

# Conservation Action Plan for Uganda's Chimpanzees 2003-2008



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## Summary

Chimpanzees are a globally endangered species occurring in the forests of western and northern Uganda. In 1997 the Conservation Breeding Specialist Group of IUCN held a meeting to undertake a population and habitat viability analysis of this species in Uganda (Edroma et al., 1997). At that meeting several recommendations were made to improve the conservation of chimpanzees in this country of which one was to survey and census the population. The Wildlife Conservation Society (WCS) and Jane Goodall Institute (JGI) undertook a survey of the chimpanzees of all major forest blocks in Uganda between 1999-2002 (Plumptre, Cox and Mugume, 2003). With better knowledge of the population size and distribution a follow-up workshop was held to develop a five year action plan for this species and agree on a long term vision for chimpanzee conservation in Uganda.

The workshop brought together a variety of individuals with a wealth of expertise and knowledge not only of chimpanzees, but also of the challenges involved in conserving the species and their habitat in Uganda. The participants included scientists, government representatives, district officials, NGO representatives, the police and the press. Given the range of stakeholders present, and the participatory manner in which the workshop was conducted, the final goals and objectives reflect a comprehensive examination of the factors influencing chimpanzee conservation in Uganda.

Approximately 4,950 chimpanzees occur in Uganda, primarily in the large forest blocks in western Uganda. These forests are protected as national parks or forest reserves. However a small proportion of chimpanzees occur in fragments of forest outside these parks and reserves, particularly in Hoima, Kibaale and Masindi districts. There is also a small population in Otzi Forest Reserve on the Sudan border estimated at about 25 individuals. Kibale National Park is the most important forest for chimpanzees with over 25% of all Uganda's chimpanzees present in this forest.

The long-term vision agreed upon was *A stable and viable chimpanzee population in all major forest blocks with peaceful coexistence with local communities*. The five-year goal of the action plan is *To strengthen the protection of chimpanzees and enhance the viability of populations in major forest blocks by establishing corridors*. In order to achieve this goal six objectives were defined as follows:

1. Reduce fragmentation and loss of key chimpanzee habitat
2. Reduce conflict between local communities and chimpanzees
3. Promote awareness of chimpanzee values
4. Reduce levels of human-caused deaths, injuries or the pet trade
5. Enhance corporate social responsibility where it affects chimpanzees
6. Minimise the risk of disease spread between people and chimpanzees and vice-versa.

Several projects were identified to achieve each objective and these are listed in the Action Plan.

## **1. Introduction**

Chimpanzees are globally endangered because their populations are declining rapidly where they occur. Much of this decline is due to the bushmeat trade and loss of habitat. Uganda's chimpanzee population is thought to be less threatened by hunting than elsewhere in Africa because Ugandans do not generally eat primate meat. However they are hunted in certain parts of their range in this country. A more significant threat to the chimpanzees in Uganda are the snares set for other species such as bushpigs and antelopes. At least 25% of habituated chimpanzees in Uganda have injured limbs as a result of snares and we do not know what proportion that are trapped survive with injuries and how many die in the process. Habitat loss is an issue in Uganda but mainly occurs outside protected areas. As a result many of the threats to chimpanzees occur at the edges of, or outside protected areas. Here they are affected by local farmers, and also large-scale enterprises such as tobacco, and cocoa in Hoima district, sugar cane and tobacco in Masindi district, and tea plantations around forests in Kabarole district.

Developing conservation activities that will conserve chimpanzees in Uganda will also support the conservation of many other species that rely on the forests where chimpanzees occur. The forests of western Uganda are the most species rich in the country and support many restricted range and globally threatened species.

A Species Action Plan (SAP) is a strategic document that defines specific, measurable objectives and actions required to conserve a particular species. It should be achievable within five years and involve all appropriate stakeholders. The method used to develop this SAP was developed by the Birdlife International Secretariat and the Royal Society for the Protection of Birds (RSPB). The procedure they developed for endangered birds was modified slightly by Wildlife Conservation Society (WCS) for the workshop to make it more appropriate for chimpanzees. This action plan was produced with the support of the National Great Ape survival Project Committee (GRASP) and meets one of the requirements of the UNESCO/GRASP process.

### **1.1 The Development Process for the Action Plan**

The workshop was organised by the Uganda Wildlife Authority, Wildlife Conservation Society and Jane Goodall Institute. It brought together members of government institutions (Ministry of Tourism Trade and Industry, Uganda Wildlife Authority, Forest Secretariat, District Offices), scientists from various chimpanzee study sites (Bwindi Big Ape Project, Budongo Forest Project, Kibale Chimp Project, Kalinzu Chimp Project, Makerere University), International NGO representatives (Conservation Breeding Specialist Group, International Gorilla Conservation Programme, Jane

Goodall Institute, Wildlife Conservation Society) and National NGOs (Nature Uganda), police and the press. The workshop was facilitated by Andrew Plumptre of the Wildlife Conservation Society.

#### *1.1.1 Workshop structure*

The workshop had four main objectives:

1. To review activities undertaken since the 1997 Population and Habitat Viability analysis (PHVA)
2. To disseminate the results of the chimpanzee census
3. To identify the current threats to chimpanzees in Uganda
4. To develop a five year action plan

The format used to develop the action plan was based on a participative process which involved:

- an analysis of the laws and policies affecting chimpanzees,
- an analysis of the main stakeholders that affect chimpanzees,
- the creation of a problem tree that develops a cause-effect model to explain why chimpanzees are endangered
- the development of a long-term vision and a five year goal for the SAP
- the development of objectives derived from an analysis of the problem tree
- the identification of projects that together will meet the objectives
- the identification of indicators of success that can be used to measure progress and ensure that the objectives have been met.

during the first day of the workshop a list of laws and policies that currently affect chimpanzees, a list of stakeholders which affect chimpanzees in some way and a problem tree were developed. The second day's proceedings focussed on developing a vision, goal, objectives and projects required over the next five years. The indicators of success were developed on the final morning.

## 2. Chimpanzees in Uganda

The eastern chimpanzee (*Pan troglodytes schweinfurthii*), one of the four subspecies of chimpanzee, occurs across much of north and north-eastern Democratic Republic of Congo and reaches the western forests and woodlands of Burundi, Rwanda, Tanzania and Uganda. This subspecies and the species (*P.troglodytes*) is classified as endangered under IUCN criteria due to the extensive decline in populations across Africa as a result of hunting and habitat loss. The conservation of chimpanzees requires knowledge about the extent of their distribution, their abundance, the threats they face, population dynamics and the relative importance of different sites for their long-term survival. This requires research, much of it long-term because of the need to habituate animals to the presence of observers. It usually takes between three to ten years, depending on the size of communities, to habituate chimpanzees to humans so that they can be followed (Boesch and Boesch-Achermann, 2000; A.Plumptre pers. obs.).

