, elephant migrations and dispersal behavior are now restricted.

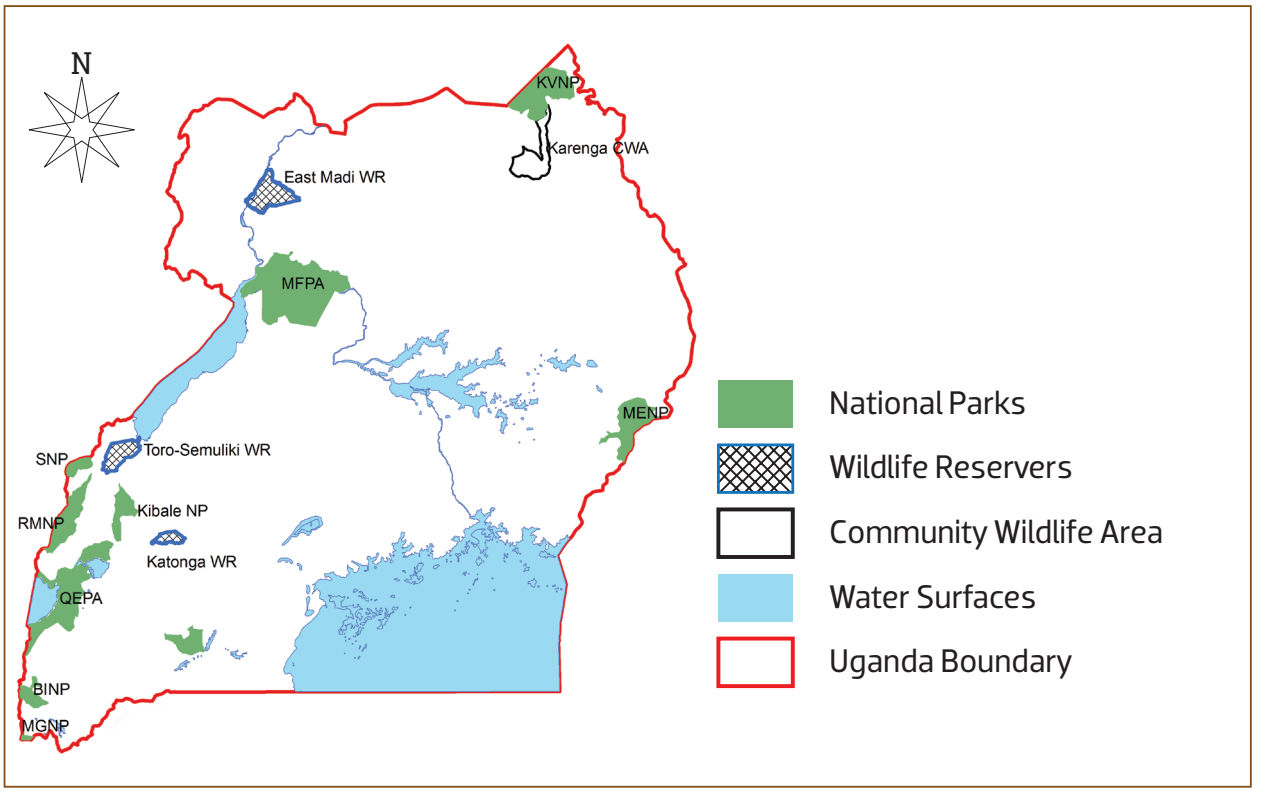


Figure 2. Uganda's Major elephant Protected Areas

At the moment, the largest populations of elephants (see Table 1) are found in Queen Elizabeth, Murchison Falls, Kidepo Valley and Kibale National Parks (in order of population size from the largest); with few individuals found in Bwindi Impenetrable NP, Rwenzori Mountains NP, Toro Semliki WR, Katonga WR, Budongo Forest Reserve outside MFPA, Karenga Community Wildlife Area, Otze/ Dufile, Aswa Lolim and East Madi Wildlife Reserve (Figure 2).

Elephants have also been sighted in Sango bay; and are believed to be migrating and using habitats across the common international border of Uganda and Tanzania in search for water and forage. Uganda also has one elephant in captivity at the Uganda Wildlife Education Centre (UWEC).

Since the late 1980s, there has been a gradual increase in elephant population in the key elephant Protected Areas of Queen Elizabeth, Murchison Falls (also designated as MIKE sites) and Kidepo Valley National Parks. The elephant population in wildlife protected areas is currently estimated at 5,564 (Table 1), but this could be higher if elephant surveys in remnant forested areas outside national parks and wildlife reserves are undertaken. The recovery in elephant numbers from 2,000 in the 1980s to 5,564 is largely attributed to successful conservation efforts implemented by Uganda Wildlife Authority, improved legislation and conservation policies, the stability and security in the country. However, the increase in elephant populations alongside growing human populations has come along with increased

human-wildlife conflicts. These conflicts arise out of loss of suitable habitat for elephants due to agricultural expansion driven by the increase in human population. The action plan takes into account national development plans and long-term investment strategies that are aimed at addressing these challenges. Other major threats include competing land uses such as developments within protected areas in areas of oil and gas exploration, hydro-power infrastructure establishment, mining, commercial agricultural expansion around core elephant conservation areas and migratory routes, and market driven demand for ivory resulting in increased poaching of elephants.

1.1. Action Plan preparation and Development

Preparation of this Elephant Conservation Action Plan started with identification of stakeholders (both at individual and institution level) to be consulted; these included UWA staff and the conservation experts from research and academic institutions as well as technocrats from government departments and agencies. Information for plan development was collected through secondary data reviews (Field data surveys conducted by wildlife management institutions since the 1960s, Ranger Based Data Collections on routine monitoring-RBDC) and consultations. Consultations were both at field level involving UWA staff and stakeholders in protected areas and at the national level. This exercise was conducted between December 2012 and May 2015. Consultations enhanced our understanding of the Strength, Weaknesses, Opportunities and Threats (SWOT) of elephant conservation in Uganda. At the national level, a consultative meeting that culminated into the formulating of the vision, goal, refining the strategic objectives and the threat analysis including setting targets and identification of activities for the logical framework, was held in May 2015. One of the achievements of the consultative exercise was the crafting of the plan goal: "by 2026 elephants have increased to at least 8,300 from their current 5,564 and are distributed across their range." To attain this goal, a number of objectives were developed. This Action plan is supported by six strategic objectives developed from a threat analysis process namely;

1) Poaching of elephants and trade in elephant products halted;

2) Human-elephant conflict minimized;

3) Habitat loss and degradation controlled;

4) Research on elephant conservation issues strengthened;

5) Effective protection of elephants occurring through awareness, collaboration, resource mobilization and management; and

6) Benefits from elephant conservation accruing to Ugandans.

During the development of the UWA strategic plan, several stakeholders and their roles were identified. UWA made use of this information to enrich the development of this ECAP. The plan has been developed to cover a period of ten years (2016-2026) with consequent midterm review after five years.

SECTION 2.0

OVERVIEW ON ELEPHANT ECOLOGY

2.1. Biology and Conservation Needs of Elephants

Description: A large grey or grayish-brown animal with a long flexible trunk, prominent ears, thick legs, and pointed tusks. The largest living land mammal; males stand 3.6m tall at the shoulder and weigh up to 6.5 tons while females are 3m tall and weigh up to 4.5 tons. Their trunk is actually a long nose used for smelling, breathing, trumpeting, drinking and grabbing food. African elephant has two finger-like features on the end of its trunk as an adaptation for grabbing small items. African elephants, unlike Asian elephants, are not easily domesticated.

Diet: Much of their time is spent feeding. Very adaptable in diet, they are both grazers and browsers and feed on various vegetable matter. Elephants break and fell big trees in diameter and can cause deforestation when the carrying capacity of the habitat is surpassed. The females undergo a gestation period of 22 months and can live up to 60–70 years in the wild (Dorst and Dandelot 1970) and 90 years in zoos. The calving interval is 4.5 – 6 years and females are reproductively capable for 40 years.

Intraspecific variation: Two distinct types of African elephants formerly considered as full species can be recognized. The Bush elephant (Loxodonta africana) is larger (about 4 meters high in shoulder) and has large broad ears with a sharply pointed lower lobe. The tusks are longer and are usually curved forwards. The Forest elephant (Loxodonta cyclotis) is smaller (about 3 meters at the shoulder) and has smaller rounded ears with less pronounced lappets and straighter, thinner and shorter tusks, usually projecting downwards (Dorst and Dandelot 1970).

Habits: Gregarious, elephant live in herds averaging from 10 to 20 individuals, sometimes up to 50, led by an old female. There is usually a master bull, one or two immature, and a number of cows and calves of various ages. Particularly in severe drought, the herds are much larger and number up to several hundreds. Adult elephant have no natural predators, but young may be attacked by lions (Dorst and Dandelot 1970). Elephant babies are weaned at two years old. Elephants give birth to one young, but twinning happens occasionally (Olupot et al. 2010).

2.2. Population and Distribution of Elephants by Conservation Area in Uganda

2.2.1. Methodology

Population estimates over the years are a reflection of findings largely influenced by the different methods previously employed in different habitats and at different times. Different methods for population estimation are recommended for different habitats. Earlier survey results showed great fluctuations in number of elephants between years in the 1960s which may have been partly a result of the methods and partly because of migrations (Buss 1990). Between 1995 and 1999, comprehensive aerial surveys under the Protected Area Assessment Programme (PAAP) were undertaken to determine the status of large mammals in Uganda's savannah areas, and the results from these surveys provide baseline information for Queen Elizabeth Protected Area among other protected areas. Population estimates and distribution of large mammal species in major elephant protected areas are available from various counts conducted prior to 1973 and from aerial surveys conducted in 1980, 1995, 1999, 2005, 2010 and 2014. In 1980, the first Systematic Reconnaissance Flight (SRF) survey was conducted in Murchison Falls Protected Area. Subsequent sample counts for protected areas were conducted during 1995/96, 1999/2000, in 2005, 2010 (Sommerlatte and Williamson 1995; Lamprey and Michelmore 1996; Lamprey 2000, Rwetsiba and Wanyama 2005; 2010), 2012 and 2014.

2.2.2. Queen Elizabeth Protected Area (QEPA)

Queen Elizabeth Protected Area (QEPA) is part of a larger trans-boundary ecosystem that includes Kibale and Ruwenzori Mountains National Park in Uganda and the Park National de Virunga in the Democratic Republic of Congo (DRC). Queen Elizabeth National Park was designated a Biosphere Reserve in 1979.The lowest elephant population ever recorded was in 1980 (150 individuals)(Figure 3). Since then, there has been an increase in elephant numbers due to concerted law enforcement intervention efforts. Current survey results of 2,913 individual elephants show that the numbers have recovered to around the mean value of their 1960–1970s levels when they were at their peak numbers (Wanyama et al. 2014) (Figure 3). This recovery could only have occurred with the transboundary links between QEPA and Parc National de Virunga as shown by Plumptre et al. (2007).

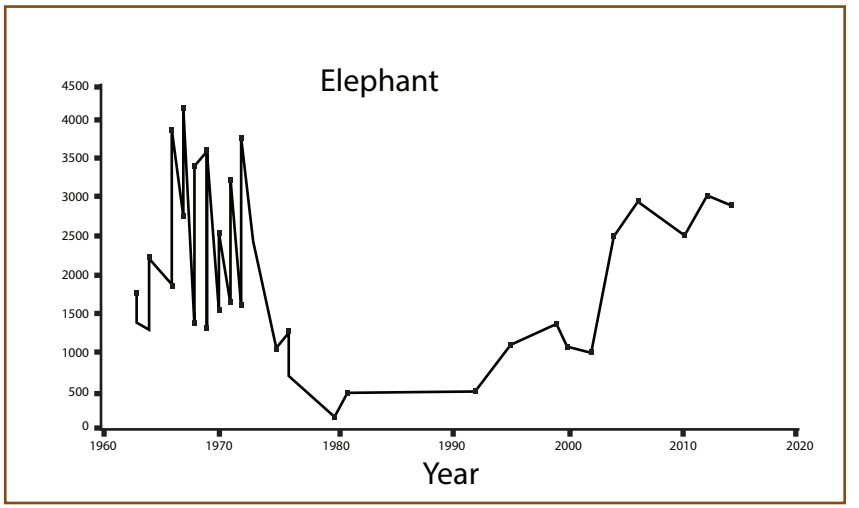


Figure 3. Plot of numbers of elephants for each year since 1963 in QEPA

Trans-boundary movement of elephants between QEPA in Uganda and Virunga in DRC is common and has been known for at least 50 years with wild animals moving back and forth between the two parks. Plumptre et al. (2007) highlights the importance of this ability for animals to migrate between the parks being vital for the survival of elephant populations in the landscape. This kind of movement has, to a large extent, led to the changes in the distribution patterns of elephants in QEPA, a trend which continues to be observed to date (Figure 4). Elephants were also known to move from QENP to Kalinzu and Kashoya-Kitomi Forest Reserves (Lamprey, pers. comm., 2006). In Rwenzori Mountains, ranger based data collections have shown presence of elephants. This was also confirmed by Keigwin (2005).

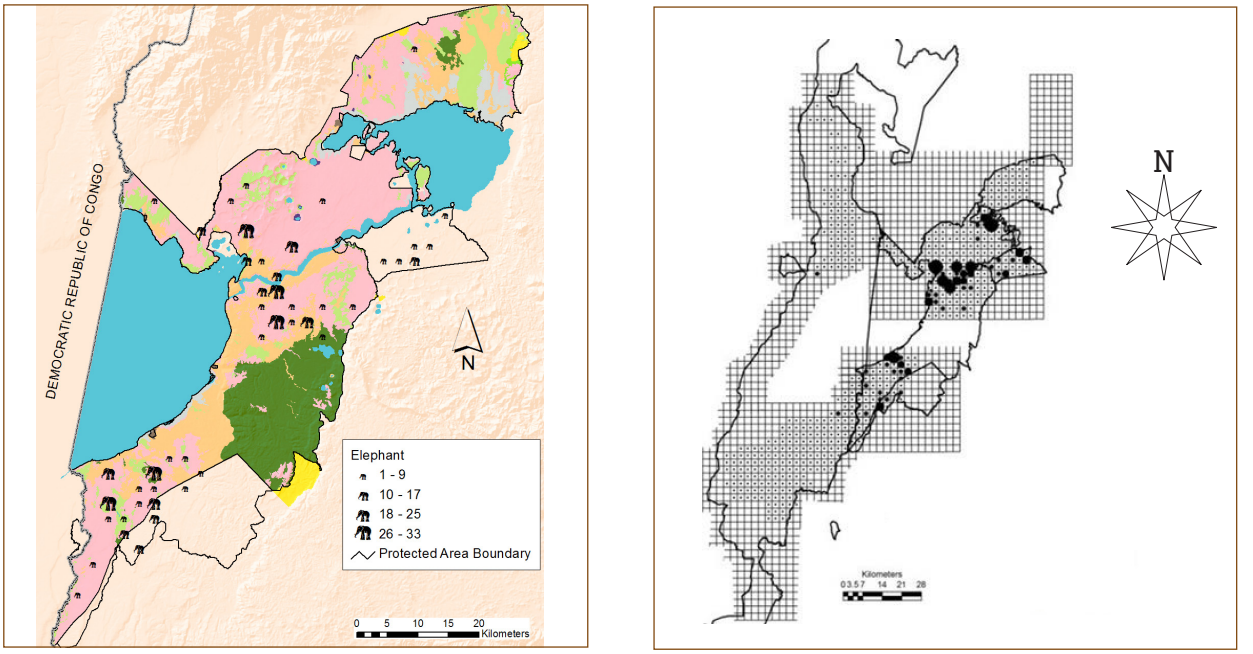


Figure 4. Elephants distribution in QEPA, September 2012 (left) and May–June 2014 (right)

2.2.3. Murchison Falls Protected Area (MFPA)

The vulnerable status of elephants and decline in MFPA is largely attributed to population changes in Murchison Falls Protected Area. Here elephants were the most affected by poaching during the 1970s and 80s. Before 1973, the population was estimated at 12,000 individuals, and by 1980 it was reduced to approximately 1,420 (Douglas-Hamilton et al. 1980 In Lamprey et al. 2003). During this period, all elephants south of the Nile River were completely wiped out. While elephant numbers have increased since1980, the population remains below the pre 1973 levels. In 2009, a census by WCS recorded 19 Elephants in Madi Corridor showing the need for a wildlife dispersal corridor between MFPA and other elephant habitats.

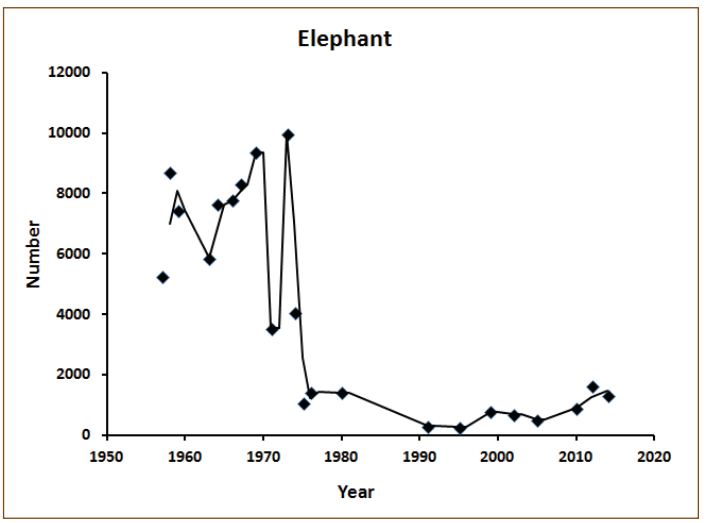


Figure 5. Plot of numbers of elephants for each year since 1957 in MFPA

Early official estimates of elephant populations in the Bunyoro district suggest that more than half of the elephants in Uganda were in this region. In the 19th century, most of the elephant population resided in south-central and western Bunyoro, but it was to this area that the people previously residing close to the banks of the river had been relocated during the sleeping sickness outbreak (Laws et al. 1975). Thus, as people came to inhabit the historic range of elephants, conflict between humans and elephants increased. The current survey results of 1,330 individuals in MFPA show that the elephant numbers still have a long way to go to recover to their 1960–1970s population levels, when they were at their peak numbers (Wanyama et al. 2014) (Figure 5).