Uganda has had a long history of research on chimpanzees dating back to 1962 with the pioneering work of Vernon and Frankie Reynolds (Reynolds and Reynolds, 1965). This was followed by a long programme of research on chimpanzees in Kibale forest initially by Ghiglieri (Ghiglieri, 1984) in the 1970s and then by Gil. Isabirye Basuta, Richard Wrangham and Colin Chapman in the 1980s (Wrangham et al., 1986) with many additional researchers contributing to studies here in the 1990s. Following increased security in Uganda in the 1990s several additional studies were initiated in Budongo Forest Reserve (Vernon Reynolds, Christopher Bakuneeta and Andrew Plumptre), Semuliki Wildlife Reserve (Kevin Hunt), Bwindi Impenetrable National Park (Craig Stanford and John Bosco Nkurungi) and Kalinzu Forest Reserve (Chie Hashimoto and Takeshi Furuichi).

### 2.1 Chimpanzee communities

Chimpanzees live in communities of individuals in a similar way to humans. This means they do not move around in one group like gorillas or monkeys but split up and come back together at intervals in what is termed a 'fission-fusion' society. Communities vary in size and in Uganda they range between about 20 to over 100 individuals. Infants are born every 4-5 years and stay with their mothers until they are 8-10 years old. They do not become sexually mature until about 10 years old (Goodall, 1986). The late onset of sexual maturity, together with low fecundity, makes the species extremely vulnerable as it can take decades for a population to recover from a decline in numbers. This is one of the main reasons chimpanzees are a conservation concern globally.

### 2.2 Population estimates for all forest sites in Uganda

The total chimpanzee population in Uganda was surveyed by the Wildlife Conservation Society and Jane Goodall Institute between 1999 and 2002. A combination of line transect surveys and reconnaissance walk methods were used to census chimpanzee nests because direct sightings of

animals are too few to provide sufficient data for analysis (Plumptre, Cox and Mugume, 2003). A highly significant correlation was found between encounter rates of chimpanzee nests seen on reconnaissance walks and the density of chimpanzees obtained from transects. This result was not influenced by the altitude of the forests. Population estimates for all forests surveyed indicate that about 4,500 nest-building chimpanzees occur in Uganda (Table 2.1). The densities obtained for Kibale, Bugoma and Kalinzu forests are of some of the highest known in Africa. Estimates were made for some areas where the numbers of chimps are known to be low. These included Semuliki Wildlife Reserve (estimate from K. Hunt and C. Allan (2000)); Kyambura Wildlife Reserve (estimates from semi-habituated community in the Kyambura gorge); and the large areas of forest patches between Bugoma and Budongo and south of Bugoma (estimates based on surveys in Kasato, Wambabya, Kanaga and Ruzaire Forest Reserves). The estimated population density for Kagorra Forest Reserve is low because chimpanzees have not been reported frequently.

The total estimated chimpanzee numbers were calculated using the following correction factors: Dividing the number of chimpanzees by 1.09 to correct for the number of nests built per day by weaned chimpanzees (Plumptre and Reynolds, 1997)

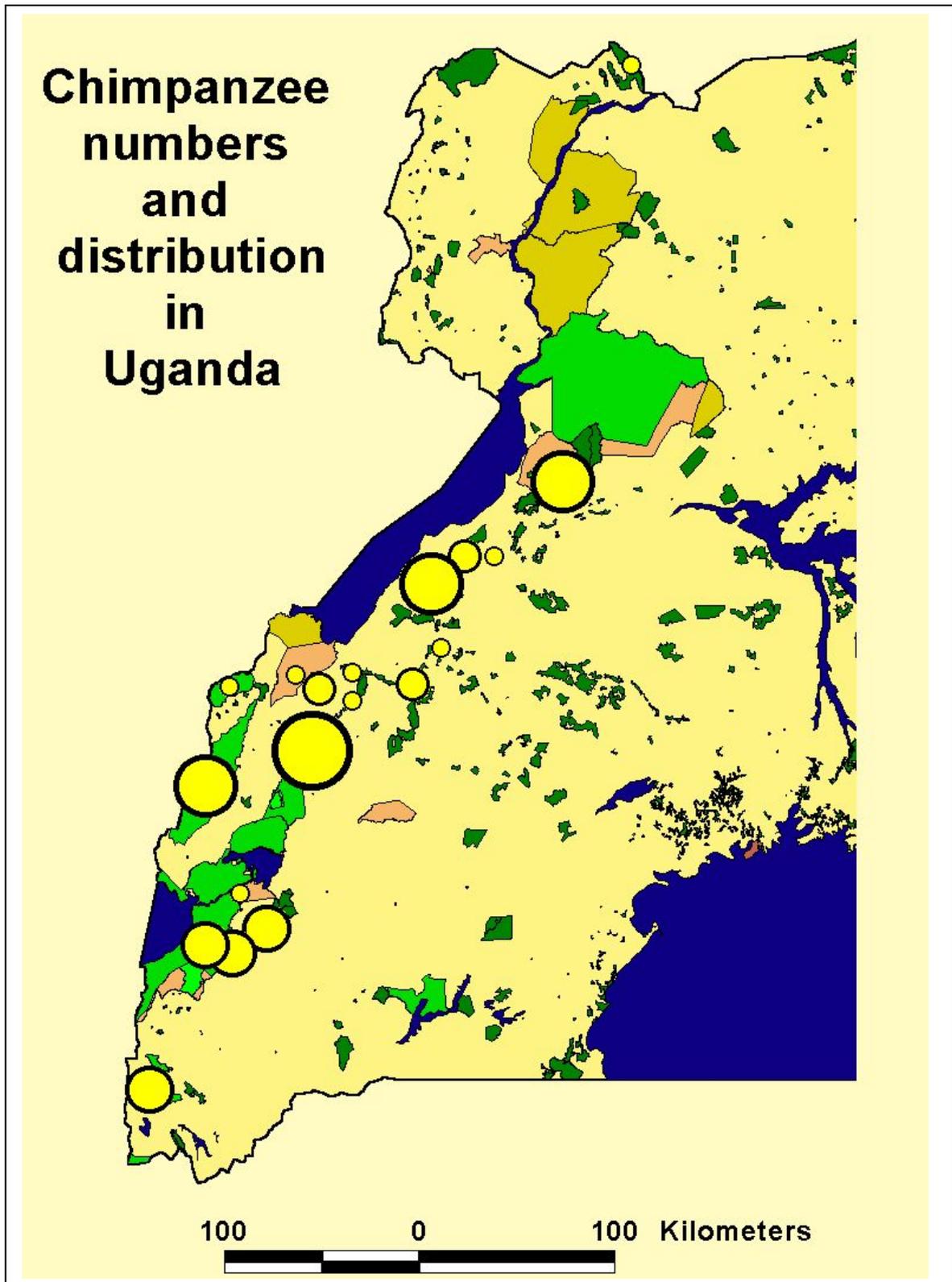
Multiplying the number of chimpanzees by 1.20 to correct for the percentage of infants aged four or younger that do not build nests (20 percent was taken as an average of habituated communities in Budongo and Kalinzu Forest Reserves and Kibale and Semuliki National Parks – Data contributed by S. O’Hara, C. Stanford and R. Wrangham).

The overall correction factor therefore was to multiply by 1.10.

The distribution and relative abundance of chimpanzees is depicted in Figure 2.1. The figure highlights the importance of Kibale National Park and the larger forest reserves for chimpanzee conservation in Uganda. If we apply the commonly accepted value of 500 individuals as a minimum population size for long-term viability, only four forests in Uganda have viable populations (Kibale, Budongo, Bugoma and Ruwenzori Mountains). Viability can be enhanced considerably, however if occasional migration takes place. Maintaining the connectivity between many of the smaller forests will be vital for the long term survival of many of Uganda’s chimpanzees. The GEF Albertine Rift project aims to develop a corridor linking Budongo Forest to Bugoma forest and through to Kagombe, Muhangi and Itwara forests down to Semuliki Wildlife Reserve by working with private landowners and other stakeholders to maintain forest on their land. If successful this project will greatly enhance the viability of chimpanzees in many of the smaller forest patches in this region. Similarly, maintaining the forest/woodland connections between Kalinzu forest, Kasyoha-Kitomi forest, Queen Elizabeth National Park, Kyambura Wildlife Reserve, Maramagambo forest, and Kibale Forest will ensure the viability of chimpanzees in this landscape of savannah woodlands and forests.

**Table 2.1** Estimated chimpanzee density and total population size for each forest surveyed. Corrections for percentage of weaned chimpanzees and number of nests built per day have also been made. Nb. Bwindi density uses reconnaissance data.

Forest	Density	Nest building chimps	With correction factors	95% confidence limits
Budongo FR	1.36	580.80	639.41	392-796
Wambabya FR	3.62	123.84	136.34	117-156
Bugoma FR	1.90	570.00	627.52	467-847
Kasato FR	0.08	2.15	2.37	2-3
Kagombe FR	0.71	80.44	88.56	32-240
Kitechura FR	0.00	0.00	0.00	0
Ibambaro FR	0.00	0.00	0.00	0
Matiri FR	0.00	0.00	0.00	0
Muhangi FR	0.65	13.30	14.64	13-17
Kibego FR	0.75	9.58	10.54	9-12
Itwara FR	1.35	116.64	128.41	71-230
Semuliki NP	0.21	45.55	50.15	43-57
Ruwenzori Mountains NP	0.46	454.18	500.01	428-573
Kibale NP	2.32	1298.08	1429.08	899-1,778
Kasyoha-Kitomi FR	0.92	368.68	405.88	275-363
Kalinzu FR	1.55	212.62	234.08	132-418
Maramagambo Forest	0.46	202.01	222.39	190-255
Bwindi Impenetrable NP	0.60	193.24	212.74	182-243
Echuya FR	0.00	0.00	0.00	0
<i>Estimates for low density sites</i>				
Otzi FR		25	27.52	20-40
Semuliki WR		60	66.06	40-90
Cyambura WR		50	55.05	30-70
Kagorra region	0.3	12.90	14.20	10-40
South of Bugoma	0.04	40.56	44.65	40-54
Between Bugoma & Budongo	0.03	62.67	68.99	62-83
Total		4,505	4,962	4,000-5,700



**Figure 2.1** The relative abundance of chimpanzees in each of the protected areas where they occur in Uganda. The larger the yellow circle, the larger the number of chimpanzees present. Otzi Forest Reserve is shown in the top of the figure on the Sudan border.

Teleki (1989) estimated about 4,000 chimpanzees for Uganda and this was revised down to 3,300 at the chimpanzee PHVA in 1997 (Edroma et al., 1997). The recent census indicates that the total number of chimpanzees is 4,950. It is encouraging therefore that the population in Uganda is higher than these earlier estimations suggested.

The Uganda 2002 human population census was completed recently, providing information for an interesting comparison with the chimpanzee census data presented here. The total human population in Uganda is over 24 million people. The human population in every District and County, and in 98.4% of Sub-Counties is higher than the chimpanzee population for the entire country.

### **2.3 Protection status and habitat requirements**

All four chimpanzee subspecies are classified by IUCN as endangered because their populations are declining. Uganda follows this classification and lists chimpanzees as a protected species under its wildlife statute. This status affords chimpanzees full protection, and it is illegal to hunt or kill chimpanzees in Uganda regardless of whether their range falls within protected area boundaries or not. Permission has occasionally been granted to kill rogue male chimpanzees that have attacked human infants, but these are isolated incidents.

In Uganda chimpanzees are found in tropical high forest, varying in altitude from 600-2800 metres above sea level, in woodland and occasionally in grassland adjacent to forest where they travel between forest fragments. Of these three habitats, the largest numbers are found in tropical forest. Where chimpanzees have been studied in Uganda their diet consists primarily of fruit with figs being one of the most important components of the diet (Wrangham et al. 1986; Plumptre et al. 1997).

### **2.4 Threats to chimpanzees in Uganda**

Across Africa chimpanzee populations are declining rapidly due to hunting for bushmeat and/or the loss and fragmentation of habitat. Ugandan's for the most part do not eat chimpanzees and consequently the threat from the bushmeat trade is less than in other countries (but the threat does exist at some sites).

#### *2.4.1 Encounter rates of threats from surveys*

During the chimpanzee and other large mammal surveys evidence of human activity in the forests was also recorded. Encounter rates per kilometre walked were calculated for all signs of human activity. Encounter rates associated with pitting (pitsaw pits, stacked timber, cut trees for props, porters carrying timber, campsites for pitsawyers) and hunting (snares, pitfall traps, skinned animals, hunters

encountered, nets, dogs) were summed to provide a measure of the relative abundance of these two threats.

#### 2.4.2 *Hunting of bushmeat*

Bushmeat hunting occurs in all the forests surveyed. In many of the forests the predominant signs of hunting are the presence of snares and pitfall traps, although in some forests hunting with nets and dogs is more common. The type of hunting activity carried out is partly dependent on the level of law enforcement by the Uganda Wildlife Authority or Forest Department. Hunting with dogs and nets occurred in the forests that were more remote, and less intensively visited by staff. These forests included Kasyoha-Kitomi, Kagombe and Kitechura. Bugoma and Budongo forests had the highest levels of bushmeat hunting, particularly along their southern edges where the human population density is higher. The Forest Department does not have the resources to provide protection and patrols to stop bushmeat hunting, and although hunting of most species is illegal they do not have the manpower necessary to control the activity in forest reserves. In contrast, many of the national parks surveyed had lower signs of hunting, although Ruwenzori Mountains was an exception.