The current distribution of elephants shows that they are commonly seen in Buligi, Tangi and Paraa sectors in the northern bank of River Nile as preferred areas, and their distribution was in both grassland and woodland vegetation (Figure 6).

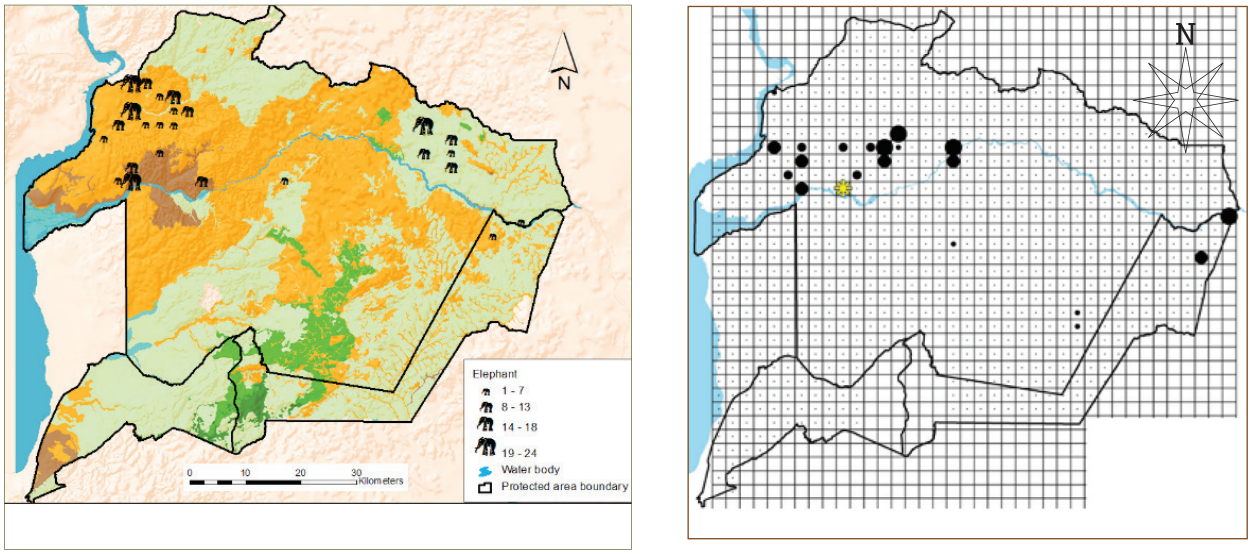


Figure 6: Distribution of elephants in June 2012 (left) and May–June 2014 (right) in MFPA

2.2.4. Kibale Conservation Area (KCA)

Elephants are found throughout Kibale Conservation Area, which is comprised of Kibale National Park (KNP), Katonga Wildlife Reserve, Semuliki National Park and Toro Semuliki Wildlife Reserve. In 2010, Kibale National Park elephant population was estimated at 487 (Wanyama 2010) from dung counts (Figure 7). The map (Figure 7) shows the location of elephants by dung and sightings from 2004 to 2012 in KNP.

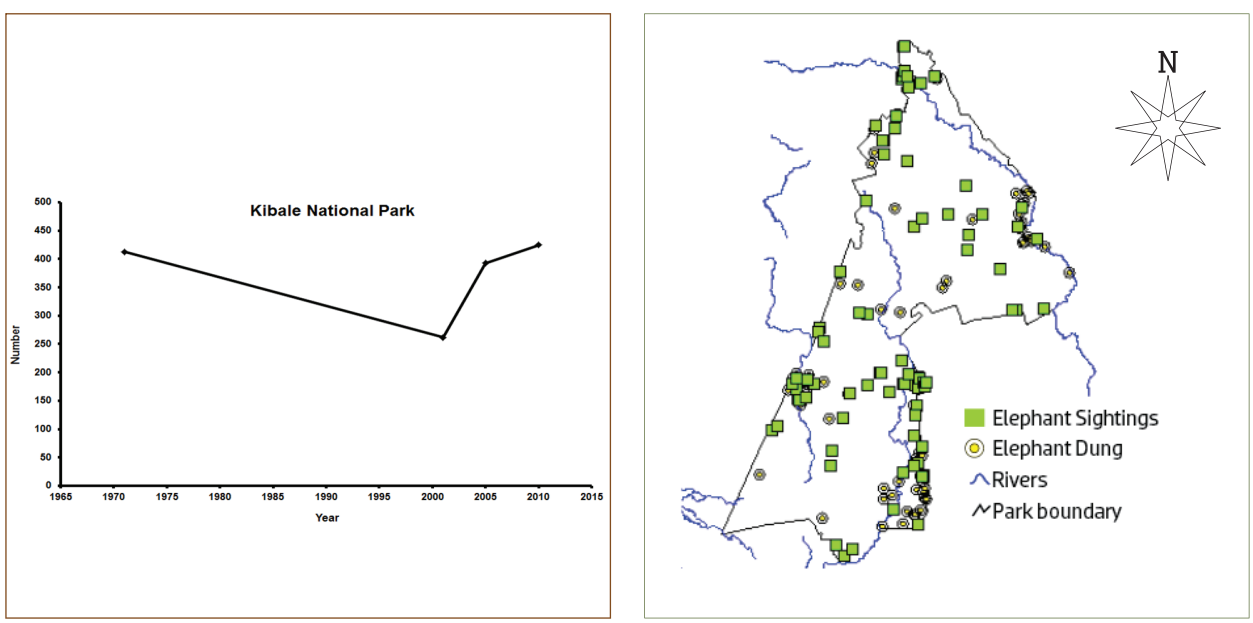


Figure 7. Elephant population trends from 1970s–2010 (left); distribution from 2004–2012 (right) in KNP

While elephants were observed throughout the park, concentrations of elephants were observed in the central areas of Ngogo, southeast and north of the Park. It is envisaged that elephants used to move in the corridor between KNP and Queen Elizabeth National Park (QENP). The corridor was established in 1926 as a controlled hunting area and to maintain and facilitate elephants in their passage between forested areas to the north (which became Kibale Forest Reserve in 1932) and savannah areas to the south (which became QENP) (Baranga 1991, Drennon 1997). This corridor still exists, but is now very narrow. Much as this narrow strip is not settled, the land bordering it is now occupied and heavily degraded by agricultural development. This increases pressure on the corridor and threatens its functionality as an elephants migratory passage.

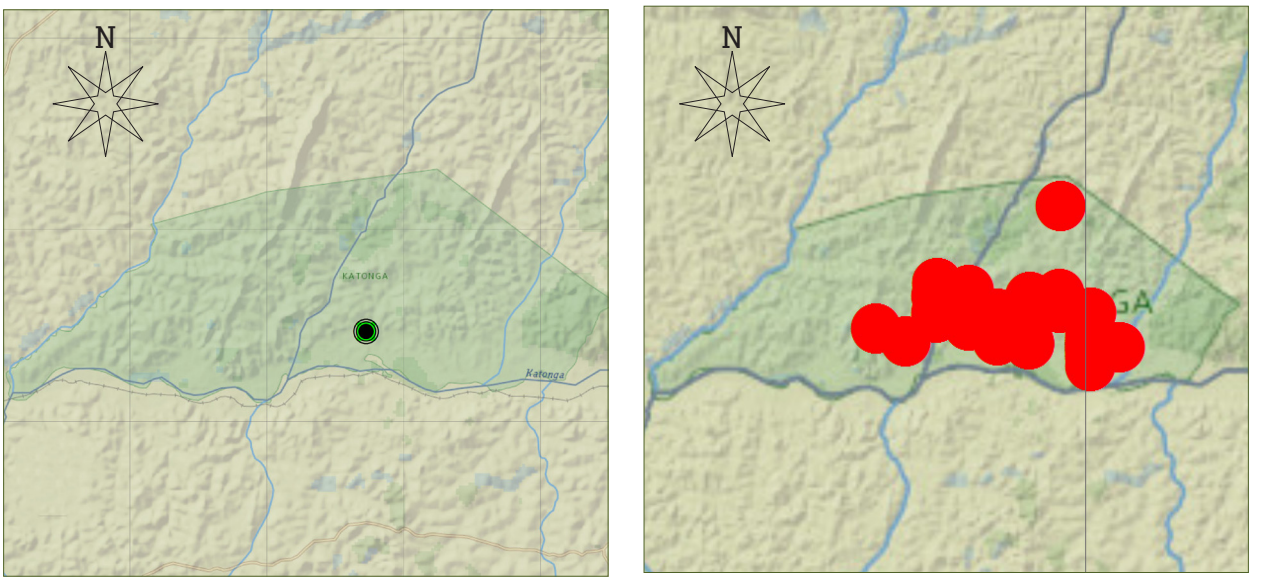


Figure 8. Distribution of Elephants in Katonga Wildlife Reserve, March 2015.

In Katonga Wildlife Reserve elephants have been sighted ranging within an area approximately 51.75 square kilometers mostly in the riverine forest and papyrus swamp in the areas of Kataraza and alongside River Katonga see Figure 8 (Kisame and Wanyama 2015). This small remnant population is thought to have been once part of a larger population that extended to Kibale National Park and is now isolated (M. Polanski. pers. comm., 2004)

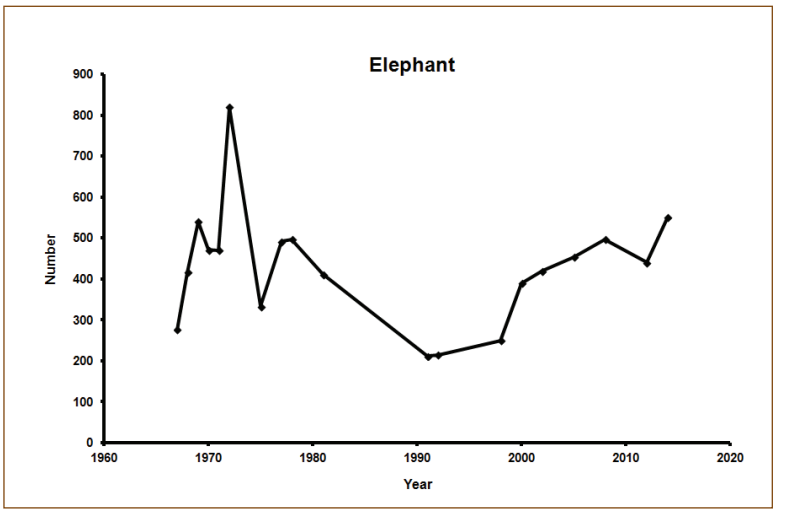


Figure 9. Plot of numbers of elephants for each year since 1967 in Kidepo Valley National Park

2.2.5. Kidepo Valley National Park (KVNP)

In the 1990s, with improved management, the population started increasing in Kidepo Valley National Park (KVNP). This can be attributed to low death rates and trans-boundary elephant migrations. However, few numbers were estimated in the year 2004 compared to the year 2000. This may be due to the different methods used or because elephants migrate out of the park to the neighbouring Karenga Community Wildlife Area. For example, in 2000 an aerial sample count was conducted while in 2004 it was an aerial total count.

In addition, the time of year when the two surveys were conducted differed. The 2014 survey indicated an increase in elephant population, with 407 (Total counts) individuals in KVNP. The trend overall shows that elephant numbers (Figure 9) have rebuilt to levels of the 1960s and 1970s (Wanyama et al. 2014). Known elephant ranges in the eastern also included PUWR, MBWR and Mount Elgon National Park. However, observations over the past years have not recorded presence of elephants in PUWR, MBWR as well as Mount Elgon National Park on the Ugandan side.

Kidepo Valley National Park is composed of two main valleys, the Kidepo and Narus valleys, which are surrounded by volcanic hills. It covers an area of 1442 sq. km. Parts of the park are secure today, facilitating the fast recovery of wildlife populations like that of the elephant that has regained its 1960s levels. Karenga Community Wildlife Area covers an area of 956 sq. km. It is an overspill area for Kidepo Valley National Park (KVNP), in which elephants and other species move south along the Lokalis River to the open plains south of the Rom Mountain.

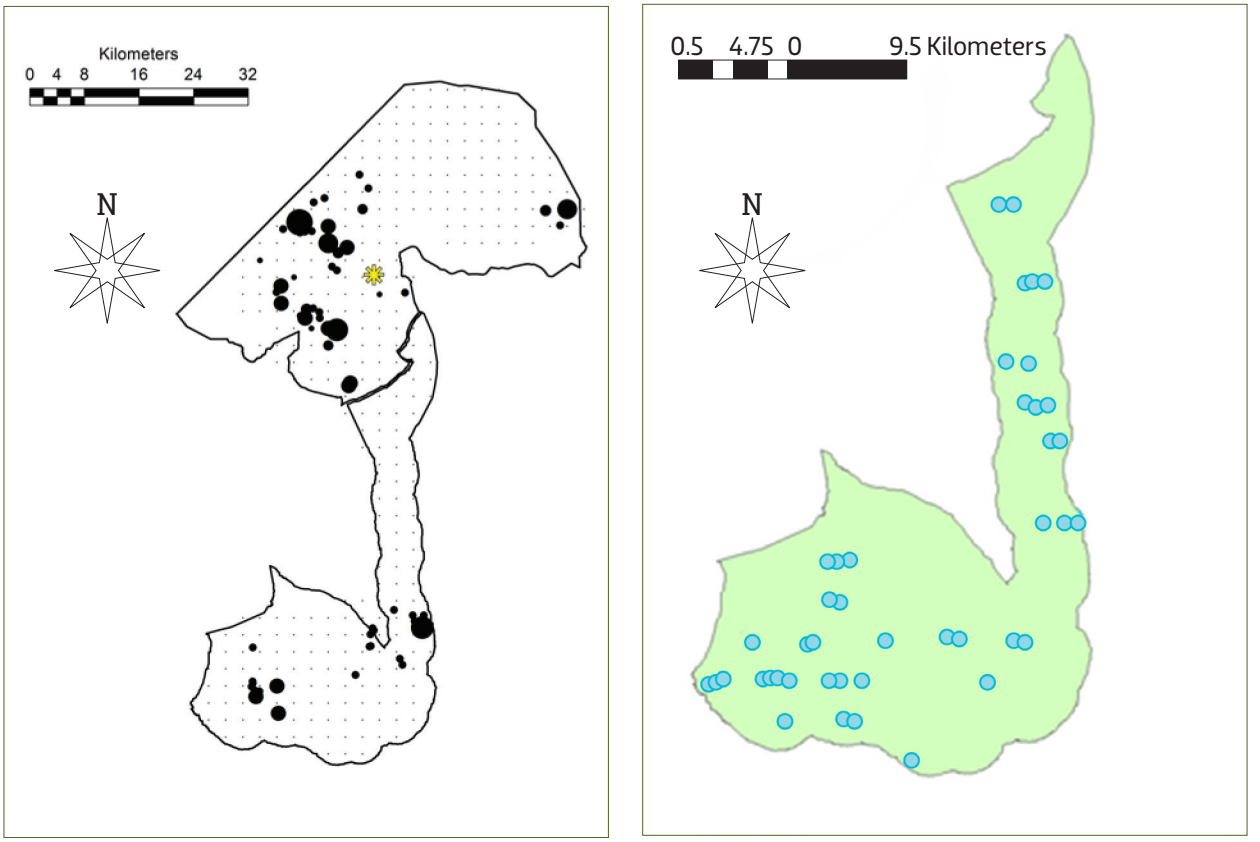


Figure 10. Distribution of elephants in KVNP and KCWA; June 2014(left); Distribution of elephants by spoors only in KCWA; April 2015 (right)

The park is part of a major savannah ecosystem in which wildlife inhabits or migrates on a seasonal basis to and out of the entire Karamoja region. This region, approximately 27,700 sq. km, comprises three wildlife estates: the national park (Kidepo Valley), three wildlife reserves (Matheniko, Bokora Corridor and Pian-Upe) and three controlled hunting areas (CHAs) of North Karamoja, South Karamoja and Napak. Observed trends show large elephant trails crossing into South Sudan on the northern part of KVNP, indicating movement back and forth across the Uganda-South Sudan international border. The aerial census of 2005 showed that elephants were restricted to the Narus Valley and the 2014 aerial census (Figure 10) shows the distribution patterns of elephants in KVNP to be largely in the Narus valley with a few others in the Karenga corridor.

2.2.6. Bwindi Mgahinga Conservation Area (BMCA)

Bwindi Mgahinga Conservation Area is composed of Bwindi Impenetrable National Park (BINP) and Mgahinga Gorilla National Park (MGNP). Prior to Bwindi's gazettement as a national park in 1991, it was a forest reserve and regulations about forest access were more liberal and not often enforced. Local people hunted, mined, logged, pit sawed, and kept bees in the park. It was gazetted as a national park because of its rich biodiversity and threats to the integrity of the forest (UNP 1991). Bwindi is considered to have an extremely high diversity of species and it is only in BINP that the resident elephants in BMCA are found.

Elephants in BINP, favored the bamboo zone during the wet seasons because of the presence of young bamboo shoots (Babaasa, 2000). Elephants normally concentrate around mubwindi and murugyezi swamps during arid seasons, especially July to September when forest edges become drier (Anecdotal observation). The Chrysophyllum dominant mixed forest around mubwindi swamp is the best available habitat during the dry periods, and the only one upon which the elephants can depend for their long term survival. This explains the distribution pattern observed in Figure 11 below. Thus, the protection of these habitats is critical if the BINP elephant population is to survive (Babaasa, 2000).