Ruwenzori Mountains National Park was the only forest where chimpanzees were regularly hunted specifically for consumption. One person admitted to hunting chimpanzees for meat in Kagombe Forest but this was the only case and he was an immigrant from Congo. Although chimpanzees are not targeted in the other forests they are still very much affected by the indiscriminate effects of snaring. Snares can kill or maim animals that are not targeted for bushmeat, including endangered species. Many chimpanzees in Budongo and Kibale forests have lost feet or hands due to snare injuries (between 25-35% of the population of habituated animals).

#### 2.4.3 *Timber harvesting*

Harvesting of trees for timber is legal in several forest reserves, notably Budongo, Bugoma, Kalinzu and Kasyoha-Kitomi. Much harvesting is carried out by pitsawyers rather than sawmills and is only legal in certain compartments. Illegal logging occurs in many of these forests, however, particularly those with valuable timber species, such as the mahogany species *Khaya* and *Entandrophragma*, found in Budongo and Kalinzu. Illegal logging sometimes takes place at night and is very difficult to control with the small number of staff Forest Officers have available to them. Consequently there was evidence of illegal timber extraction throughout many of these forests.

Tackling illegal logging is of primary concern if these forests are to be managed for timber production in future. At present it is the policy of the Forest Department to increase the number of species harvested in the forests to make sustainable management more financially viable. Including more

species and thereby increasing extraction will invariably lead to even greater pressure on the forest resources, particularly if illegal logging cannot be controlled. Studies indicate that chimpanzees can survive in forests that have been selectively logged. The disturbance and openings in the forest resulting from selective logging offer increased opportunities for tree species that provide fruit for these animals, notably figs (Plumptre et al. 1997, Plumptre and Grieser-Johns, 2001; Plumptre and Reynolds, 1994). However, where logging has taken place the density of chimpanzees is often lower than in mature forest (Plumptre and Reynolds, 1994; Struhsaker, 1997).

#### *2.4.4 Charcoal burning*

The use of timber resources for charcoal burning is also having a impact on the forest reserves. In the past charcoal burning was legal in certain forests but today it is illegal in tropical high forest, though it still continues illicitly (at the time of the survey a small trial was being made in Kalinzu to determine if it could be reintroduced there). It is clear that this activity is far less widespread than bushmeat hunting and illegal timber harvesting and is primarily occurring in Kasyoha-Kitomi and Kalinzu forest reserves, although in Kalinzu there is one site where charcoal burning was legal.

#### *2.4.5 Encroachment*

The greatest impact on the forests occurs where the forest has been encroached for farmland. Encroachment was particularly intense in south east Kasyoha-Kitomi Forest where an area of at least 10 km<sup>2</sup> had been cleared for agricultural use. The Forest Department has since evicted the people responsible. This is in an area where the human population density is not particularly high but soil fertility is low, and declines rapidly following deforestation. Improved farming techniques and soil enrichment is necessary to ensure that people do not require more forest.

Encroachment is resulting in the loss of critical chimpanzee habitat. The greatest conversion of forest to agriculture, however, is currently taking place outside the forest reserves. Analysis of satellite imagery from the mid 1980s and 2000/2001 indicates that approximately 800 km<sup>2</sup> of forest has been lost in chimpanzee habitat areas in Uganda (Plumptre, 2002). This is almost twice the area of Budongo Forest

#### *2.4.6 Mining*

Signs of mining were few and quite old (ie. before 5 years ago). The only site with evidence of recent mining activity was Kasyoha-Kitomi. According to local residents this forest has been mined in the past for gold but recently has been mined fairly heavily for Columbo-tantalite, commonly referred to as Coltan. Coltan is a mineral used as a semiconductor in computer chips, particularly those used in

cell phones. In 2000-2001 it was being mined heavily in eastern Democratic Republic of Congo (DRC) and Rwanda as it was fetching prices of over \$80 per kilo, and at some sites several kilos could be extracted in a single day. Nyungwe forest in Rwanda had two illegal sites operating, employing 3,000 miners in 2000. Miners in DRC were harvesting bushmeat around camps which led to severe population declines in both elephants and gorillas. International pressure reduced the exploitation of Coltan in the region and the price has dropped considerably to about \$10 per kilo or less. In Kasyoha-Kitomi we met several people who had stockpiled Coltan in the hope that the price would increase in future (one admitted to having 500 kilos!).

#### *2.4.7 Trade in infant chimpanzees*

Chimpanzee infants are often taken from mothers that have been killed for meat with the expectation that they can be sold as pets, for entertainment and for biomedical research. Very little of this type of trade occurs in Uganda but infant chimpanzees are often smuggled across the border from the Democratic Republic of Congo. This activity is illegal in Uganda and if individuals are caught in possession of an infant, the chimpanzee is confiscated and handed over to the appropriate authorities. From the 1960s-1998 confiscation the average confiscation rates was approximately 1 chimpanzee every 1.5 years although most of these confiscations took place in the 1990s. Recently there seems to have been an increase in attempts to sell chimpanzees and 14 infants have been confiscated since 1998 (three to four per year). This is probably a result of the civil war in Congo and the inability of park staff to adequately manage and monitor activity in and around protected areas.

#### *2.4.8 Killing chimpanzees for crop raiding*

The surveys revealed that in many areas local people were not particularly concerned about chimpanzees crop raiding. Most losses are due to raiding by baboons, vervet monkeys and bushpigs. Around Bugoma Forest where cocoa is grown, and around Budongo Forest where sugar cane is grown as cash crops there is much more antagonism towards chimpanzees. Studies in Budongo Forest have shown that in the past chimpanzees raided mangoes, papaws and other crops but they would only take one or two fruits before leaving and the villagers were not particularly concerned. Local attitudes have changed, however, because sugar cane – a cash crop that provides significant income – is being lost to raiding chimpanzees (C.Hill, F. Babweteera pers comm.). Some villagers living near the forest actively hunt chimpanzees that raid sugar cane, or set snares at the edges of their fields which kill or maim chimpanzees caught in them.

The Budongo Forest Project is experimenting with a trap that has been designed to catch chimpanzees and other crop raiding species alive, so that farmers can release the chimpanzees - after scaring them to deter them from returning – and destroy vermin species. Whether the trap will be as effective as is

hoped remains to be seen. It is evident, however, that experimenting with this trap has been effective in reducing friction between the protected area authorities and local people as they appreciate the fact that the authorities are attempting to help find solutions to this problem.

#### *2.4.9 Large agricultural businesses*

Several large agricultural businesses are currently, or are potentially a significant threat to Uganda's chimpanzee populations. Kinyara Sugar estate, for example, has been encouraging outgrowing of sugar cane, so that communities surrounding the estate are growing sugar at the border of Budongo Forest Reserve. This has resulted in increased crop-raiding and conflict. In Masindi and Hoima Districts, British American Tobacco (B.A.T.) has been offering loans to local people who agree to plant tobacco. This has led to increased deforestation. Nutrient levels in the soil decline rapidly in these areas, and after only 2-3 years farmers must clear more forest in order to produce enough tobacco to repay loans. In contrast, the tea estates in Kabarole District that lie adjacent to Kibale and Itwara forests are an excellent 'buffer' crop because tea is not eaten by wild animals. Consequently, conflict is reduced, and conservation efforts are enhanced. In certain areas, however, wood has been cut from natural forest in order to dry tea resulting in forest degradation.

These companies may not always be aware of the problems they are causing. Attempts to collaborate with these companies needs to be initiated as soon as possible to jointly develop methods to reduce their negative impacts on Uganda's chimpanzees. There is a need to work with these companies, and others, to develop a corporate environmental responsibility which will aim to minimise the environmental damages of their business while at the same time promoting development in the region and contributing to poverty eradication.

### **2.5 Conservation activities since the 1997 PHVA – D.Cox**

During the 1997 PHVA five major areas were assessed:

1. Wild population distribution and habitat
2. Threats to chimpanzee populations
3. Population biology and modeling
4. Eco-tourism and education
5. Captive population management

#### *2.5.1 Wild population distribution and habitat priorities*

The main priority was to survey where chimpanzees occur in Uganda and to estimate the population size in the country. Measuring the extent of forest cover was also a stated aim. Both of these priority

actions have been completed with the chimpanzee census described above and an analysis of satellite images of the forests in western Uganda. These analyses show that about 800 km<sup>2</sup> of forest have been lost in chimpanzee range in Uganda since the late 1980s but that most of this has occurred outside protected areas (Plumptre, 2002).

A further recommendation was that Uganda Wildlife Authority (UWA) develop a policy regarding chimpanzees outside protected areas. This is in the process of being developed by the National GRASP (Great Ape Survival Project) committee. There was also a recommendation that a policy be developed for the gallery forests that may act as corridors between major forest blocks, an issue soon to be addressed by the UNDP/GEF Albertine Rift project.

#### *2.5.2 Threats to chimpanzee populations*

The main recommendations were to try to better understand and reduce snaring activity, and to address the disease threats to chimpanzees from tourism. The Jane Goodall Institute established two snare removal projects in Kibale National Park and Budongo Forest Reserve and funded an MSc student to investigate the effects of snaring on chimpanzees.

To address the disease issue, a chimpanzee health monitoring workshop was held in 2000 and formal guidelines are now being developed.

#### *2.5.3 Population biology and modeling priorities*

The modelling carried out as part of the PHVA process highlighted the critical role of smaller chimpanzee populations in gene flow, which enhances the long-term viability of the larger matapopulations. Therefore, populations and habitat outside the main protected areas must be protected. It also recommended that the chimpanzee population is monitored regularly. The recent chimpanzee survey provides baseline data from which changes in population can be assessed and a monitoring programme will be developed as part of the action plan (see below). A project to protect chimpanzees in a small forest south of Budongo Forest was also established as a pilot project to assess how best to work with communities to protect chimpanzees in small gallery forests. A final recommendation was that further research on the chimpanzees be undertaken within different forests. Behavioural research in Bwindi, Kalinzu, Kibale (Ngogo, and Kanyawara) and Budongo has been ongoing since 1997.

#### *2.5.4 Eco-tourism and education priorities*

The PHVA recommended that chimpanzee tourism should be managed under a standard set of guidelines, implemented at all tourism sites. It also recommended that no new tourism sites be established without EIAs and a market review, and that education programmes be developed for the

local communities. Tourism guidelines are being developed by Julia Lloyd (see below) and no new tourism sites have been established in accordance with these recommendations. Some work educating communities in Hoima and Masindi Districts have been undertaken by the Jane Goodall Institute and the Budongo Forest Project. In order to enhance the awareness of the general public, and provide up-to-date information regarding the status and protection laws relating to chimpanzees in Uganda, the Wildlife Conservation Society and Jane Goodall Institute designed a poster that was distributed in Uganda's top-selling national newspaper - the New Vision. This poster included data from the recent census and information from the strategic action plan.

#### *2.5.5 Captive population management priorities*

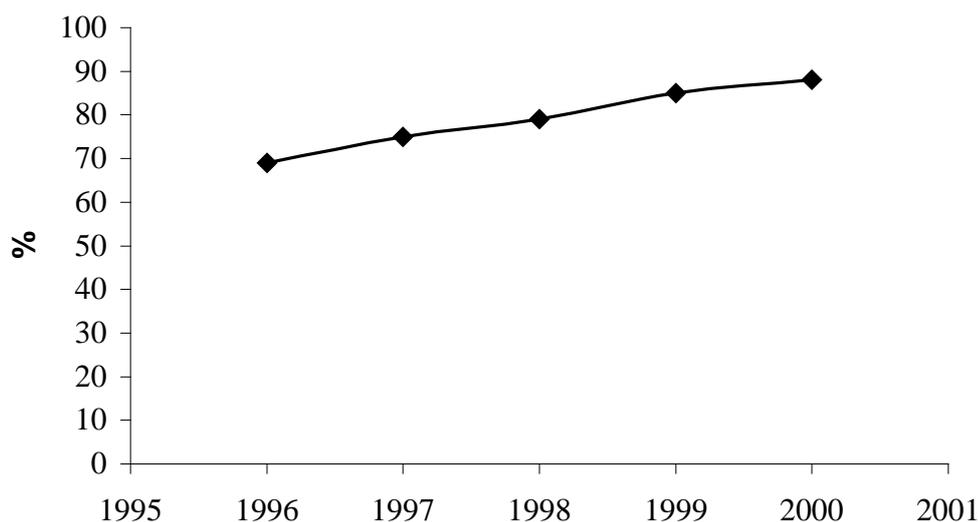
The PHVA recommended the establishment of a committee to deal specifically with the management of captive chimpanzees. The need for detailed MOUs between UWA and UWECT (Uganda Wildlife Education Centre Trust) was also highlighted, as was the importance of sanctuaries being established away from wild populations and people and that all confiscated chimpanzees be checked for their sub-specific status before being reintroduced. UWECT now has a permit to hold confiscated wildlife in Uganda and has official responsibility for caring for captive chimpanzees. Ngamba sanctuary was established in 1998 by the Jane Goodall Institute on an island in Lake Victoria and planning for a second island is underway. The chimpanzee Sanctuary and Wildlife Conservation Trust (CSWCT) was established to support the sanctuaries. JGI is in the process of checking the subspecies status of all confiscated chimpanzees.