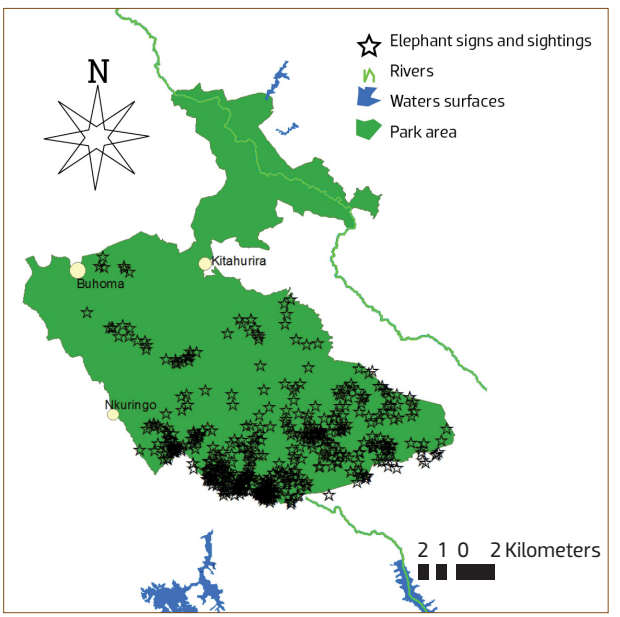


Figure 11. Distribution of Elephants in Bwindi National Park Jan 2001-Sept 2012 (UWA)

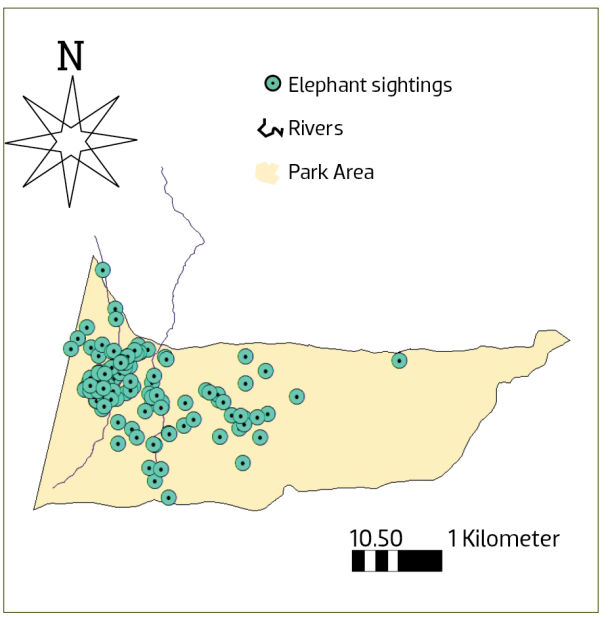


Figure 12. Distribution of elephants in MGNP (UWA)

A small number of elephants also occasionally cross into Mgahinga NP from Virunga National Park in DRC and Rwanda. (Figure12). The number was estimated to be 11 (P. Ezuma pers. comm., 2015). Some of the data from ranger based monitoring in MGNP is shown (Figure 13).

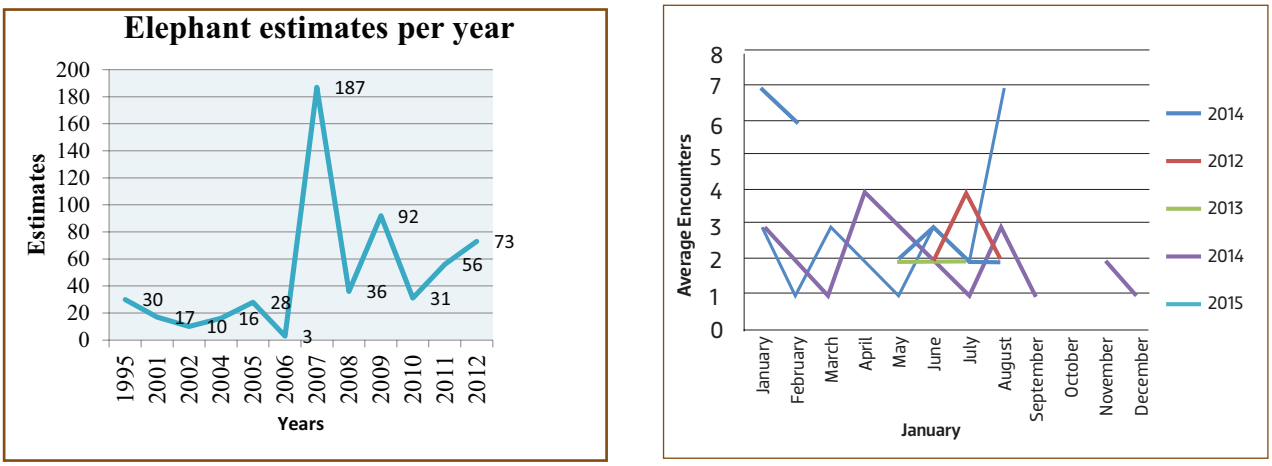


Figure 13. BINP elephant population estimate and encounters by year (left); MGNP elephant encounters from 2011–2015 (right)

Babaasa (1994) estimated the population of the elephants in Bwindi to be 22, and currently estimates the population to be less than 40 (Babaasa pers. comm.). Also the population was estimated at 30 individuals (Said et al. 1995) and 25 individuals in 1997 (McNeilage et al. 1998). Since then no substantive surveys have been conducted for elephants. The subsequent elephant numbers from 2001–2012 (Figure 13) are simply encounters from ranger based data collection and monitoring. The current numbers in BINP are estimated at 43 individuals (F. E. Kisame, pers. comm., 2015). While elephants are still present in the Park, the encounter results are inadequate because of inconsistencies in ranger data collection, which is dependent upon resource allocation, manpower availability, and seasonality. This emphasizes the need for surveys in BINP and MGNP to reduce the information gap for elephant population estimates. Elephants also existed in LMCA but are said to be locally extinct in that range according to RBDC records in LMNP.

2.2.7. Total Estimated Population of Elephants in Uganda

The current population estimate for elephants in Uganda's protected areas where censuses or crude population estimates have been made is also given (Table 1) (in addition to one elephant in a captive environment at the Uganda Wildlife Education Centre (UWEC). The exact number permanently resident in the country is not known due to migrations and habitat fragmentations. Table 1 includes estimates for sites where updates on elephant populations have not yet been made due to lack of current data.

Table 1. Elephant population estimates per site in Uganda		
Site	Year	Population
Murchison Falls Protected Area	2014	1,330[a]
Queen Elizabeth Protected Area	2014	2,913[a]
Madi Corridor	2009	19[b]
Kidepo Valley National Park	2014	407[a]
Karenga Community Wildlife Area	2014	214[a]
Bwindi Impenetrable National Park	2012	43[c]
Kibale National Park	2010	487[d]
Toro-Semliki Wildlife Reserve	2015	27[e]
Semuliki National Park	1998	30[f]
Katonga Wildlife Reserve	2015	~20[g]
MGNP	2015	~11[h]
RMNP	2003	~20[i]
Sango bay (kaiso, namalala, malabigambo, tero east and tero west forest reserves in Rakai)	2015	~36[j]
Other sites: Otze Forest Reserve		6[k]
UWEC (elephant in captivity)	2015	1[l]
Total		5,564

Data source: a(Wanyama et al., 2014), b(WCS, 2009), c(F. Kisame, pers. comm., 2012), d(Wanyama 2010), e(Wanyama 2015), f(F.Michelmore, pers. comm., 1998), g(Kisame and Wanyama 2015), h(P. Ezuma, pers. comm., 2015), i(M. Keigwin, quest. reply,2005), j(F. Kisame, pers. comm., 2015),k(R. Lamprey, pers. comm., 2004), l(W. Ruhinirwa, pers. comm., 2015).

Figure 14 shows the population over years based upon the existing survey data. When the information gaps are filled we may see the current population estimates change.

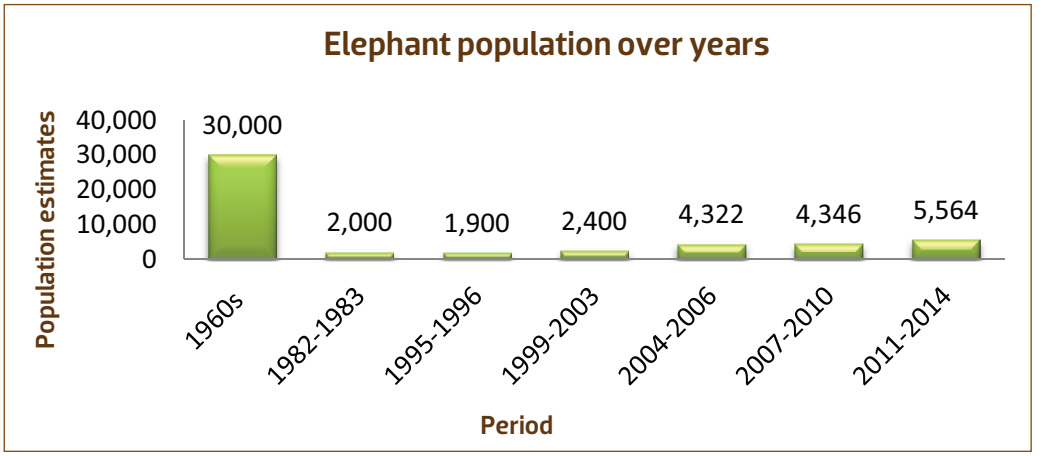


Figure 14. Elephant population trends in Uganda over the years (1960s–2014) (UWA Archive)

2.3. Elephant mortality

Causes of elephant mortality are largely due to humans. During the May–June 2014 aerial survey (Wanyama et al. 2014), eleven carcasses were found in QEPA, two fresh ones, six recent ones and three old (Figure 15).

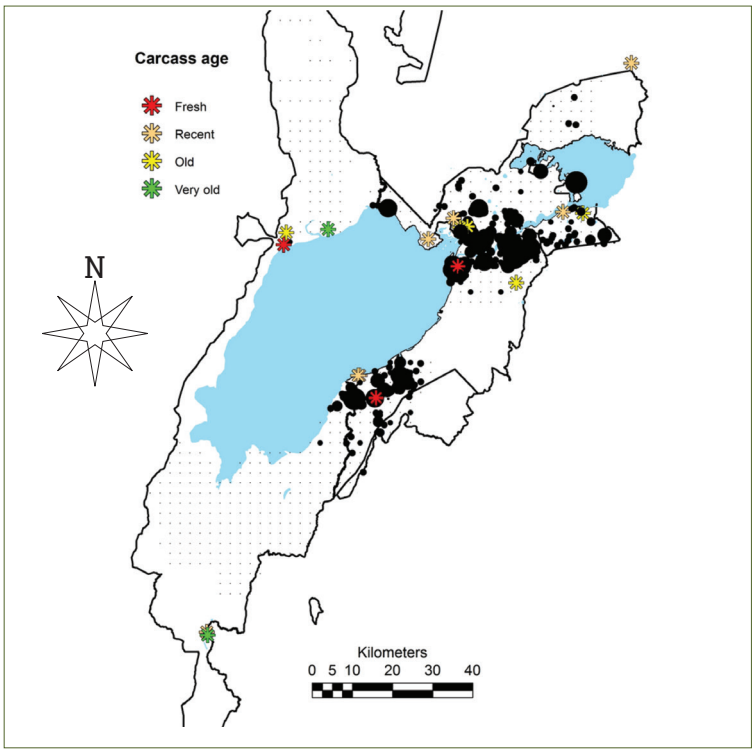


Figure 15. Elephant herds of different sizes (black circles) with location of 11 elephant carcasses which were all fresh, recent or old; in Queen Elizabeth Protected Area

The data series are inadequate and there is need to consistently collect data on elephant mortalities for monitoring purposes. The mortalities are as a result of various suspected causes like poaching, critical injuries while outside the park destroying property and crop raiding, road accidents by speeding vehicles and natural causes (Figure 16). Zero implies absence of data in some of the PAs such as BINP.

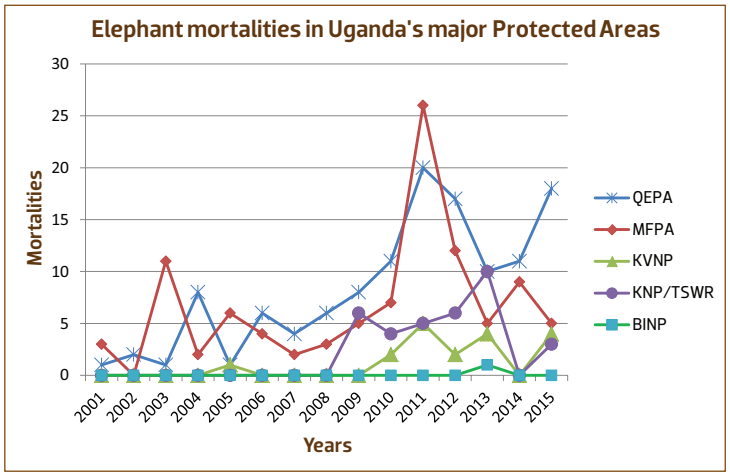


Figure 16. Elephant mortalities in Uganda's major elephant Protected Areas (UWA Archive)

The PIKE values (ratio of poached elephants to natural deaths) are high for Uganda's elephant population because natural mortality is low due to the fact that poaching in the 1970s and 1980s targeted old individuals with larger tusks, and therefore most old individuals were killed at that time. PIKE values below 0.5 according to African elephant action plan are approriate for conservation of elephants (Figure 17).

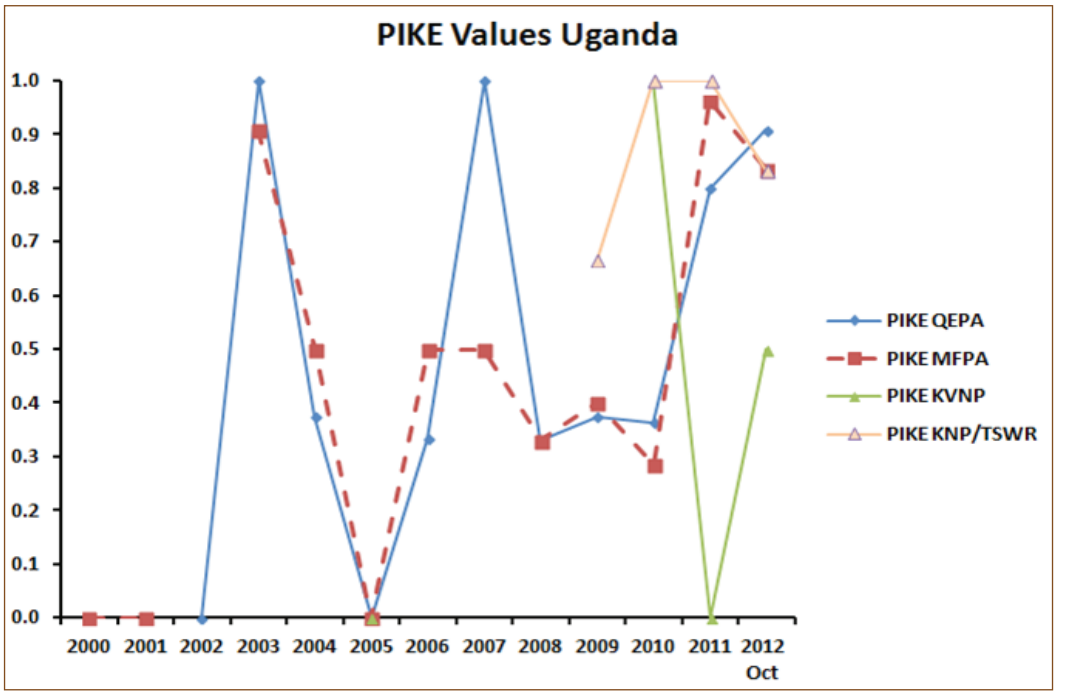


Figure 17. PIKE Values for Uganda's major elephant Protected Areas

2.4. Current Frameworks on Elephant Conservation

2.4.1. The Uganda Constitution (1995)

The 1995 Constitution of the Republic of Uganda, Objective XIII, provides for state protection of important natural resources such as land, water, wetlands, minerals, fauna and flora on behalf of the people of Uganda. Objective XXVII, provides for the creation and development of Parks, Reserves, recreation areas and conservation of natural resources by central and/or local governments. Under this Objective, the state is obliged to promote the judicious use of natural resources so as to safeguard and protect the biodiversity of Uganda.

2.4.2. National Environment Act 1995 (Cap 153 of 2000)

The National environment Act 1995 delineates guidelines for conservation of biological diversity. This Act mandates the National Environment Management Authority (NEMA), in consultation with the lead agency, to issue guidelines and prescribe measures for the conservation of biological diversity. In issuing guidelines under Subsection 1, the authority may (a) specify national strategies, plans and programmes for the conservation and the sustainable use of biological diversity, (b) determine which components of biological diversity are threatened with extinction, (c) identify potential threats to biological diversity, and (d) devise measures to remove or investigate their effects.

2.4.3. The Uganda Wildlife Policy (2014)

The Uganda Wildlife Policy has several objectives, two of which are key to elephant conservation. The first objective seeks to ensure that the biological diversity of Uganda is conserved within the country's protected area system,

and is managed on sound conservation principles. The second objective seeks to promote and maintain viable and representative wildlife populations in Uganda, both within and outside protected areas. The Policy goal is "to conserve wildlife resources of Uganda in a manner that contributes to the development of the nation and the well-being of its people" while relevant and specific.

2.4.4. The Uganda Wildlife Act Cap 200 of 2000

The Wildlife Act Cap 200 provides for the protection of wild animals that are rare, endangered and endemic. The Act further provides for the Institutional framework of Uganda Wildlife Authority to manage and enhance conservation of biodiversity in confined habitats within the protected areas, so that species abundance and diversity are maintained in accordance with Convention on Biological Diversity (CBD) standards. It also provides for the implementation of relevant international treaties, conventions, agreements or other arrangements to which Uganda is a party.The government of Uganda is obliged to observe the provisions and regulate wildlife trafficking within its territories in collaboration with member states.

The Wildlife Act is today the principal legal framework for regulating the illegal trade of wildlife in Uganda. The Wildlife Act came into effect on August 1, 1996, and is the primary legislation governing protection. It aims to provide for sustainable management of wildlife, to consolidate laws relating to wildlife management, and to establish a coordinating, monitoring and supervisory body for such purposes. The Wildlife Act prohibits unauthorized hunting, capture, and killing of a protected species and the trading, exporting, importing, and re-exporting of wildlife "specimens"(defined as any wild animal, alive or dead, whether or not native to Uganda, and any readily recognizable part or derivative of such animal).

The Act establishes the Uganda Wildlife Authority to achieve, among other things, the sustainable management of wildlife conservation areas; develop, recommend, implement, and manage wildlife management policies; recommend the creation of wildlife conservation areas; establish policies and procedures for the sustainable use of wildlife by local communities; and control internal and external trade in wildlife specimens. UWA's strategic operations are spearheaded by an Executive Director, who is supervised by a Board of Trustees. UWA is a semi-autonomous government agency body within the Ministry of Tourism, Wildlife and Antiquities (MTWA).