## **2.6 Chimpanzee ecotourism – J. Lloyd**

### *2.6.1 Chimpanzee ecotourism sites in Uganda*

The Ugandan Government's main aim is to eradicate poverty. The mission of the Uganda Wildlife Authority is to achieve conservation and help eradicate poverty. Ape tourism has the potential to help achieve both.

Chimpanzee tourism was initiated in Uganda in 1991. Over the past twelve years, six sites have attempted to offer chimpanzee tourism, managed by two separate authorities: the Ugandan Wildlife Authority and the Forest Department. Limited success has been achieved at the majority of sites, mainly due to lack of funds, trained personnel and good planning, and the low level of habituation of chimpanzees. In 1997, the Uganda Wildlife Authority requested the Jane Goodall Institute to assist with a chimpanzee habituation programme for ecotourism activities at Kanyanchu Tourist Centre, Kibale National Park. The project produced impressive results (figure 2.2).



**Figure 2.2** Visitor success rate at Kanyanchu, Kibale National Park between 1996 and 2000 (Source: Kibale Primate Habituation Project, unpublished data).

Kibale National Park took over as the leading site at which to view chimpanzees in Uganda and its popularity increased. The management of the Forestry Department and the Uganda Wildlife Authority expressed an interest in implementing similar programmes at other established sites, as well as proposing new sites. In response, the stakeholders decided to collaborate to plan the future of chimpanzee tourism by assessing the current situation and each sites' potential for tourism. This was carried out in 2001, initiated by the Uganda Wildlife Authority, the Forestry Department, the Jane Goodall Institute and the Uganda Community Tourism Association. An evaluation was carried out in two parts: the first part focused on the tourist facilities, local community involvement and economic viability of chimpanzee ecotourism at ten sites in Uganda. The second part reviewed the potential of chimpanzee habituation and chimpanzee viewing for tourism of the same sites (Lloyd 2002).

**Table 2.2** Summary of the three chimpanzee tourist sites: Kaniyo-Pabidi, Kanyanchu and Kyambura.

<i>Site</i>	<i>Area</i>	<i>Authority</i>	<i>Habitat Type</i>	<i>Tourism circuit</i>	<i>Notes</i>
Kaniyo-Pabidi	Budongo Forest Reserve	Forest Department	Undisturb-ed closed ironwood forest	Murchison Falls-Budongo	Although the foundation for chimpanzee habituation has been laid, habituation has become stagnant. The site is lacking manpower, equipment and management hindering the site's performance and development.
Kanyanchu	Kibale National Park	Uganda Wildlife Authority	Tropical high medium altitude moist evergreen forest	Rwenzori-Kibale	A relatively high level of chimpanzee habituation has been achieved. This site is at risk of suffering from overcrowding by tourists.
Kyambura	Queen	Uganda	Riverine	Lake	Habituation of the chimpanzees has

Gorge	Elizabeth National Park	Wildlife Authority	forest and savanna grassland	Mburo-Queen Elizabeth-Bwindi/Mgahinga	dropped since 1998 when insecurities in the region deterred field visits. Guiding but not habituation activities has resumed.
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Source: Lloyd (2002); Ecotourism and Education Working Group Report (1997)

Uganda is one of the best countries to see chimpanzees in the wild, having a number of easily accessible sites and relatively stable political security for the region. Currently, three sites have the potential to offer high-quality chimpanzee viewing; Kanyanchu in Kibale National Park, Kyambura Gorge in Queen Elizabeth National Park and Kaniyo Pabidi in Budongo Forest Reserve. Nonetheless, like any human activity, tourism needs to be performed in a sustainable manner in light of increased human populations depleting natural resources. Examples have shown that tourism activities can result in more harm than good and the concept of ecotourism is being developed to address this. Although not yet standardised, it is becoming widely accepted that the aims of ecotourism are 1) high quality tourism, 2) conservation, and 3) a raised standard of living for local people.

To achieve these aims for chimpanzee tourism whilst upholding the ideals of ecotourism, management therefore needs to minimize the negative and maximise the positive impacts of tourism on 1) tourists; 2) local people; 3) the environment; and 4) chimpanzees.

Chimpanzees and their habitat are at risk of being over-exploited and the most cited solution is 'controlled tourism' (Ecotourism and Education Working Group Report 1997; Butynski and Kalina 1998; Oates 1998; Lloyd 2002). If tourism is well controlled the ecosystem may be better protected than it would be without attention.

### 2.6.2 Collaboration and Planning

The basis of successful ecotourism is good planning and it is evident that a multidisciplinary approach is necessary. This requires the managers of the Uganda Wildlife Authority and the Forestry Department to work closely together to maximise development and to spread tourism to alleviate over-crowding at some sites and low occupancy rates at others (Ecotourism and Education Working Group Report 1997). Furthermore, each site can benefit from the strengths of each institution (e.g. forest management, health monitoring, veterinary skills (Lloyd, 2002)). The Uganda Wildlife Authority has a network of expertise from which to build a comprehensive ecotourism programme, having the support of the Ministry of Tourism, Trade and Industry, the Forest Department, the Uganda Tourist Board, the Jane Goodall Institute, the International Gorilla Conservation Programme and the Uganda Community Tourism Association, as well as established authorities on chimpanzee behavioural ecology and biology. These groups have shown a strong interest in collaborating to

ensure chimpanzee ecotourism is achieved in Uganda. Moreover, the Uganda Wildlife Authority's Strategic Plan for 2002-2007 (2002) emphasises that this is the right working environment to collaborate.

If the development of each site is standardised with the same quality of guiding, tourist facilities, level of habituation and pricing system, and marketed strongly, whilst upholding the ideals of ecotourism, Uganda will have a fantastic package to add to the attractions of gorilla tracking, game viewing, avi-tourism and community-based tourism.

Poor management, however, can waste the time and money invested. On-site senior management is another prerequisite for successful chimpanzee ecotourism to ensure work is being carried out to the required standard and guidelines are adhered to.

### *2.6.3 Monitoring*

As Cochrane (1994) points out, there could be a more complex relationship between wildlife, tourist and the local population than originally presumed. The monitoring of the impacts of tourism on tourists, local people, the environment and chimpanzees must, therefore, be an important component of the programme. This will ensure that potential problems are engaged with before irreversible damage sets in. Guidelines should be developed on the vaccination requirements of tourists and their behaviour when they are with chimpanzees.

Research into the effects of tourism on chimpanzees, in particular, is seriously lacking. The outset of a chimpanzee ecotourism programme is an ideal time to begin monitoring the impact. Furthermore, the development of the three sites should be compared to one another and with the results of the behavioural studies of established research sites.

Without data on the effects of tourism on chimpanzees, it is difficult to advise management on issues such as the optimum number of groups visiting the chimpanzees each day and the optimum number of visitors in a group. Until such research is undertaken, it is advisable for management to proceed with caution to ensure detrimental effects are avoided.

A central location where monthly status of chimpanzee viewing is presented (e.g. including fruiting trees, statistics on success rates and recent activities such as hunts, births, deaths, tool use. Lloyd 2002) will benefit the managers and the Uganda Tourist Board whilst maximising the use of resources and expertise.



**Figure 2.3** Ranger guides at Kanyanchu Tourist Centre

#### 2.6.4 Strategic Plan

The next step is to compile a strategic plan for a chimpanzee ecotourism programme. The authorities need to aim for a long-term programme that is properly planned, supported, managed, controlled and monitored with well trained and motivated staff. We need to bear in mind that the implementation of such a programme should satisfy the needs of all stakeholders (e.g. local people, tourists, employees, investors, donors and managers) whilst ensuring the programme assists the Ugandan Government, the Uganda Wildlife Authority and the Forestry Department in achieving their objectives. Once the overall strategic plan is developed, each site will need a site-specific strategic plan stating site goals as each site is unique and at different stages of development. Of course, carrying out Environmental Impact Assessments is vital before any new developments proceed.

#### 2.7 Stakeholder Analysis

During the Action planning workshop an analysis of the major stakeholders was made. This produced a huge list of potential stakeholders (Appendix 1) which was then reduced to a shorter list of those who have the major impacts on chimpanzees.

**Table 2.1** The major stakeholders affecting chimpanzees in Uganda as identified during the strategic planning workshop

Stakeholder	Interests	Activities	Impact	Intensity
Jane Goodall Institute	Conservation of chimpanzees in the wild and captivity	Snare removal programs, care of confiscated chimpanzees, conservation in isolated fragments, education programme	Positive	High
Wildlife Conservation Society	Conservation of wildlife and wild lands	Surveys of chimpanzees, training of UWA staff, support to protected area management	Positive	High
Forest Department	Conservation and management of Uganda's forests	Forest management for timber and conservation	Positive for the most part	High
Uganda Wildlife Authority	Conservation of Uganda's wildlife, parks and wildlife reserves	Management of parks, wildlife reserves and wildlife throughout Uganda	Positive	High
Kibale Chimpanzee Project and MUBFS	Research on chimpanzees	Research on the ecology and behaviour of chimpanzees in Kanyawara and Ngogo	Positive	High
Budongo Forest Project	Research on	Research on the ecology of chimpanzees in the	Positive	High

	chimpanzees	Sonso area of Budongo Forest		
CARE	Working with local communities	ICDP around Bwindi and district environment plans in Bushenyi	Positive	Medium
UWECT	Captive care of confiscated chimpanzees	Support Entebbe Wildlife and Education Centre and Ngamba island	Positive	Medium
NEMA	National Environmental planning and policy	Determine environmental guidelines	Positive	High
Mining companies	Extraction of resources	Oil mining is particular threat	Potentially Negative	High
Agricultural estates	Large scale farming	Cash crops attract chimpanzees resulting in increase crop raiding but some estates such as Tea provide a buffer and reduce raiding.	Negative and positive	High
Tourism business	Tourism trade	Promote tourism and conservation or can increase pressure on resources and increase the risk of disease transmission	Positive and negative	Medium
Tobacco business	Tobacco farming – eg.B.A.T.	Encourages forest conversion to increase land for tobacco	Negative	High
Road construction	Building roads	Roads developing across Kasyoha-Kitomi	Negative	High
Local Community	farming around forests	Antagonism between local communities and wildlife over crop raiding, disease issues between humans and chimpanzees, hunters poaching in forest	Positive and negative	High
UPDF	Security	Bringing back baby chimpanzees from Congo, but also help maintain security and protect forests	Positive and negative	Medium
Illegal loggers	Pitsawing for timber	Illegal timber extraction	Negative	High
Donors	Supporting development and conservation	Directly affect chimpanzees as they either support protected area management or encourage agriculture that leads to conflict between people and chimpanzees	Positive and negative	High

## 2.8 Policy Analysis

The existing laws, policies and conventions influencing chimpanzee protection and conservation in Uganda and to which the government of Uganda is a signatory were identified during the strategic planning workshop.