2.4.5 National Biodiversity Strategy

One of the objectives of the National Biodiversity Strategy is to develop and strengthen co-ordination, measures and frameworks for biodiversity management. Section 4 of this strategy is critical about the status of wildlife and sets out strategies for meaningful conservation of wildlife

2.4.6. Uganda Forestry Policy (2001)

Uganda Forestry Policy (2001) highlights Uganda's approach to habitat and species conservation as being based on a protected areas system of National Parks, Wildlife Reserves and Forest Reserves and generally focuses on different components of biodiversity (wildlife and trees).

2.4.7. National Forestry and Tree Planting Act (2003)

Section 29 (1) of the National Forestry and Tree Planting Act (2003) provided for the conservation and management of All forestry biological resources and their derivatives, whether naturally occurring or naturalized with in a forest, for the benefit of the people of Uganda in accordance with this Act and any other Law relating to biological resources.

2.4.8. Vision 2040

Under Vision 2040 periodic efforts will be undertaken to attain a green and clean environment with no water and air pollution while conserving the flora and fauna and restoring and adding value to the ecosystems.

2.4.9. The National Development Plan II (2015–2020)

The plan provides for conservation of key species.

2.5. African Elephant Action Plan (2010)

Uganda is one of the 38 African elephant range states that adopted the African Elephant Action Plan (AEAP) in 2010, with a vision to "ensure a secure future for African Elephants and their habitat to realize their full potential as a component of land use for the benefit of the human kind". In adopting the Action Plan, all African range States have recognized that the threats faced by the African elephant must be addressed immediately, otherwise they may result in entire populations being lost. The Action Plan seeks to address eight priority objectives; (1) Reduced Illegal Killing of Elephants and Illegal Trade in Elephant Products (2) Maintained Elephant Habitats and Restored Connectivity (3) Reduced Human-Elephant Conflict (4) Increased Awareness on Elephant Conservation and Management of Key Stakeholders that include Policy Makers, Local Communities among other Interest Groups (5) Strengthened Range States Knowledge on African Elephant Management (6) Strengthened Cooperation and Understanding among Range States (7) Improved Local Communities' Cooperation and Collaboration on African Elephant Conservation (8) African Elephant Action Plan is Effectively Implemented.

2.5.1. African Elephant Conservation Act of 1988

Enacted in 1988 as an amendment to the Endangered Species Act, the African Elephant Conservation Act aims to protect African elephant species in the wild. A major threat to African elephants' survival comes from the illegal trade of ivory, which is derived from an elephant's tusks. The Act grants the authority to establish the African Elephant Conservation Fund to provide funding for projects that benefit African elephant through research, conservation, and management of the species and its habitat.

2.5.2. Elephant Protection Initiative (EPI)

In 2015, Uganda joined the Elephant Protection Initiative (EPI). The EPI is a global initiative in which range states, partner states, NGOs, IGO's, private citizens and the private sector work in partnership to: Provide both immediate and longer-term funding to address the Elephant Crisis through full and timely implementation of the African Elephant Action Plan, by accessing public and private sector support through the creation of a long-term fund that provides guaranteed financial support for all participating range States for the implementation of the AEAP on the basis of threat to Elephant populations and need, and further provides incremental payments linked to overall elephant numbers and growth in elephant populations. This fund would also provide funds for world-wide citizen education on the issue; for addressing the various development needs of local communities, including poverty, for national conservation activities, and for regional co-operation; Close domestic ivory markets in those participating states still operating a domestic market; Observe a moratorium on any consideration of future international trade for a minimum of 10 years and thereafter until African elephant populations are no longer threatened; and agree to put all stockpiles beyond economic use.

2.5.3. Convention on International Trade in Endangered Species (CITES)

CITES is an international agreement between governments for the regulation of trade in, and products of endangered species. Its aim is to ensure that international trade in specimens of wild animals and plants do not threaten their survival. This convention came into force on the 1st of July, 1975 and now has 181 parties. Uganda is Party to CITES, and elephants in Uganda are listed under Appendix 1 of CITES implying that no trade in ivory or any other elephant product is allowed in Uganda.

2.5.4. International Convention on Biological Diversity.

Uganda is signatory to CBD and as such has obligation and mandate to conserve biodiversity within its borders. The objectives of the Convention are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The programmes of work developed under the CBD encourage parties to take a wide range of actions to biodiversity conservation and sustainable use. The convention also provides for the establishment of a system of protected areas or areas where special measures need to be taken to conserve biodiversity. Therefore, Parties are required to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species of threatened species in natural surroundings through development and implementation of plans and other management strategies.

2.5.5. Convention on Migratory Species (CMS) of 1979

This convention obligates Uganda to conserve migratory species of wildlife across their migratory range. It also requires Uganda to cooperate with other states that form part of the migratory range of wildlife resources found or migrating through Uganda. Uganda's elephants migrate to Kenya, South Sudan and Democratic Republic of Congo (DRC).

2.5.6. East African Community Protocol on Environment and Natural Resources

This protocol obligates Uganda to sustainably conserve wildlife resources in partnership with the local communities. The protocol requires Uganda to cooperate in management of trans-boundary wildlife resources, promotion of social and economic incentives for conservation and to conclude agreements aimed at conserving trans-boundary wildlife species.

2.5.7. Lusaka Agreement Task Force(LATF)

LATF is an intergovernmental law enforcement Agency established in 1999 with the Secretariat and operational arm of the Lusaka Agreement on Co-operative Enforcement Operations directed at controlling Illegal Trade in Wild Fauna and Flora. The Agreement, which is listed as a United Nations Environmental Treaty No.XXVII.11 was adopted in 1994 in Lusaka, Zambia. Uganda is a Party to the Agreement which comprises 7 Parties and 3 Signatories of African countries that seek to "reduce and ultimately eliminate illegal trade in wild fauna and flora". Lusaka Agreement Task Force (LATF) is mandated to combat transnational illegal trade in biodiversity resources mainly through fostering inter-state cooperation and collaboration among agencies through executing and coordinating national, regional and multi-regional enforcement operations focused on intelligence and investigations into violations of biodiversity laws, and presenting evidence to the appropriate countries for action.

SECTION 3.0

STRATEGIES FOR IMPLEMENTATION OF THE PLAN

3.1. Vision, Goal and Strategic objectives

3.1.1. Vision:

Viable elephant populations, playing their functional role across their range, benefiting the people of Uganda and the global community

3.1.2. Goal:

By 2026 elephants have increased to at least 8,300 from the current 5,564 and are distributed across their range.

3.1.3. The purpose of the plan

The ultimate purpose of the plan is to ensure the protection and long-term conservation of a viable elephant population, as well as to provide for review and monitoring of the strategic actions. The plan provides an opportunity to formulate and coordinate management intervention actions essential for the protection and conservation of viable elephant populations in Uganda. Primarily, the plan aims at establishing a framework that guides management and planning processes to ensure informed decisions in addressing elephant conservation in the protected areas, both now and over the next ten years. Specifically, the plan outlines strategies to halt poaching. Given the expected increase in elephant populations with the implementation of these conservation actions, the plan also outlines strategies to mitigate potential habitat impacts and human-wildlife conflict that could arise with growing elephant and human populations. Finally, the plan recognizes the importance of tangible outcomes and indicators of progress. Regular assessment will be key to achieving the desired objectives during the implementation period.

3.1.4. The strategic objectives of this plan are:

- Poaching of elephants and trade in elephant products halted
- Human Elephant Conflict (HEC) Minimized
- Habitat loss and degradation controlled
- Research on elephant conservation issues strengthened.
- Effective protection of elephants occurring through awareness, collaboration, resource mobilization and management.
- Benefits from elephant conservation accruing to Ugandans.

SECTION 4.0
STRATEGIC OBJECTIVES, TARGETS, RATIONALE AND PROJECT ACTIVITIES

4.1. Poaching of elephants and trade in elephant products halted

4.1.1 Target 1.1: By 2021 regulatory frameworks to aid elephant conservation strengthened.

4.1.1.1. Rationale

Conservation legislation exists in Uganda but not specific to elephant conservation, per se. For example, the existence of the Wildlife Act and the Forest Act reinforced the designation of some areas as national parks. National Park status gives these habitats higher protection and empowers state agencies to increase protection and control of these Parks and other protected areas, notably wildlife reserves and forest reserves, while restricting adjacent communities' access. To protect the remaining elephants and allow their populations to recover fully, Uganda's elephants were listed in Appendix 1 of CITES. Uganda's Wildlife Act does not fully satisfy the requirements for implementation of CITES, and is currently under review to address wildlife utilization and trade including confiscation of specimens that are illegally traded or possessed, The Act will also streamline the handling of confiscated items, and products and strengthening penalties for wildlife traffickers and offenders among others. These amendments will lead to fulfillment of some CITES requirements and standards. There is a draft bill, but it is very important that Uganda's conservation laws are well formulated to prevent loopholes and support these important resources. Another problem is enforcement. Many countries are starting to enact and actually implement harsher penalties against poaching, rather than just talking about such measures, and Uganda should do the same.

4.1.1.2. Project table for Target 1.1: By 2021 regulatory frameworks to aid elephant conservation strengthened.

Activities	Method	Indicators	Timeline	Actors	Cost Estimates($)
a) Fast track the revision of the Uganda Wildlife Act to provide for deterrent penalties where appropriate	Consultative meetings and workshops	Revised Wildlife Act in place and enforced	By 2018	MTWA, Cabinet, Parliament	18,581
b) Formulate guidelines and regulations to operationalize provisions of the amended Uganda Wildlife Act to address specific gaps and issues relating to prosecution of wildlife crime offenders	Consultative meetings	CITES Domestication orders, guidelines and regulations in place	By 2020	MTWA, Cabinet, Parliament	32,040
c) Draft and enforce operating procedures for wildlife conservation and management	Consultative meetings and workshops	Standard Operating Procedures in place	By 2018	UWA, MTWA,	14,020
d) Review government policies to match the current demands and development in elephant range sites	Consultative meetings	Number of policies reviewed	By 2021	MTWA, UWA, UWS	57,530
e) Develop guidelines on trophy and exhibit disposal	Consultative process	Trophy disposal guideline in place and implemented	By 2018	UWA, MTWA, LATF	16,075
e) Develop a guideline on management of captive elephant (s)	Consultative process	guideline on management of captive elephant(s)	By 2019	UWEC, UWA, MTWA	17,548

4.1.2. Target 1.2: Poaching of elephants stopped by 2026

4.1.2.1. Rationale

Figure 18 An elephant pit trap in Kibale NP being covered by rangers

Elephants are targeted by poachers for their valuable ivory tusks that have lucrative markets throughout the world, especially in Asia. While major sources of ivory going to international markets originate from Tanzania and Mozambique (Wasser et al. 2015), poaching for ivory, remain a problem in Uganda. The presence of elephant carcasses with chopped tusks is manifestation of poaching that is attributed to illegal ivory trade. Elephant poachers who are equipped with sophisticated weapons like automatic rifles, and able to access national or international black markets are not subsistence hunters. It is well known that the people who are the master minders of ivory trade are the rich and not those involved in the direct killing of the elephants. These poachers are not the poor, struggling people, and elephant poaching represents a distinct type of poaching. Over the last twenty years, elephant poaching has been exacerbated by civil unrest.

Between 1996 and 2000, rebel insurgency caused major problems for safety and conservation in northern Uganda. Murchison Falls National Park was once affected by the "Lord's Resistance Army" (LRA) rebel insurgence and the "Allied Democratic Forces" (ADF) rebel insurgency posed threats in Kibale, QEPA, RMNP, SNP and TSWR. These rebel groups greatly affected security in northern and western Uganda and caused negative impacts on adjacent protected areas and wildlife therein. On the one hand, management operations in the Parks were obstructed. Rebel forces themselves are also a major threat to elephant conservation. For example, poaching of elephants for ivory has been indicated as an economic strategy of ADF in the Democratic Republic of Congo (Christy 2015). Insecurity due to cattle raids through Karamoja PAs was a challenge. Some areas in Kidepo landscape were relatively insecure due to warring activities by the remnant Karimojong and Toposa warriors. The presence of a small force of rangers in the elephant range PAs made patrol efforts limited and could not contain the insecurity and hunting activities. Mechanisms to encourage coordination and strengthening of security must therefore be explored.

In addition to the direct threats from civil unrest, problems can arise in attempts to secure peace. For example, following continued rebel attacks in Murchison Falls Conservation Area, a number of army detachments (UPDF) were established. While their role in securing the area was genuine, some of the army personnel were implicated in incidents of elephant poaching. In a single incident on 27th March 2003, a group of poachers from the nearby

internally displaced peoples camp collaborated with some UPDF soldiers and entered the park, shot and killed seven elephants and extracted the ivory which they carried away for sale despite the fact that the culprits were identified, arrested and charged. Such an incident had not happened in any of the protected areas since the poaching period in the 1970s and 1980s.

Poaching is thus a multifaceted challenge, and one distinct from other types of poaching. The poachers who are truly poor and struggling should be targeted and be empowered in other areas that will discourage them from continued poaching of elephants. Running a large traditional hunter training session is probably something that would draw outside funding. Elephant poaching however, is largely driven by national and international markets and is affected by civil unrest. Given the high stakes of the ivory trade, and the potential for large financial gains, corruption is a major concern. In addition to increased capacity for enforcement and monitoring, there needs to be a concerted effort to root out corruption. With novel technologies and staff support, poaching and corruption associated with poaching will be reduced. The main activities to mitigate elephant poaching are given (see table 4.1.2.1).

4.1.2.1. Project table for target 1.2: Poaching of elephants stopped by 2026

Activities	Methods	Indicators	Timeline	Actors	Cost Estimates ($)
a) Improve staffing in PAs.	Recruiting and training	Number of staff recruited and deployed, number of trainings	On-going	UWA	1,500,000
b) Intensify aerial surveillance in PAs to deter elephant killing	Aerial flights, surveillance	Number of surveillance flights, decline in reports of incidents	On-going	UWA	555,556
	Procure	Two Planes purchased	By 2026	UWA, WCS, AWF, partners	1,000,000
c) Strategic deployment (e.g. based on hot spots) and provide equipment to field rangers at all sites with minimum of 15 elephants.	Reconnaissance Surveys, Deployment procedures, Procure	Reports, number of equipment, frequency of deployment, incidences of arrests and annual population status reports	On-going	UWA, WCS, AWF, GEF Informants	335,600
d) Identify and document elephant poaching hotspots and use results for enforcement planning	Surveillance	Annual status report for identified hotspots, number of hotspots	By 2020	UWA, WCS, Informants	68,600
e) Ground surveillance – monitoring with SMART	Surveillance (Foot Patrols and vehicle patrols)	Surveillance reports from ground patrols, number of foot and vehicle patrols, number of elephants protected and monitored	On-going	UWA, WCS, AWF,UCF	3,362,500
f) Training of prosecutors, magistrates, Police Judiciary to improve monitoring of cases and exposing corruption on wildlife crime and set up offenders database	Training meetings/ Workshops	Reports of training meetings and numbers of officers trained	Years 2,4,6,8,10	UWA, AWF, LATF, MIKE	373,476

g) Review and improve ranger training for Law enforcement	Consultative review meetings,	Training manual in place, reduced incidents of elephants poaching	By 2019	UWA, LATF and partners	142,857
h) Modernize anti poaching surveillance and patrol equipment	Procurement procedures	Equipment purchased and training received, number of specialized enforcement units in place, area coverage increased	Years 2,5,7,9	UWA, LATF, MIKE,WCS, AWF	428,571
i) Strengthen UWA legal team to address court cases and ensure arrested poachers are prosecuted effectively and monitored to ensure they remain in prison for duration of their sentence	Consultative meeting, retreats	Proportion of convictions remaining in prison for duration of sentence, reports of prosecuted cases, number of successfully investigated cases	Years 2,4,6,8,10	UWA, Police, DPP, Judiciary	95,520
j) Rescue and rehabilitate orphaned baby elephants	Animal rescue and transfer, baby elephant care and rehabilitation	Number of baby elephants recued and rehabilitated	On-going	UWA, UWEC	142,857

4.1.3. Target 1.3. By 2026 trade and trafficking of ivory and other elephant products stopped

4.1.3.1. Rationale

Uganda has been one of the key transit countries for the illegal trade in ivory and other wildlife products. For instance, two recent assessments by Harrison et al (2015) on Wildlife crime, and Wasser and Mondol (2015) reveal Africa's major poaching hotspots and indicates that most of the ivory seized in the past 20 years is from Eastern Democratic Republic of Congo and Tanzania-Mozambique though there is some level of domestic trade. Several ivory seizures have occurred while on transit over the past three years through Uganda. It will be impossible to control illegal international ivory trade if domestic trade continues.

Meanwhile, the huge amounts of money involved explains why elephant poaching and ivory smuggling is connected to so many armed conflicts, especially the current situation in the Central African Republic and the Democratic Republic of Congo. Ivory is extremely valuable because of the high cultural attachment valuation, high demand, and limited (and decreasing) supply and that the price will continue to rise as the elephants disappear, The traffickers therefore, want it simply because they expect the price to increase and expect to be able to sell it for big profits.

Since the dynamics of the domestic trade are not properly understood, studies in ivory trade are an essential step. The international trade must also be further investigated. Effective controls of both the domestic and international trade must be put in place. Use of sniffer dogs could be a very useful option for detecting elephant products in transit and also finding snares, but training and handling can be expensive and may require assistance in funding. Similarly, there is need for the security networks to work out ways how ivory traffickers can be deterred from continued trafficking of ivory. It is important that inter-governmental meetings be enhanced to draw strategies that will reduce the current poaching levels inflicted on elephant populations.

4.1.3.2. Project table for Target 1.3: By 2026 trade and trafficking of ivory and other elephant products stopped

Activities	Method	Indicators	Timeline	Actors	Cost Estimates($)
a) Develop a strong informant intelligence network within communities to improve information flow to combat elephant poaching and ivory smuggling (recruit community monitors).	Recruit and facilitate informants to counter benefits from ivory	Networks in place with numbers of informants reporting to UWA	On-going	UWA, LATF	550,258
	Intelligence gathering	Quality of informer reports – leading to arrests and prosecution	On-going	UWA, informants	200,090
b) Strengthen the Intelligence Enforcement Unit at Uganda Wildlife Authority (UWA) to curb the illegal wildlife trade in the country	Recruitment, training	Number of people recruited, number of people trained	Years 2,4,6,8,10	UWA, LATF, MIKE, CMI	571,429
c) Establish a wildlife law enforcement training academy for UWA	Draft concept	Academy established	By 2026	UWA, MTWA, LATF, partners	1,250,000
d) Train staff in governance and managerial skills to aid elephant conservation	Training	Number of staff trained, number of trainings	By 2020	UWA, MTAC, Lake Katwe Institute, MUK	73,000
e) Train judges, customs and police in law-enforcement techniques with respect to ivory.	Training meetings/ workshops	Training report, Attendance lists, at least 1000 officers trained	Years 3,6,9	UWA, LATF, MIKE, Stop Ivory, Partners	231,429
f) Conduct studies on the domestic ivory trade in Uganda.	Field study, consultative	Report	By 2018	UWA, LATF	6,250
g) Develop procedure and implement the structure for record keeping of ivory	Ivory marking and registration systems in place	Ivory stockpile management systems in place	By 2018	UWA, LATF, Stop Ivory	8,300
h) Strengthen the security of the confiscated ivory	Budgetary process, procurement	Ivory strong room in place	By 2017	UWA, LATF, MIKE, Stop Ivory, Partners	60,000
i) Create a National Task Force on illegal ivory and other wildlife contraband	Consultative	Task force in Place	By 2017	Interpol, Kampala Bureau, Uganda Police, URA, Customs, , UWA, CAA CMI and IFAW	11,249

j) Deploy wildlife law enforcement staff at key/major entry and exit border points	Recruitment, training and deployment	Reports on deployment and number of cases of intercepted ivory	By 2026	UWA	124,286
k) Establish mechanisms for feeding Uganda data quickly to the Elephant Trade Information System (ETIS)	Meetings, Consultancy	System in place	By 2018	UWA, TRAFFIC, LATF	11,589
l)Train staff in intelligence to increase their awareness in ivory and its trade dynamics	Training	Report	Years 1,3,6,9	UWA, LATF,MIKE,US Fish and wildlife institute- Botswana	68,571
m) Engage TRAFFIC to coordinate all activities concerning the regulation of the ivory trade.	Consultative engagements	Number of engagements	By 2018	UWA, TRAFFIC	20,832
n) Acquire and deploy sniffer dogs at key transit routes	Lobby platforms, funding proposals	Sniffer dog team at Entebbe in place	By 2017	UWA, African elephant fund, WCS, Maisha, AWF	107,299
		Sniffer dog team at other sites in place	By 2026		569,573
o) Provide samples from confiscated ivory for DNA analysis to ascertain its origin	Specimen collection protocols	Report on DNA results (specimen collection, shipping and analysis)	On-going	UWA and partners	279,000
p) Carry out inspection of transit materials at entry and exit terminals	Use of inspection teams, sniffer dog teams	Inspection team in place, inspection reports, Inspection Standard Procedures (ISP)in place	On-going	LATF, UWA, Police, Customs	150,000
q) Support the rescue, rehabilitation of injured, abandoned or orphaned baby elephants	Trainings, rescue and rehabilitation protocols	Number of rescued, rehabilitated of injuries, abandoned or orphaned elephants, number of people trained in rescue mechanisms	On-going	UWEC, UWA, partners	75,000
r) Support the translocation and introduction of rehabilitated and reintegration of baby elephants	Trainings Establish Elephant re-integration structures in the PAs	Number of staff with skills in the processes Establish one elephant re-integration structure/holding facility in QEPA	On-going	UWEC, UWA, partners	300,000

4.2. Human-Elephant Conflict (HEC) minimized

4.2.1. Target 2.1: Human-Elephant Conflicts reduced by 50% by 2023

4.2.1.1. Rationale

Scattered settlements surrounded by natural bush land are more vulnerable to crop depredation by elephants than are consolidated "barriers" of agricultural land. In one Kenyan study, government records indicated that levels of human injury and mortality were accentuated during times of drought (Thouless, 1994). This may reflect heightened levels of conflict between elephants and pastoralists over access to scarce water points (Thouless, 1994) as well as competition over grazing on high quality forbs (Young & Gadd, 2005). All these examples highlight the importance of land-use planning that takes account of the needs of wildlife in the context of human livelihoods and future development being urgently needed, and not only for the maintenance of elephant populations but also for biodiversity more generally in order to predict and manage human–elephant conflict.

Elephants, once outside of the protected areas tend to raid crops, and become a problem to manage. A number of elephant corridors are increasingly being settled and cultivated. Elephant crop raiding, one of the most negative interactions for people at the boundary of protected areas, is not only the result of more palatable food and nicer tasting in crops and space, but has also been attributed to a preference for cultivated crops and to damage caused during elephant movements between habitats (Narayana 2015). Crop raiding remains a big challenge in many of the elephant ranges in Uganda. This is being attributed to the increase in the number of elephants, fragmentation of forest fringes, increasing human population and lack of a buffer zone between the park and the communities. This hastens the human-elephant conflicts as the elephants continue to interface with humans during migrations.

Lives have been lost and farmlands continue to be destroyed as a result of elephant migrations/movements and confrontations. Adjumani, Amuru and Otze/Dufile, for example, lie along the migratory route of elephants from Southern Sudan through East Madi to Murchison Falls National Park. During migration, elephants often roam in community land destroying crops and threatening human life. Their pattern of migration was interrupted in the past decades, but with relative peace in Northern Uganda and Southern Sudan, elephants are trying to re-establish their routes.

During the last quarter of the year South Sudan is reportedly dry. The same period is when the Ugandan territory has a lot of fruit resources that are a preferred component of the elephant diet. This causes elephants to trek from Nimule National Park in South-Sudan to Uganda and back in search for food and water. Whereas it has been easy to control elephant's incursions in Arinyapi Sub County, the major challenge is in Dzaipi (Mokoloyoro and Pagirinya villages). Mokoloyoro village is divided into three sectors of Pawinyo, Mokolo and Pakwai and it is the sector of Pakwai that has experienced more crop raids. In the months of September, elephants moved from Nimule National park up to Olamnyu village in Paboo Sub County towards East Madi and in December 2012, a herd of elephants crossed from South Sudan in Nimule National Park to villages of Pagirinya and Mukoyoro in Adjumani District and razed crops. These are known wildlife corridors but the increasing population has prompted people to settle in the corridors causing serious human-wildlife conflicts. Other areas often affected are Ogolo, Elegu, Arinyapii, Panyjala and Bibia which are experiencing crop raids and threats to human life.

In KVPA elephants have always been a problem in Sub Counties of Karenga, Kapedo, Lobalangit and Lolelia Kaabong District; Lapono, Paimol, Omiapachwa and Adilang Sub Counties in Agago District; Tikao village in Orom Sub County in Kitgum District; Alerek and Abim Sub counties, Abim District; and Kaicheri in Kotido District.

Incidences of crop raiding by elephants around QEPA increase as a result of an influx of elephants from the neighbouring Parc National de Virunga in Democratic Republic of the Congo into QENP in Uganda. Elephants are in close contact with people and cultivation. The lack of a buffer zone along the boundaries of the protected area, coupled with the cultivation of palatable crops, is the key causative factor to crop destruction by elephants in Ishasha sector and along the Kichwamba escarpment in QEPA. Also crop-raiding in other PAs is reportedly increasing due to the closeness of crops, and settlement to the boundaries of the park and the destruction of the habitats that would otherwise be buffering the PA. We need to explore strategic means of controlling elephant raids. Various deterrent measures are being used which include elephant deterrent trenches and scare shooting. For example, in Uganda, where elephant range has decreased from 70% to less than 7% of the country between the 1920s and 1990s there has been a concomitant decline in the area at risk from crop raiding by elephants (Naughton-Treves, 1997).

Part of this plan should focus on forest habitats and forest regeneration projects, engaging stakeholders for continued monitoring. A number of methods were being used to control HEC and they include; use of Mauritius thorns, applying capsicum, chili, digging trenches (Figure 19) among them. These have gone a long way in minimizing the conflicts. However, these measures will also be reinforced with vuvuzella, miripiri bombers and other innovations that are geared towards reducing the conflicts. regular monitoring of elephant conflict sites and inventorying need to be done.

4.2.1.2. Project table for target 2.1: Human-elephant conflicts reduced by 50% by 2023

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Conduct regular systematic monitoring / inventories of human-elephant conflicts sites	Baseline inventory and mapping	Comprehensive report on human-elephant conflict hot-spots	By 2017	UWA, Communities	4,360
	Regular inventory and mapping	Annual Report on human-elephant conflicts hot spot and trends	On-going	UWA, LG, Communities	47,500
b) Establish central data base and monitoring systems for elephant data management	Exposure retreats, Consultancy, monitoring protocols	Data base and its hard and soft ware, monitoring system	By 2018	UWA, WCS, AWF	66,087
c) Establish committee structures in communities for human- elephant conflicts	Concept approval, consultative	Functional committees at different levels	By 2023	UWA, MTWA, Communities	41,500
d) Assess, review and recommend appropriate land use in specific human-elephant conflicts areas	Consultative reviews/ assessments	Land use report	By 2020	UWA, MTWA, LG MLHUD, AWF, WCS, CSOs, GEF, Communities	125,230
e) Training of UWA staff in human-elephant conflicts management	Training	Report on number of UWA staff (ToT) trained, number of modules covered	Years 1,3,6,9	UWA, CSOs, Katwe wildlife institute, MUK, TAWIRI	162,500
f) Support establishment of a human-elephant conflicts management structure at UWA level	Concept approval	Number of established positions and filled with personnel	On-going	UWA	300,000
g) Implement forest habitat and regeneration projects	Re-a forestation	Size of land planted with trees, size of PA eliminated of invasive and exotic plants	ongoing	UWA, partner institutions, NGOs	375,342
h) Develop stakeholders' engagement strategies	Stakeholder platform/ consultative meetings	Audit reviews, number of stakeholders reached, number of consultative engagements held, reflection of human-elephant conflicts in stakeholders plans, budgetary allocation by different stakeholders on human-elephant conflicts	By 2018	UWA, Stakeholders	70,000

i) Establish a compassionate budget for injuries and death outside the protected area by elephants	Consultative budgetary process	Actual amount in the fund, number of beneficiaries, number of engagements	By 2020	MTWA, UWA,	70,000
j) Establish working relationship with other agencies such as NFA in addressing human-elephant conflicts	Meetings	MoUs in place, number of meetings, Annual reports on progress	By 2017	UWA, other agencies	3,500
k) Develop a detailed toolkit to address human-elephant conflicts in all protected areas	Consultancy	Tool kit in place	By 2018	UWA, MTWA, AWF, UCF, partners	42,670
l) Translocate problem elephants where appropriate	Translocation process	Number translocated, number of problem incidences reported	On-going	UWA, UWEC, MTWA, MAAIF, KWS	125,000
m) Create buffers between PAs and communities disturbed by elephants	Zoning, mapping	Report on buffer zones in place	By 2021	UWA, IGCP, AWF, WCS	43,500
n) Hold meetings with elders and political leaders to strengthen traditional and local approaches of HEC mitigations.	Meetings	Number of awareness meetings, attendance	On-going	UWA, Local/ political leaders	42,540
o) Train rapid-response teams to deal rapidly with cases of problem elephants.	Training	Trained and equipped rapid-response teams in place, reports	Years 2,4,6,8	UWA, partners	157,342
p) Lobby the local communities and District leaders of the affected communities to re-establish elephant corridors	Meetings	Number of meetings, reports on resolutions, No of people compensated, Area of corridors re-established	On-going	MTWA, UWA, LG, UCF,GEF,UNDP, AWF	933,785
q) Establish elephant fences where appropriate	Community engagement meetings and dialogue, assessment, dig trenches/ fences	distance covered in Km by fence (260km-Karuma, Nwoya, Kiryandongo) and others approx 300km	On-going	UWA, MTWA,CSOs, Communities and partners	7,736,885
		Number of trenches established, distance covered in Km by trench approx 300km			1,363,636

r) Improve and Maintain elephant trenches	Negotiate formal agreements on roles and responsibilities by community groups, Routine trench clearance	No. of formal agreements signed, number of km of trenches maintained approx 300km intervals of 2 years	On-going	UWA, MTWA, LGs, Communities, CSOs and CBOs	6,818,182
s) Increase community vigilance and train communities in use of simple and adoptable methods to enable them address HEC on their own	Scouting groups	Number of groups established, a report on training	By 2020	UWA, Communities, CSOs and CBOs	87,560
	Thunder bullets, Miripiri bombers, crack guns, Apply capsicum, vuvuzella, whistles, bells and drums	Report on incidences recorded	On-going		
t) Planting of unpalatable crops along the boundaries of protected areas	Stakeholder Meetings	Land identified, acreage planted with unpalatable crops	On-going	LG, Communities, NGOs, Private sector	112,540
u) Monitor elephant crop raiding patterns and trends	Collaring, surveillance	A report on number of family leaders collared and patterns	On-going	UWA, WCS, partners	155,000
v) Acquire knowledge on what other PAs and countries are doing to control/ reduce elephants related conflicts	Study tours, trainings	Number of study tours and people, Number of elephant conflicts attended too,	By 2022	UWA, Partners	120,000

4.3. Habitat loss and Degradation controlled

4.3.1. Target 3.1: By 2019 regulations on fire use and its management developed

4.3.1.1. Rationale

Wild fires pause a challenge in most elephant habitats. These fires in some cases have been spread through pastoralist activities and prolonged dry conditions in PAs. Pastoralists burn grasslands to allow for sprouting of nutritive young grass for their cattle. Poachers may burn grasslands to attract wild ungulates to an area where they can be hunted. Fires are also set by trespassers in protected areas. Inadequate awareness and implementation of fire management plans in the PAs is partly to blame for the continued fire incidences in these elephant habitats.

There is need for control measures to check fires and limit their spread. Measures to prevent grazing in protected elephant range areas could restore proper land management and reduce pastoralist activities. This will go along away at mitigating grazing mostly during dry seasons. Burning grasslands is also controlled to some degree by the Uganda Wildlife Authority for land and wildlife management. However, research and monitoring is required to determine the impact of burning on different habitats, and how they may affect species, mainly the elephants and their ecology. Aleper et al (2008) demonstrated that fire can be used as a management tool to promote the recruitment of A. sieberiana–a highly preferred browse species for elephants in Kidepo system. A previous study also showed that fire may stimulate seed germination in A. sieberiana (Sabiiti and Wein 1988). Where fires are prevalent from pastoralists and poaching, UWA may avoid planned bush–burning activities. Increased communication and coordination of efforts across UWA and other stakeholders is required.

4.3.1.2. Project table for target 3.1: By 2019 regulations on fire use and its management developed

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Develop awareness programmes on fire and its impacts on elephant conservation	Meetings, media programmes, plays, poems	Reports, number of programmes, number of meetings	By 2018	UWA, NEMA, Partners	36,900
b) Review and develop regulations on grazing in elephant PAs where appropriate	Consultative meetings	Regulations in place and implemented	By 2018	UWA, NEMA communities	23,375
c) Monitor implementation of a fire management plan in all elephant range PAs	Meetings, field work	Reports, fire prevention measures in place, implementation status report	On-going	UWA	41,505
d) Develop and review fire management plans where appropriate	Consultations	Reports, number of plans developed and implemented	By 2019	UWA, CSOs, partners	57,560

4.3.2. Target 3.2: By 2020 human activities in the elephant ranges controlled

4.3.2.1. Rationale

Human population in Uganda has increased rapidly over time. It increased from 9.5 million in 1969 to 24.2 million in 2002. Between 1991 and 2002 the population increased at an average annual growth rate of 3.2 percent. The current population stands at 34.6 million (UBOS 2014). This rapid increase could cause numerous problems for the ecosystem, including problems for elephants. Human activities that degrade the remaining elephant habitat or other human activities that disturb and destabilize elephants have been known to include logging, farming, mining, settlements, charcoal burning, grazing and hunting. These must be controlled.

Elephant range areas such as, East Madi WR, Karenga corridor and Karuma WR, are still faced with the challenge of human settlements, cultivation and grazing of livestock. Alternative land for settlements and income generating programmes for communities living within and next to these habitats need to be explored as well as creation of awareness about the importance of conserving elephants.

4.3.2.1. Project table for target 3.2: By 2020 human activities in the elephant ranges controlled

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
Lobby to strengthen awareness mechanisms on birth controls for communities around PAs	Lobby platforms, Meetings	Number of meetings	On-going	MoH, private sector, UWA	12,500
Monitor spatial and temporal distribution of illegal activity and their trends in gazetted elephant range areas.	Surveillance, Mapping	Reports	On-going	UWA, CSOs, research institutions	100,450
Evict illegal settlers and resettle legitimate land owners from protected elephant ranges to control habitat degradation	Eviction notices, Meetings	Settlers evicted, Reports	By 2020	UWA, Police, LGs, MLHUD	834,670
Eradicate logging in protected areas that are known to be elephant habitats to control habitat degradation.	Enforcing the law, Arrests and prosecutions	Logging sites restored	By 2019	NFA, UWA, NEMA	38,500
Engage communities in activities that do not require them to encroach upon protected areas to reduce human-elephant conflicts (e.g. bee keeping around gardens)	Case study, exposure retreats, training	Number of bee hives/ number of bee keepers	By 2020	IGCP, GIZ CSOs, CBOs, UWA, Private sector	197,300

4.3.3. Target 3.3: By 2020 waste management protocols in PAs strengthened

4.3.3.1. Rationale

Waste disposal in most PAs is still a problem. Elephants have been seen in PAs such as Queen Elizabeth National Park (QENP), Murchison Falls National Park (MFNP) and Kidepo Valley National Park (KVNP) scavenging on waste refuse. Improper waste disposal increases chances of elephant attacks and disease spread in elephant range habitats, affects elephants behavior and sometimes may lead to injury, destruction of houses, and other property and food stealing by elephants from houses. Wastes also change the aesthetic value and visibility of the environment. There is need to strengthen waste disposal mechanisms and management in the elephant ranges. Solid waste due to human activities should be managed through a number of activities such as—waste prevention, recycling, composting, controlled burning, or land filling.

4.3.3.2. Project table for Target 3.3: By 2020 waste management protocols in PAs strengthened

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Develop, review and implement guidelines on waste management in elephant sites	Consultative meetings/ workshop	Guidelines reviewed	By 2019	UWA, LGs, NEMA, CARE, AWF	49,510
b) Conduct awareness programmes on waste management and its effects in PAs	Meetings	Number of programmes	On-going	UWA, LGs, CARE, Communities	114,286
c) Procure incinerators in elephant range PAs to better manage wastes	Proposal, Procurement procedures	14 incinerators in place	By 2020	UWA, CARE NEMA, UNEP, USAID	10,520

4.3.4. Target 3.4: By 2021 developments in elephant range protected areas regulated.

4.3.4.1. Rationale

There has been a rise in human developments in protected areas (PAs) and elephant ranges. Developments come with associated impacts that either reduce the size of elephant habitat and or change the land use type. Increase in developments in PAs is partly due to lack of commitment to conservation and implementation of policies that are geared to protect the key elephant habitats. The laxity and inadequate coordination in implementing the policies and EIA best practices is further one of the contributors to degraded elephant ecosystems. Strengthening EIA procedures and ensuring their implementation will promote sound environment practice and will minimize adverse impacts due to developments such as tourism infrastructure, pylons in QECA and more so, the extractive industries in PAs.

4.3.4.2. Project table for target 3.4: By 2021 developments in elephant range protected areas regulated.

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Review and harmonize policies to minimize infrastructure development in protected areas where appropriate	Consultative meetings/ workshops	Number of Policies reviewed	On-going	MTWA, UWA, NEMA, MoE, MoWE, NFA	62,256
b) Conduct regular meetings among agencies to improve coordination on wildlife issues	Meetings	Number of coordination meetings, Reports	On-going	UWA, NEMA, NFA	6,000
c) Review and strengthen regulations to EIA process in PAs	Consultative meetings/ workshops	EIA regulations reviewed	By 2019	NEMA, UWA	33,567
d) Monitor impact of existing developments on elephant habitat	Field study	Reports	On-going	UWA, WCS, Researchers	45,500
e) Lobby government of commitments to elephant conservation and reduction of developments within PAs	Develop concepts, workshop for policy makers	Reports	By 2021	UWA, CSOs	109,560

4.3.5. Target 3.5: By 2022 mechanisms to prevent encroachment on elephant ranges in place.

4.3.5.1. Rationale

The continued encroachment of protected areas and occupancy of wildlife corridors is pushing the elephants to survive in small, fragmented habitats. Due to encroachment, what was once elephant (and other wildlife) habitat is destroyed due to deforestation and cultivation. A number of elephant corridors to this effect have increasingly been settled.

Habitat loss has been known as an important driver to the decline of species, including elephants. The shrinking of elephant habitats must be targeted and slowed by securing the boundaries of current ranges and by reducing the pressures that nibble away at their edges. Encroachment on elephant habitats must be prevented and encroached corridors secured and rehabilitated. Measures must be taken to reduce the antagonism of local people who come into contact with elephants by encroaching on their habitats like the elephant corridors. Historically known elephant corridors in Uganda include the Kibale Corridor connecting Queen Elizabeth and Kibale Forest National Parks, the Karenga Community Wildlife Area adjacent to Kidepo valley National Park and Matheniko-Bokora corridor, Murchison falls National Park-East Madi-South Sudan elephant corridors and QEPA-Virunga Park corridors north and south of Lake Edward.

It is important to learn from older corridors to provide baseline comparisons in terms of restoration, land use and conservation policy and park-people dynamics (Ryan and Hartter 2012). One of the main hypotheses for the elephant presence in KNP is their inability to migrate to their former habitats in the Democratic Republic of the Congo (DRC) and in QENP in Uganda. This is because of two issues, one local and one international. Dealing with each will require

different approaches. The first is the narrow corridor adjacent to Lake George that connects KNP and QENP (WCS & CDC 2008). If there is a lot of poaching or development in this area, such as the expansion of Katwe Village, they will not be able to cross. Similarly, encroachment on former corridors makes it difficult for elephants to move between habitats. The inability of elephants to travel to the DRC is likely driven by poaching activities. To facilitate migration, which is important to elephant conservation, certain hotspot areas should be identified and given heavy ranger patrols (WCS & CDC 2008; Ryan and Hartter 2012) to monitor elephants in this corridor.The part of KNP–QENP corridor west of Lake George would be a prime target (WCS & CDC, 2008).

4.3.5.2. Project table for Target 3.5: By 2022 mechanisms to prevent encroachment on elephant ranges in place

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Study habitat use by populations that once ranged over large areas but are now restricted to small reserves.	Field study	Reports	By 2020	UWA, WCS, research institutions, researchers	72,075
b) Assess habitat conditions and prepare habitat management plans for each elephant range habitat.	Habitat assessment, consultancy	Reports, habitat management plan in place	By 2021	UWA, WCS, AWF, research institutions, researchers	92,300
c) Demarcate and secure the boundaries of protected elephant habitats and protect existing corridors to prevent encroachment	Using pillars to demarcate PA boundaries	Number of Km, report	By 2022	UWA, MLHUD	250,345
d) Lobby for gazettement to effectively protect elephant habitat, especially migration corridors in cross-border areas where appropriate.	Meetings, lobby platforms	Report	On-going	MTWA, UWA, LG, Ministry of Foreign Affairs, communities	58,456
e) Establish and manage migratory corridors where agricultural encroachment is prevented.	Concept generation and fundraising Surveillance, mapping corridors	Reports	On-going	UWA, LGs, Communities, partners	501,567

4.3.6. Target 3.6: By 2026 spread of alien and invasive species in elephant ranges controlled.

4.3.6.1. Rationale

Most elephant habitat ranges today are being displaced by invasive species. The spread of invasive species is now a challenge to wildlife management in Uganda. Increase in human activities and climatic change variability is looked at today as contributing to the spread of invasive species. Coupled with climate change, invasive species have become one of the most difficult threats to reverse in Uganda and thus the problems, causes and effects are global and therefore require global support for solutions.

Alien and invasive species change the ecosystem, reduce the food resource base and habitat health. For example, much of the KNP forest was logged during its time as a forest reserve, and some alien species of trees were planted in plantations (pines and eucalyptus). Since the national park was gazetted many of these introduced trees are being removed and logging has ended. In Bwindi Impenetrable National Park, invasive species of plants, such as Lantana camara, is spreading particularly in the north-eastern part of the park. Safari and Byarugaba (2008) recommended physical removal (uprooting and burning) of lantana thickets to encourage regeneration of the natural forest. They attribute its rapid spread to past forest disturbance, such as logging and encroachment for agriculture when the forest was being managed as a forest reserve. Lantana camara removal from the forest should be given high priority by Park authorities, as it is spreading rapidly and could compromise the ecological integrity of the park. In QEPA the invasive species management has become one of the biggest challenges lately with Lantana, Dichrostachys, Spear grass, and Parthenium all being problem species. Strategies to control and eradicate alien and invasive species shall be given adequate attention in all elephant ranges.

4.3.6.2. Project table for target 3.6: By 2026 spread of alien and invasive species in elephant ranges controlled.

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Development of alien and invasive species monitoring protocols	Consultative meetings/ workshops	Alien and invasive strategy in place	By 2018	UWA, Partners	20,856
b) Map areas covered by alien and invasive species in PAs	Mapping	Maps, Reports	By 2018	UWA, Partners	18,000
c) Conduct research on alien and invasive species in PAs and how to eradicate them.	Field study	Reports	On-going	UWA, NFA, WCS, Researchers	120,000
d) Create awareness about alien and invasive species for staff and communities around PAs	Awareness meetings	Reports, meetings	On-going	UWA, Partners	63,580
e) Develop and implement alien and invasive eradication interventions and monitoring afterward	Mechanical, biological and chemical means	Report detailing interventions made	On-going	UWA, Partners	1,285,871

4.3.7. Target 3.7: By 2026 knowledge base on climate change and its impacts strengthened

4.3.7.1. Rationale

Elephant habitat ranges in Uganda are steadily disappearing probably due to changes in climatic conditions and poor land use practices exacerbated by increased human population demands for cultivation and settlement. Climate change is associated with a change in rainfall and temperature regimes. Climate change is likely to have serious implications for water resources, food security, natural resource management, human health, settlements and infrastructure. In Bwindi Impenetrable National Park, climate change impacts are yet to be elucidated for the Bwindi forest ecosystem. However, some changes have been noted, such as an increase in water conductivity between 1999 and 2008 that could be related to climate change. We need to assess how climate change will affect the biodiversity of the forest, through the contraction or expansion of species' ranges. There is also a need to assess the potential effects of climate change on ecosystem services that elephant range forest ecosystems provide, such as stream hydrology and rainfall patterns in the area (Kasangaki et al. 2011). Climate is changing in Uganda, however. Rainfall is increasing in QEPA (Plumptre et al. 2012) and temperature has risen by 2°C around Kibale National Park over the past 100 years and is probably due to forest and wetland clearance as well as global climate changes (Plumptre, 2012). To what extent these changes will affect elephant habitat is uncertain. Increased rainfall is likely to lead to increasing woody vegetation in the savanna parks and there may be a need to actively manage savannas in the future to maintain grasslands. Elephants are fairly adaptable though and can live in dry savannas, wet savannas and forest so may not be as much affected by these changes as other species. Activities that lead to changes in rainfall and temperature like deforestation, emissions of carbon dioxide in the atmosphere need to be minimized. There is need to regulate and control activities that cause changes in rainfall and temperature regimes.

4.3.7.2. Project table for target 3.7: By 2026 Knowledge base on climate change and its impacts strengthened

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Develop bye laws to reduce deforestation in elephant ranges where appropriate	Consultative meetings	Bye laws in place	By 2019	UWA, NFA, MTWA, LGs	40,875
b) Review and strengthen regulations on environmental management	Consultative meetings	Number of regulations reviewed	By 2021	NEMA,MTWA, UWA,	27,540
c) Procure weather Monitoring equipment	Procurement procedures,	Number of equipment procured/donated	By 2019	UWA, WCS, AWF, research institutions,	45,560
d) Regularly support monitoring of weather in elephant range PAs as well as changes in habitat	RBDC, field study, training, remote sensing & GIS	Records on weather, report on habitat situation	On-going	UWA, Partners	32,950
e) Monitor impact of climate change on elephant ecology and ranging patterns	Research study, Consultative	Report on impacts	On-going	UWA, WCS, AWF, research institutions,	63,560

4.4. Research on elephant conservation issues strengthened

4.4.1. Target 4.1. By 2026 knowledge gap on elephant ecology, population, distribution and their habitats filled

4.4.1.1. Rationale

Plate 1. Elephant with rotting tail . A. Plumptre/WCS

To some extent there is limited understanding of the general elephant ecology in terms of population structure, sex, carrying capacity and knowledge on the different habitats where elephants survive in Uganda. Often surveys to establish elephant populations and their distribution in wildlife PAs have been conducted, though a lot still has to be done in other areas, especially in forested and fragmented habitats. Studies have been conducted on elephants but this has also come with gaps in some areas to the extent that the studies need to be updated to match the recent times. There is need for capacity building in UWA to undertake special elephant studies in most elephant range habitats.

Each habitat in the park should have a range of acceptable 'natural' elephant population levels. For example, given the current protected areas, is it possible for the elephant population to sustainably be maintained at pre 1973 levels without harming other species? Carrying capacities that are in line with other management plans (e.g. forest regeneration) should be considered. Since data on this does not exist, a target should be set and in the meantime a research and monitoring project should be launched to accurately assess realistic carrying capacities. In Kruger National Park Van Aarde et al. (1999) found that density dependent regulations started at 0.37 elephants per square kilometer; accordingly this mechanism may be expected to start in sites like Kidepo where the population estimate of 502 elephants (Wanyama 2012) is seen to give a density of 0.35 animals per square kilometer (In: Aleper 2013). Agent based models would provide a much more informative structure when planning complicated management plans – e.g. if we know an elephant breaks so many trees a year and suppresses so many saplings, etc, we could test the differences in forest

regeneration rate at different elephant populations and movement dynamics within elephant forested ranges and reserves. Monitoring mechanisms can be enhanced with use of modern technologies which also can be a bit of a problem especially when training is not done properly. Often rangers have been trained in use and maintenance of new equipment but this has sometimes come with laxity in handling. There is need to ensure proper maintenance of equipment to reduce associated costs due to repairs and maintenance.

4.4.1.2. Project table for Target 4.1: By 2026 knowledge gap on elephant ecology, population, distribution and their habitats filled

Activities	Method	Indicators	Timeline	Actors	Cost Estimates($)
a) Map and document all elephant ranges in Uganda	Mapping and surveys	Report on ranges, elephant database in place	By 2017	UWA, NFA, UWEC	15,750
b) Conduct surveys to estimate population numbers in data deficient sites thought to have a minimum of 15 elephants	Surveys, RBDC	Survey/ census reports	By 2019	UWA, NFA, WCS, researchers	24,202
c) Monitor population numbers in data deficient sites thought to have a minimum of 15 elephants	Surveys	Survey/ census reports	On-going	UWA, NFA, WCS, researchers	75,680
d) Train staff in the use of modern technologies for data collection, entry and analysis	Training	Number of trainings, Reports	Years 2,4,5,6,8,10	UWA, WCS, GEF, AWF	65,390
e) Conduct studies to establish population structure and carrying capacity of elephants in each range	Field study, consultancy	Report on young, juveniles, sub-adults & adults and carrying capacity	On-going	UWA, WCS, researchers, research institutions	114,540
f) Conduct genetic studies on diversity of elephants in Uganda	Scientific study, consultancy	Report, genetic diversity in the elephants of Uganda known	By 2020	UWA, WCS, MUBFS, ITFC, UWEC, researchers, research institutions	35,754
g) Conduct genetic studies to determine taxonomic status of forest and savanna elephants; determine whether Ugandan elephants are intermediate or separate species.	Scientific study, consultancy	Report on genetic relationships	By 2020	UWA, WCS, MUBFS, ITFC researchers, research institutions	66,960

h) Conduct aerial and ground counts at regular intervals for priority sites with more than 50 elephants to establish trends.	Surveys	Report on surveys	Years 2,4,5,6,8,10	UWA, WCS, researchers	609,000
i) Estimate survival probabilities of small populations with the age structures and sex ratios determined.	Field study, consultancy	Report	By 2022	UWA, WCS, researchers	69,765
j) Monitor seasonal elephant movements in all elephant ranges	Monitoring protocols- Radio tracking, field studies	Seasonal reports , monitoring equipment in place, Number of elephant groups with collars	On-going	UWA, WCS	152,250
k) Estimate natality rates and natural mortality rates and construct models to predict trends and effects of different management options.	Field study	Report on natality and natural mortality rates per year and trend models	By 2022	UWA, WCS, researchers, research institutions	51,500
l) Behavioral ecology study	Field study	Feeding habits, Inter and intra species Interaction, Human-Elephant interaction, communication behavior known	By 2024	UWA, WCS, researchers, research institutions	60,000
m) niche ecology study	Field study, niche models	Climatic conditions and species associations, and other known	By 2022	UWA, WCS, researchers, research institutions	75,500
n) Monitor vegetation in areas frequented by elephants to evaluate their effects on the growth and survival of trees and other vegetation	Field study	Reports	Years 2,4,6,8,10	UWA, WCS, researchers, research institutions	172,100

4.4.2. Target 4.2: By 2026 diseases that affect elephants in Uganda are established and managed

4.4.2.1. Rationale

Some of the elephants have developed strange diseases that have often gone unnoticed or that wildlife managers have little or no knowledge about. This situation complicates elephant conservation and it is a threat to elephant survival. In addition, snaring may also occur to elephants resulting in the loss of trunks or limbs– a large number of elephants in MFPA have deformed trunks resulting from the extensive snaring there. Some of the diseases affecting elephants cannot clearly be explained and this will need specialized studies and veterinary interventions to control and manage the spread of diseases. In QENP several elephants have been found with a rotting tail and the cause is still not known despite samples having been collected for testing at laboratories outside Uganda (Plate 1).

4.4.2.2. Project table for Target 4.2: By 2026 diseases that affect elephants in Uganda are established and managed

Activities	Methods	Indicators	Timeline	Actors	Cost estimates ($)
a) Carry out disease Surveillance in elephant ranges	Surveillance	Number of surveys, number of sick elephants treated, elephants diseases and causes identified, data base and publications on elephant diseases in Uganda available	On–going	UWA, WCS, MAAIF, research institutions	326,570
b) Develop protocols for epidemiological studies	Consultative process	Protocols on epidemiological studies protocol available	By 2019	UWA, MAAIF, private sector	21,754
c) Develop a Bio– data bank for elephants	Consultative, case study retreats	Bio–data bank available and operational	By 2019	UWEC, UWA, WCS, partners	35,756
d) Build the institutional and human resource capacity for disease management and prevention	Training, recruitment, acquire equipment	Control measures to handle elephant diseases in Uganda available, number of staff trained to implement the control measures, facilities and equipment for treatment and prevention of elephant diseases available	By 2020	UWA, MAAIF, WCS, private sector	162,500
e) Build and strengthen stake holders networks and partnerships for disease management and prevention	Consultative process	Partnerships and networks for elephant disease management and prevention existing and operational, multi–sectoral rapid response team established and operational	On–going	UWA, MAAIF, MoH, WCS, research institutes , private sector	125,000

4.5. Effectively protect elephants through awareness, collaboration, resource mobilization and management

4.5.1. Target 5.1 (a): By 2023 National stakeholder collaboration/coordination and mandates ensured

4.5.1.1. Rationale

As outlined in previous sections, encroachment on protected areas (PAs) is a major threat to elephants. Despite national laws, local government and community leaders may see PAs as wastelands and want to incite colonial factors that their ancestors were evicted brutally without compensation at the time of gazzetting parks. These leaders may even encourage their constituents to encroach on Protected Areas. This is fueled by inconsistent political statements from national leaders 'today it is get out tomorrow it is wait and do not chase my people'. Therefore, it will be prudent that we identify and mobilize key stakeholders as well as clarifying upon their mandates to improve coordination and collaboration. Perhaps the local councils should be guided and supported more actively.

The mandates for local councils, District councils, members of parliament and the conservation coordinating agencies need to come out very clearly. For example, what would be the role of the 'Environmental Police' in cross-border trade monitoring? The later notwithstanding, there is also need to strengthen collaboration and coordination to improve monitoring of elephant movements and anti-poaching activities between law enforcement stakeholders at a national level.

4.5.1.2. Project table for Target 5.1(a): By 2023 National stakeholder collaboration/ coordination and mandates ensured

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Conduct stakeholder meetings	Meetings	Annual stakeholders meetings conducted	On-going	UWA, Stakeholders	236,578
b) Develop MoUs/ agreements for collaboration	Consultative process	No of MoUs in place	By 2018	UWA, Stakeholder	405
c) Review regularly MoUs with stakeholders	Consultative process	No of MOUs reviewed every 4 years	Years 4,8	UWA, Stakeholders	432

d) Strengthen collaboration with other law enforcement agencies to fight illegal ivory trade and other wildlife related crimes	Meetings	Task force in place, No of meetings, Number of joint operations, protocol in place and implemented	By 2023	Customs, Police, the National Army, INTERPOL, and LATF	122,500

4.5.2. Target 5.1 (b): By 2026 regional collaboration/coordination to conserve elephant movements strengthened

4.5.2.1. Rationale

The East African Community (EAC) countries including the Democratic Republic of Congo (DRC) and the Republic of South Sudan need to work together, because these neighboring countries face similar problems of elephant management. Elephants move back and forth across international borders and poachers often take advantage of this to poach elephants. Several aerial survey by UWA and WCS for QEPA and PNVi have showed that elephants are concentrated at the border with Uganda, where they probably represent animals migrating into PNVi from QEPA, and near the Semliki River, north of Lake Edward. This is true for South Sudan and Uganda between Otze Dufile in Uganda and Nimule national park in South Sudan also.

The current political and economic framework provided by EAC needs to be utilized to increase the profile of elephants. By speaking with one voice on elephant and ivory issues the region will be able to gather consensus for support. The Elephant Specialist Group can play an important role in promoting information exchange and contacts between specialists in the EAC and other regions. There is need to strengthen communication to improve monitoring of elephant movements and anti-poaching activities between DRC, South Sudan and Kenya. There is need to use EAC as a platform

4.5.2.2. Project table for Target 5.1(b): By 2026 regional collaboration/coordination to conserve elephant movements strengthened

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Conduct regular meetings to strengthen collaboration/coordination between Uganda and South Sudan for management of elephants between Otze Dufile in Uganda and Nimule national park in South Sudan then QENP and Virunga park in DRC, Mt Elgon NP in Uganda and Kenya, KVNP with Kenya and South sudan	Meeting	Bi-annual meetings, Report	On-going	UWA, MTWA, Nimule National Park, ICCN in DRC, KWS	121,400
b) Create contacts and cooperative agreements between EAC and non EAC countries for elephant management (EAC as a platform for coming up with strategies that will enhance monitoring and reducing ivory trafficking within the EAC region)	Consultative meetings	Number of agreements, MoUs in place, Strategies in place	On-going	MTWA, Ministry of Foreign Affairs, UWA	39,030
c) Facilitate technical exchanges and create contacts between elephant specialists so that lessons learnt in one country can be applied elsewhere within the sub-region as a tool to curb ivory syndicate	Periodic meetings, retreats	Report, Number of meetings, trainings and retreats	On-going	UWA, WCS, AWF, IUCN, KWS,TANAPA, research institutions, MIKE	87,520
d) Sign MoUs and establish trans-boundary collaboration/coordination in important elephant populations	Meetings	Trans-boundary meeting reports for Kidepo and GV Landscapes	By 2022	Ministry of Foreign affairs, UWA, KWS, Southern Sudan, ICCN, EAC	4,100
e) Strengthen cross-border collaboration/ coordination among law enforcement	Meetings	patrol report,number of meetings successfully held, reduced incidents of cross-border poaching	On-going	LATF, UWA, KWS, ICCN, South Sudan, IGCP	150,000
f) Conduct simultaneous elephant censuses in cross-border habitats to understand elephant population trends in a wider habitat	Censuses	Reports	Regularly, every three years	UWA, KWS, ICCN and South Sudan and partners	92,760

4.5.3. Target 5.2: By 2026 conservation awareness programmes strengthened

4.5.3.1. Rationale

Many people generally have inadequate knowledge of, or indifference to elephant conservation. Civil servants, politicians, community leaders and ordinary farmers are often unaware of the legislation governing the hunting of elephants and possession of ivory. Some are aware of the legislation but do not understand the reasons for it and so they ignore it. The solutions to the problems of elephant management must involve various levels of responsibility. Therefore, this plan must promote a greater understanding amongst rural communities, town and city dwellers (especially the middle class), and the civil servants and politicians who will facilitate the adoption of conservation policies and the implementation of field programmes. Media stories about the life of elephants (e.g. their social behavior) are an effective means of influencing the general public.

The public must be reached through schools, villages, radio, television, and newspapers. Knowing the benefits will promote ownership and encourage people to be positive about elephant conservation. Many poor people will spend most of the time cultivating in case it is the cheapest way to sustain a livelihood and will spend less time to attend conservation meetings unless a per diem is involved to compensate for the lost time in the farm land. Conservation meetings need to be packaged in a manner that will ensure maximum participation by all stakeholders and the communities around elephant ranges. We also need Indigenous Knowledge as a critical factor for sustainable development. Indigenous or Traditional knowledge (TK) is used at the local level by communities as the basis for making decisions pertaining to food security, human and animal health, education, natural resources management and other vital activities (Nicolas Gorjestani 2000).

4.5.3.2. Project table for Target 5.2: By 2026 conservation awareness programmes strengthened

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Conduct conservation awareness meetings among stakeholders and communities on the importance of wildlife and the need to fight poaching, illegal killing and trafficking of wildlife	Meetings	Number of inter-agency awareness seminars and workshops with law enforcement agencies, number of community and other stakeholders meetings, Report	On-going	UWA, UWEC, LG, AWF, GEF, Communities	1,440,465
b) Develop elephant conservation awareness/ education materials/ programmes in schools	Consultative process	Conservation awareness materials available	By 2018	UWEC, UWA	48,768

c) Develop and implement a national awareness raising programme focused on the importance of wildlife in particular elephant conservation	Consultative, budgetary process	National awareness raising programme in place	On-going	UWEC, UWA, GEF	20,500
d) Conduct training courses at the national/local level for ranger staff.	Training/ consultancy	Number of staff trained, course modules, Report	Years 3,5,7,9	UWA, WCS, Education institutes	125,000
e) Support Wildlife Clubs in schools in order to nurture a culture of conservation among the youths in Uganda	Trainings, retreats to PAs, incentive to club members	Trainings, number of retreats to PAs, incentives to club members	On-going	UWA, UWEC, MTWA, CARE, CSOs	137,500
f) Spearhead indigenous knowledge base on wildlife conservation and its implementation	Concept, consultancy	Report	By 2020	UWEC, UWA, Universities, CSOs, CBOs	58,567
g) Support conservation education programmes around elephant range PAs	Drama groups, films	Number of groups participating in conservation programmes	On-going	UWEC, UWA, CSOs, CBOs	192,256
	Media outreach	Number of media outreach conducted	On-going	UWEC, UWA, LG, GEF, partners	218,400
	Workshops, ranger meetings, study tours, sports	Number of planned programmes, recorded attitude change incidences / reports	On-going	UWA, UWEC, partners, Private sector	189,825
h) Develop and improve community resource centers in elephant ranges	Study tours/ retreats, Procurement procedures, consultancy	10 well equipped resource centers furnished with conservation materials	By 2026	UWA, LG, CARE, partners	5,000,000

4.5.4. Target 5.3: By 2026 adequate resources for elephant protection secured

4.5.4.1. Rationale

Elephant conservation is complex and deliberate efforts are needed to mobilize resources if the targets are to be achieved. There has been limited funding for elephant conservation projects in Uganda given that there was no management strategy/plan. Without resources, it becomes very difficult to implement a planned activity on time. Identifying potential sources of funds from government in form of an elephant conservation fund to support elephant conservation projects in the country is a key component of this plan. The support will also come through lobbying and engaging potential funding partners such as; The African Elephant Fund, UNEP, MIKES, STOP ivory, WCS, AWF, World Bank, USAID, Zoological Society of London(ZSL), Fauna and Flora International (FFI), IUCN, The Nature Conservancy, British Council, U.S. Fish and Wildlife Service (USFWS), and International Fund For Animal Welfare (IFAW) and Global Environment Facility (GEF). among other partners

4.5.4.2. Project table for Target 5.3: By 2026 adequate resources for elephant protection secured

Activities	Method	Indicators	Timeline	Actors	Cost estimates ($)
a) Lobby funding from partners	Lobby platforms	Amount of funds received, percentage amount of funds allocated to elephant conservation	On-going	UWA, Partners	50,120
b) Diversify and Improve UWA revenue collection	Proposals, consultancy	Number of new products and activities developed, amount of revenue generated	On-going	UWA, partners	43,000
c) Assess staff needs (numbers, training)	Needs assessment, consultancy	No of staff needs identified	By 2019	UWA	19,456
d) Recruit,equip and train staff	Concept	Number of staff recruited, number of equipment procured, Number of staff trained	On-going	UWA, Partners	432,008
e) Efficiently manage funds to implement targeted elephant conservation activities	Financial procedures	Clean audit reports	On-going	UWA	90,200
f) Establish an Elephant Conservation Fund	Concept approval / consultancy	Elephant Conservation Fund in place	By 2019	UWA, Partners	23,678
g) Construct an enclosure for the elephant at UWEC	Fundraising	Amount of funds obtained, Elephant enclosure in place	By 2020	UWEC, partners	151,040

4.5.5. Target 5.4. Multilateral Environmental Agreements (MEAs) ratified and domesticated

4.5.5.1. Rationale

Concerns at the international level over destruction of shared ecosystems, loss of biodiversity, and negative impacts on the environment in general have increasingly necessitated international means of redress. Response comes in form of intergovernmental treaties or other agreements that constitute international environmental law. Such agreements govern cooperation among states on environmental matters of mutual interest or concern that one country cannot address alone. Often these agreements are between more than two countries, and are hence referred to as multilateral environmental agreements (MEAs) (Njogu 2012). The total number of such MEAs has steadily risen (UNEP 2001). Over the years, the scale of problems to be addressed has widened from local to global, and the number of sovereign states that participate in the negotiation of such legal arrangements has grown. Moreover, new concerns and principles—precaution, inter- and intra-generational equity, scientific uncertainty, and sustainable development—have also arisen in recent years and now need to be factored into negotiation processes (Njogu 2012).

While African elephants have been hunted for several centuries, the exploitation of elephant herds on a massive scale began in the 1970s. Threatened with extinction, the elephant has been protected since 1989 from international trade by its listing on Appendix I of CITES. The enforcement of this ban, the level of compliance adhered to by CITES parties, the response of non-CITES members, as well as the policy question as to how trade "interventions" best serve the environmental objective of species preservation, are all key concerns that fuel the dispute over whether to ban trade in elephant ivory. Therefore, as new concerns arise we will need to ratify and domesticate these agreements relevant to elephant conservation where appropriate. This will be done through the relevant ministries such as ; Ministry of Foreign Affairs, Ministry of Tourism, Wildlife and Antiquities and Ministry of Water and Environment.

4.6. Benefits from elephant conservation accruing to Ugandans

4.6.1. Target 6.1. By 2021 tourism revenue sharing programmes enhanced

4.6.1.1. Rationale

The communities adjacent to PAs bear the greatest cost of existence of these areas and yet the benefits from the PAs to them are minimal. The cost for communities living adjacent to elephant range PAs is high. There are many potential means to reduce this cost and increase benefits and one of these means is Revenue Sharing (RS), in which a PA shares its income with communities located around it.UWA has over the years allocated 20% of the revenue from PA entrance fees to community programmes for the communities adjacent to PAs.

Some of the projects implemented as a result of Revenue sharing from UWA to communities include; construction of schools, digging of elephant trenches to prevent crop raiding elephants among others. However, some gaps were realised to the effect that these adjacent communities were not benefiting as much as they should from the RS programme. This prompted a review of the RS Policy and the need to develop and implement the RS Policy guidelines. In particular, this suggests that the revenue should target those communities receiving the brunt of the costs of conservation, of which elephant crop raiding is a major issue.

4.6.1.2. Project table for Target 6.1: By 2021 tourism revenue sharing programmes enhanced

Activities	Method	Indicators	Timelines	Actors	Cost estimates ($)
a) Fast track implementation of the RS Policy guidelines	Consultative meetings/ workshops	Number of policy guidelines adhered to	By 2021	UWA, MTWA, LG, CSOs	32,406
b) Review the tourism Marketing strategy where appropriate	Consultative meetings/ workshops	Strategy in place, number of meetings	By 2018	UTB, UWA, AUTO	31,150
c) Promote and improve community based tourism and increase benefits to frontline communities	Training, retreats	Number of tourism packages, Number of beneficiary communities	On-going	UTB, UWA, Communities, Private sector	345,000

4.6.2. Target 6.2. Enhance resource access programmes by 2022

4.6.2.1. Rationale

Resource access programmes once managed well can improve community livelihood and park-community relations. In a number of elephant PA ranges, resources are accessed through MoUs between UWA and the communities with no clear guiding principles. Currently, there is no binding policy framework in place to streamline resource access programmes in these areas yet users need to be guided.

The existing MoUs have often than note faced a multitude of challenges in their implementation given that each PA has its own programme on resource access under an MoU arrangement with differing guidelines. Also challenges exist in monitoring this trade-off. For example, in one occasion in Bwindi Impenetrable National Park; snares were found in sites designated for resource access despite the signing of an MoU with community resource users to access honey in the National Park.

There is need to develop a resource access policy and strengthen the resource access monitoring systems for monitoring the programmes. There is need for a systematic institutional arrangement for community exchange and training activities that span a broad range of programmes/projects.

4.6.2.2. Project t able for Target 6.2: Enhance resource access programmes by 2022

Activities	Method	Indicators	Timelines	Actors	Cost estimates ($)
a) Develop a resource access policy	Consultative meetings	Resource access policy in place	By 2019	MTWA, UWA, LG, Communities	26,752
b) Strengthen resource access monitoring	RBDC, Surveys, meetings	Monitoring reports/ feedback reports on availability, regeneration, sustainability	On-going	UWA, ITFC, WCS, researchers, research institutions Communities	173,040

4.6.3. Target 6.3. Adopt community enterprise development best practices in all elephant ranges

4.6.3.1 Rationale

Many times we rarely reflect on adopting the lessons learnt from successful community based enterprise models. Once the project is phased out, there is laxity for continuation. Many communities are still grappling with lack of enterprise development skills, inadequate ability to run community enterprises to sustainable levels despite availability of opportunities and resources accruing from elephant conservation. We need to domesticate the positive and workable solutions to other areas. In 2003 the Food and Agricultural Organization of the United Nations (FAO) pioneered a project called "Community-based commercial enterprise development for the conservation of biodiversity in Bwindi World Heritage Site, Uganda" through a community NGO MBIFCT (Mgahinga and Bwindi Impenetrable Forest Conservation Trust). Its immediate objective was to establish community-based enterprises that provide sustained income to community members living in the areas surrounding the site.

The project components were aimed at; 1) improving local capacity to develop and manage natural resource-based enterprises in a sustainable manner; 2) ensuring that promising products and services for potential enterprises were selected in a participatory manner, taking into account environmental, economical, social and technical criteria; 3) developing business plans for selected enterprise options for community members, including finance and business support strategies; 4) establishing viable tree and forest product enterprises that can be operated independently by community members; and 5) documenting lessons learned and best practices for sharing with other WHS and high-value biodiversity areas.

Another case scenario by IFAD as a solution to problems of poverty and environmental damage, the Environmental Monitoring Group (EMG) facilitated a community-to-community exchange for sixteen Rooibos tea-growing farmers in Suid Bokkerveld. The farmers visited neighboring communities for discussions on crop quality, processing and marketing. On their return, the farmers shared what they had learned and established a farmers' cooperative. In addition, they improved their post-harvest processing, registered as organic producers and established the Heiveld Small Growers Cooperative to process and market the tea. They have been granted contracts for tea export to Europe and are now reaping the benefits of improved incomes. The programme has been able to provide seed money and has even led to the establishment of a community-based tourism business. These are good baseline examples that can be emulated elsewhere in the elephant ranging areas that will enhance conservation.

4.6.3.2. Project table for Target 6.3: Adopt community enterprise development best practices in all elephant ranges

Activities	Method	Indicators	Timelines	Actors	Cost estimates ($)
a) Identify and fund potential enterprises in each elephant range communities	Consultancy	Number of fundable enterprises	On-going	UWA, FAO, IFAD, GEF, MBIFCT	30,500
b) Establish a Project Appraisal Committee to handle in coming proposals quickly	Consultative	Committee in place	By 2019	UWA, IFAD, Partners	6,000
c) Improve Eco-tourism products	Consultancy community-to-community exchanges	Number of new products introduced	On-going	UTB, UWA, Partners	157,500
d) Training in (enterprise development, proper selection, customer care, proposal writing)	Training modules, Consultancy,	Number of people trained/ reports	Years 2,3,6,9	Enterprise Uganda, UWA, LG, partners	253,850
e) Marketing eco-tourism products	Market appraisal, consultative	Marketing materials produced, trade shows and exhibitions attended, increased revenue reflections	On-going	UTB, UWA, LG, partners	506,785

5.0 SUMMARY OF POSSIBLE FUNDABLE PROGRAMMES

The following are the priority areas for funding to fast track the implementation of this action plan;

1) Population survey programmes in fragmented forests and in forested national parks like KNP and BINP to narrow the information gap in elephant numbers within the country.
2) Capacity to tackle poaching and illegal trade in elephant products through training as well as provision of surveillance equipment e.g. planes/drones, cameras, vehicles, GPS is essential.
3) Funding the canine project in UWA to strengthen the anti-poaching and illegal trade in elephant products
4) Funding of elephant crop raiding interventions like digging and maintenance of trenches or fencing critical crop raiding sites in MFCA.
5) Funding of research activities in the areas of elephant ecology, habitat assessments, carrying capacities and adoption of new survey techniques is as important as narrowing the knowledge gaps.
6) Funding of community livelihood projects around elephant conservation ranges and capacity building of the communities in entrepreneur skills to manage these projects on their own. However, this will also require design and implementation of programs targeting changing community attitudes towards conservation.
7) Capacity building for disease management programmes as well as provision of diagnostic facilities like laboratories for quick analyses of samples will go a long way in ensuring the health of elephant populations in their ecosystems.
8) Provision of equipment to monitor elephant movements in their ranges is key to managing elephant conflicts and understanding their ranging patterns for effective monitoring and protection.
9) Funding resettlement programmes for communities in elephant corridors/ranges is vital to increasing elephant ranging.
10) Funding mechanisms for establishment of an elephant conservation fund is a step in the right direction to provide timely facilitation to implement activities as envisaged in the plan.
11) Funding of trans-boundary activities and collaboration in important elephant ranges for better management of this trans-boundary resource.
12) Funding a consultancy to develop a detailed tool kit to address HEC in elephant protected areas.
13) Funding the development of a national awareness programme on elephant conservation in Uganda is a milestone on its own.
14) Since the dynamics of domestic trade are not properly understood, studies in ivory trade are essential.

6.0 KEY ASSUMPTIONS

Peace and security within the region prevails

Regional and international partnerships are harmonious

Financial support is increased and sustained

Legal and regulatory frameworks are robust and enabling

Population growth rate is checked

Wildlife habitats are respected

There is a shared purpose for conservation of wildlife across the country.

7.0 IMPLEMENTATION OF THE PLAN

The Uganda Wildlife Authority (UWA), in partnership with stakeholders and the communities, is responsible for the control and oversight of management strategies/plans for wildlife species in Uganda. UWA will establish an elephant task force by 2018 that will be responsible for coordination and management of activities regarding implementation of the elephant conservation action plan

8.0 CONCLUSION

The emphasis of this plan is on implementation of the activities and identified actions to ensure that the objectives envisaged are adequately addressed. The stakeholders and their roles as mentioned will be pivotal in achieving the targets. Some of the activities in this plan were being implemented on an adhocracies and may require additional funding now that the plan has been streamlined. Other activities will require funding for their initiation and operationalization. For too long, many fragmented elephant habitats have attracted limited attention, and now with this plan, they will need immediate focus. The fact that Ugandans and development partners are conservation oriented gives hope that they will engage with and implement this plan.

The future and survival of elephants in Uganda will not depend on UWA's efforts alone. As a fact, the neighbors to the protected areas will always play a key role in elephants conservation. The local communities therefore need to be brought on board in whichever way possible and incentives created to deter ivory traffickers from taking advantages of the poverty levels amongst the protected area and elephant range neighbors. Together, we shall achieve a sustainable population within our means.

Appendix I: SWOT Analysis

Internal Strengths (S)	External Opportunities (O)
1) Availability of complementary regulatory frameworks (Wildlife Act Cap 200 of 2000, National environment Act 1995) 2) Measures for investigation of offences in elephant trophy available 3) Stable institution 4) Trained staff 5) Availability of guidelines for accessing Pas 6) Over 80% of PA boundaries are known 7) Existence of complementary policies (Wildlife policy, Climate change policy e.t.c)	1) Existence of International and regional frameworks on elephant species conservation 2) Existence of Peace and security within the country 3) Existence of Wildlife development partners and NGOs (for example, IFAW, WWF, AWF, GEF, ACF, WCS, UWS, LGs). 4) International support for countries in development of regulatory bodies 5) Existence of international conventions, protocols and regulations 6) Regional and International collaboration and partnerships 7) International concern on elephant poaching
Internal Weaknesses (W)	**External Threats (T)**
1) Legal frameworks not robust enough to enforce the law 2) Inadequate monitoring and coordination 3) Inadequate resources: financial, human, technological and technical 4) Inadequate infrastructure: buildings–outposts, roads etc 5) Inadequate motivation 6) Inadequate coordination between institutions 7) Lack of standard operating procedures 8) Poor management of wastes (elephants feeding at waste sites in KVCA and MFCA 9) Porous borders that allow for illegal access and transfer of elephant trophies 10) Weak regulatory frameworks 11) Insufficient inspection measures at entry and exit terminals 12) Inadequate knowledge on Ivory and its trade dynamics (law enforcement) 13) Inadequate control of invasive species	1) High poverty rates 2) Finances (insufficient finances due to competing demands by government) 3) Insecurity in neighbouring countries (DRC, West African countries, South Sudan) 4) Poaching 5) High population growth (pushing people to Protected areas) 6) Thriving contraband in ivory (Ready markets due to increasing demand in east Asia) 7) Climate change 8) Increase in alien species 9) Developments in parks (Oil, limestone mining, roads among others) 10) Fires 11) High m ortality and natality rates 12) Low reproduction rates

Appendix II: Workshop sessions

Plate 2: A session on threat analysis

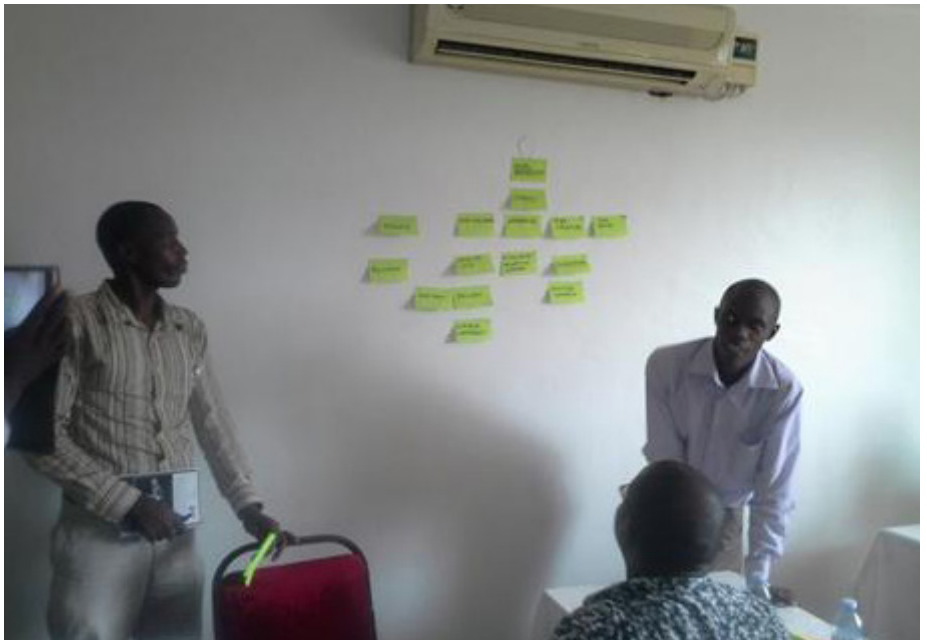


Plate 3: A session on group presentation

References

Aleper, D., Kare, A., Lyke and Moe, S. R. (2008) Response of Acacia sieberiana to repeated experimental burning Rangeland Ecol Management 61: 182–187

Aleper, K. D. (2013) Elephants, fire and browsing in an African savanna. PhD thesis, Norwegian University of Life Sciences, Department of Ecology and Natural Resource Management, PO Box 5003, NO–1432 Aas, Norway. Babaasa, D. (1994) Status, Distribution and Feeding Ecology of Elephants in Bwindi Impenetrable National Park, South Western Uganda. MSc thesis, Makerere University

Babaasa, D. (2000) Habitat selection by elephants in Bwindi impenetrable National park, South –western Uganda. African Journal of Ecology 38: 116–122.

Buss, I. O. (1990). Elephant life: fifteen years of high population density. (1st edition). Iowa State University Press, 191pp.

Christy, B. (2015). How Killing Elephants Finances Terror in Africa, National Geographic Magazine September, http://www.nationalgeographic.com/tracking-ivory/article.html

Dorst, J and Dandelot, P. (1970) Larger Mammals of Africa: Collins field guide. Harper Collins IFAD (2001) Environment and Natural Resource Management: IFAD'S Growing Commitment. [Available].www.ifad.org/pub/enviorn/EnvironENG.pdf. Downloaded on 28th September 2015

Kasangaki, A., Bitariho, R., Shaw, P., Robbins, M and McNeilage, A. (2011) Long-term ecological and socio-economic changes in and around Bwindi Impenetrable National Park, South-Western Uganda. In: The ecological Impact of Long-term changes in Africa's Rift Valley; edited by Andrew. J. Plumptre, pp. 117–139, Nova Science publishers, Inc.

Keigwin, M (2005) In: Blanc, J.J., Barnes, R.F., Craig, G.C., Dublin, H.T., Thouless, C.R., Douglas-Hamilton, I and Hart, J.A (2007) African elephant status Report 2007. An update from the African Elephant Database. Occasional paper of the IUCN Species Survival Commission No. 33[Available] https://books.google.co.ug/books (Downloaded) on 28th January, 2016.

Kisame, F. E and Wanyama, F. (2015) Ground Count for medium-large mammals in Katonga Wildlife Reserve Ecological Monitoring and Research Unit; Report to Uganda Wildlife Authority, P.O. Box 3530 KAMPALA

Lamprey, R. H and Michel more, F. (1996) Surveys of Protected Areas, Phase I. Ministry of Tourism, Wildlife and Antiquities, Kampala, Uganda

Lamprey, R. H., and Michelmore, F. (1996) Surveys of Protected Areas, Phase I and Phase II. Ministry of Tourism, Wildlife and Antiquities, Kampala, Uganda

Lamprey, R. H. (2000). Aerial Counts of Wildlife in Queen Elizabeth National Park and Murchison Falls National Park 1999–2000. Report to Uganda Wildlife Authority.

Lamprey, R., Buhanga, E. and Omoding, J. (2003) A study of Wildlife Distributions,Wildlife Management Systems and Options for Wildlife-Based Livelihoods in Uganda. A contribution to the Strategic Criteria for Rural Investments in Productivity (SCRIP) Program of the USAID Uganda Mission. The International Food Policy Research Institute, Washington D.C.

Laws, R. M., Parker, I. S.C and Johnstone, R. C. B. (1975) Elephants and habitats in North Bunyoro, Uganda. East African Wildlife Journal. 8: 163–80.McNeilage, A., Plumptre, A. J., Brock-Doyle, A. and Vedder, A. (1998) Bwindi Impenetrable National Park, Uganda Gorilla and Large Mammal Census, 1997. WCS Working Paper, 14.52pp.

Michelmore, F (1998) In: Blanc, J.J., Barnes, R.F., Craig, G.C., Dublin, H.T., Thouless, C.R., Douglas-Hamilton, I and Hart, J.A (2007) African elephant status Report 2007. An update from the African Elephant Database. Occasional paper of the IUCN Species Survival Commission No. 33[Available] https://books.google.co.ug/books (Downloaded) on 28th January, 2016.

Narayana, M. H. (2015). Elephant and human interactions in Kodagu, South India. PhD thesis, School of Natural Sciences, Psychology University of Stirling, India.

Nicolas Gorjestani (2000) Indigenous Knowledge for Development: Opportu nities and Challenges. UNCTAD Conference on Traditional Knowledge in Geneva, November 1 2000. [Available]r0.unctad.org/trade_env/docs/gorjestan.doc. Downloaded on 28th September 2015

Naughton-Treves, L. (1997) Farming the forest edge: vulnerable places and people around Kibale National Park, Uganda. The Geographical Review, 87, 27- 46.

Olupot, W., Parry, L., Gunnes, M. and Plumptre, J. A. (2010) Conservation Research in Uganda's Savannas: A review of park history, applied research, and Application of Research to park management. Nova Science Publishers, Inc. New York

Plumptre, A.J. (2012) Long Term Changes in Africa's Western Rift Valley: Synthesis of Main Findings. In: A. J. Plumptre (Ed.) The Ecological Impact of Long-term Changes in Africa's Rift Valley. Nova Science Publishers, New York. Pp 279-293

Plumptre, A.J., Kujirakwinja, D., Treves, A., Owiunji, I., and Rainer H. (2007) Transboundary conservation in the Greater Virunga Landscape: its importance for landscape species. Biological Conservation 134: 279-287

Plumptre, A. J., Pomeroy, D., Stabach, J., Laporte, N., Driciru, M., Nangendo, G., Wanyama, F. & Rwetsiba, A. (2012) The Effects of Environmental and Anthropogenic Changes on the Savannas of the Queen Elizabeth and Virunga National Parks. In: A. J. Plumptre (Ed.) The Ecological Impact of Long-term Changes in Africa's Rift Valley. Nova Science Publishers, New York. Pp 95-116.

Rwetsiba, A., Wanyama, F. (2005) Aerial Sample counts in Kidepo and Murchison Falls National Parks. Unpubl. Report to Uganda Wildlife Authority.

Rwetsiba and Wanyama (2010) Aerial Surveys of medium-large mammals in Kidepo Valley and Murchison Falls Conservation Areas. Ecological Monitoring and Research Unit; Uganda Wildlife Authority, P.O. Box 3530 KAMPALA.

Ryan, S and Hartter, J. (2012) Beyond Ecological Success of Corridors:Integrating Land Use History and Demographic Change to Provide a Whole Landscape Perspective. Ecological Restoration Vol. 30, No. 4, 2012 by the Board of Regents of the University of Wisconsin System..

Sabiiti, E. N., and Wein, E. R. (1988) Fire behaviour and invasion of Acacia sieberiana into savanna grassland openings. African Journal of Ecology 26:301–313.

Safari, C and Byarugaba, D. (2008) Control of Lantana camara in Bwindi Impenetrable National, south-western Uganda. African Journal of Ecology, 46,456-458.

Said, M.Y., Chunge, R. N., Craig, G.C., Thouless, C. R., Barnes, R.F.W., and Dublin, H.T. (1995). African elephant database 1995. Occasional Paper of the IUCN Species Survival Commission, No.11 Gland: IUCN.

Scriber (2014). 100,000 Elephants killed by poachers in just three years, landmark analysis finds. National Geographic. published August 18, 2014 available at news.nationalgeographic.com

Ssali, F., Sheil, D and Nkurunungi, J. B. (2012) How selective are elephants as agents of forest tree damage in Bwindi Impenetrable National Park, Uganda. Blackwell Publishers Ltd, Afr. J. Ecol

Sommerlatte, M. &Williamson, D. 1995. Aerial survey of the Murchsion Falls National Park, the Karuma Game Reserve and Bugungu Game Reserve, April 1995. Report fo Murchson Falls National Park Rehabilitation Project, GTZ, Kampala, Uganda.

Thouless, C. (1994) Conflict between humans and elephants on private land in northern Kenya. Oryx, 28(2), 119-127.

Uganda Bureau of Statistics (2014). "The 2014 Uganda Population and Housing Census, Population Dynamics"; August 2014, Kampala, Uganda [Online] Available http://www.ubos.org/ Statistical _Abstract_2014.pdf. Downloaded on 12th February 2016 at 1000hrs.

UNEP(2001) [Available] www.unep.org/environmentalgovernance/portals/8/Auditing_implementation_of_MEAs.pdf

Van Aarde, R. J., Whyte, I. J., Pimm, S. L. (1999) Culling and dynamics of the Kruger

Wanyama, F. (2010) Ground Census of mammals in Kibale National Park, Uganda. Ecological Monitoring and Research Unit; Unpublished Report to Uganda Wildlife Authority, P.O. Box 3530 KAMPALA

Wanyama, F. (2015) Aerial Total Count of medium-large mammals in Toro Semliki Wildlife Reserve and Semliki flats/Rwengara Wildlife Area. Ecological Monitoring and Research Unit; Unpublished Report to Uganda Wildlife Authority, P.O. Box 3530 KAMPALA

Wanyama. F, Balole. E, Elkan. P, Grossmann. F, Mendiguetti. S, Ayebare. S, Kisame. F, Shamavu. P, Kato. R, Okiring. D, Loware. S, Wathaut. J, Tumonakiese. B, Damien, and Plumptre. A. J (2014) Technical Report for aerial surveys of the Greater Virunga Landscape. Unpubl. Report to Pan African elephant programme

Wanyama, F., Elkan, P, Grossmann. F, Soqui..., Kisame. F, Kato. R, Okiring. D, Loware. S, and Plumptre. A. J (2014) Technical Report for aerial surveys of Kidepo Valley National Park and Karenga Community Wildlife Area. Unpubl. Report to Pan African elephant programme

Wanyama, F., Elkan. P, Grossmann. F, Soqui..., Kisame. F, Mwedde. G, Kato. R, Okiring. D, Loware. S, and A. J. Plumptre (2014) Technical Report for aerial surveys of Murchison Falls Conservation Area. Unpubl. Report to Pan African elephant programme.

Wasser, S. K., Brown, L., Mailand, C., Mondol, S., Clark, W., Laurie, C and Weir, B. S. (2015) Genetic assignment of large seizures of elephant ivory reveals Africa's major poaching hotspots. Science, aaa2457.

WCS & CDC (2008) Protecting the Wildlife Corridors of the Queen Elizabeth Protected Area. Unpublished report to USAID/Prime West Project

WCS (2009). Occurrence, distribution and relative abundance of medium to large size Wild mammal species in Madi wildlife corridor: prospects for conservation and development opportunities. Wildlife Conservation Society (WCS)–WILD Project, P.o Box 7487, Kampala–Uganda

www.georgewright.org/29/njogu.pdf

www.fws.gov/international/laws–treaties–agreements/us–conservation–laws/multinational–species–conservation–acts.html

PERSONAL COMMUNICATION

Fred Eria Kisame, Uganda Wildlife Authority (UWA), Plot 7, Kira Road Kamwokya, P.o Box 3530, Kampala

Pontious Ezuma, Bwindi Mgahinga Conservation Area, Uganda Wildlife Authority (UWA), P.o Box 862, Kabale, Uganda

William Ruhinirwa, Uganda Wildlife Education Centre (UWEC), Plot 56/57, Lugard Avenue, P.o Box 369, Entebbe

R. Lamprey, pers. comm., 2004

UWA
Conserving for Generations

Uganda Wildlife Authority
Plot 7 Kira Road Kamwokya,
P.O.Box 3530, Kampala Uganda.
+256 414 355 000
info@ugandawildlife.org
ugandawildlifeauthority
ugwildlife

www.ugandawildlife.org