**Table 2.2** The laws and conventions that affect chimpanzees in Uganda.

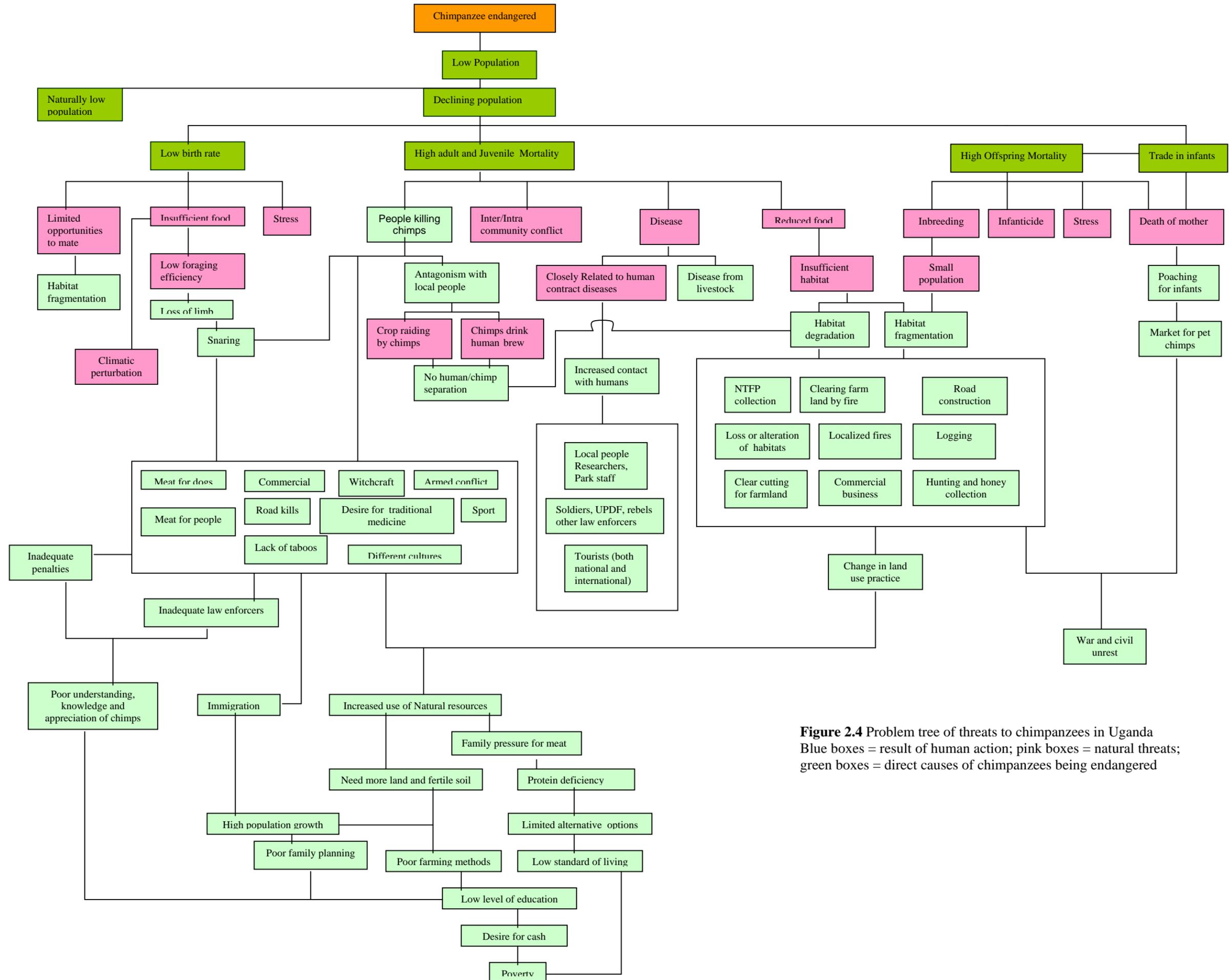
LAW	EFFECT ON CHIMPANZEES	EFFECT – DIRECT/INDIRECT	IMPACT POSITIVE/NEGATIVE	INTENSITY
<b>CITES</b>	Controls trade in endangered species. APP 1 – illegal to trade in chimpanzees	Direct	Positive, Negative – in terms of bureaucracy (obtaining/exporting samples)	High
<b>CBD – Convention on Biodiversity</b>	Promotes conservation.	Indirect	Positive	High
<b>CMS – Convention on Migratory Species</b>	Protects species that cross borders. n.b. gorillas included in appendix, but chimpanzees are not.	Direct	Positive	Low

<b>WHC – World Heritage Convention</b>	Promotes conservation -Bwindi & Rwenzori listed as world heritage sites	Indirect	Positive	Medium
<b>MAB – Man and Biosphere</b>	Promotes co-existence between man and nature	Indirect	Positive	Low
<b>Lusaka Agreement</b>	Controls illegal trade in wildlife	Direct	Positive	High
<b>EAC – East African Community</b>	Committee on Tourism/wildlife Conservation	Indirect	Positive	Medium
<b>Wildlife Statute</b>	Offers direct protection – some species can be declared protected (chimpanzees listed)	Direct	Positive	Very High
<b>Forest Act – (forthcoming forest policy)</b>	Habitat protection	Indirect	Positive Negative	High
<b>National Environment Statute</b>	Environmental Protection (particularly outside protected areas)	Direct	Positive	High
<b>Prevention of cruelty to animals</b>	Ensures animal welfare	Direct	Positive	Low
<b>Local Government Act for vermin control</b>	Helps to control vermin	Indirect	Positive	High
<b>NEMA regulations on lakes and rivers</b>	Protects forests near streams and rivers	Indirect	Positive	Medium
<b>Land Act</b>	Government can gazette/de-gazette land	Indirect	Positive, Negative	High
<b>Constitution</b>	Provides for setting aside land for conservation	Indirect	Positive, Negative	High
<b>Investment Policy</b>	Investments in tourism.	Indirect, direct	Positive, Negative	High, Low
<b>Tourism policy (in process)</b>	Promotes responsible ecotourism, community based tourism	Indirect	Positive	High
<b>Immigration Act</b>	Settlements can affect chimpanzees	Indirect	Negative	Medium
<b>Firearms Control Act</b>	Controls ownership of firearms, and hunting	Direct	Positive	High
<b>Public health by-laws</b>	Controls spread of disease	Indirect	Positive Negative	Low
<b>Agricultural development policy</b>				
<b>Mining ACT</b>				

The fact that laws exist does not always mean that they are effective. A lack of enforcement, together with inappropriate penalties often results in many laws being ineffective. The penalties for owning captive chimpanzees, for example, should probably be increased in Uganda to discourage the trade more effectively.

## **2.9 Development of problem tree**

A problem tree breaks down the threats to a species using a logical sequence of cause and effects. The workshop developed a problem tree that was specific to chimpanzees in Uganda (Figure 2.4). The premise was that chimpanzees are endangered in Uganda because their population is low. This is either because the population is normally low, or because the population is declining. Chimpanzee densities in Uganda's forests are some of the highest in Africa so the 'naturally low' explanation is not likely. The tree therefore worked on the premise that the population is declining either due to low birth rates, high offspring mortality, high adult and juvenile mortality or losses due to the pet trade.



**Figure 2.4** Problem tree of threats to chimpanzees in Uganda  
 Blue boxes = result of human action; pink boxes = natural threats;  
 green boxes = direct causes of chimpanzees being endangered

### 3. Action Plan

The action plan was developed by following a log-frame approach with a 25-30 year vision, and a five year goal for the plan that would aim towards the vision. Objectives, activities (projects) and indicators of success were also defined.

**Table 3.1** The long-term vision, five-year goal and objectives of the action plan with their indicators of success.

<b>Vision (25-30 years)</b>
A stable and viable chimpanzee population in all major forest blocks with peaceful co-existence with local communities

Goal (5 years)	Description & Justification	Indicators of Success
<b>Strengthen the protection of chimpanzees, and enhance the viability of populations in major forest blocks by establishing corridors</b>	The total population is fragmented in forest blocks which are threatened by human activity. There is a need to maintain existing linkages between these forests to maintain viability.	<ul style="list-style-type: none"> <li>• All potential corridors identified and mapped</li> <li>• At least one corridor be established with agreements from landowners</li> <li>• At least 50% reduction in illegal activities in PAs by project completion</li> </ul>

Objectives	Description & Justification	Indicators of Success
<b>1. Reduce fragmentation and loss of key chimpanzee habitat</b>	Only four forests contain chimpanzee populations greater than 500. There is a need to halt further fragmentation of habitat and the maintenance of corridors is critical for gene flow.	<ul style="list-style-type: none"> <li>• Identify and establish at least one chimpanzee corridor i.e. Bugoma to Kagombe</li> <li>• Area of forest within PAs remains constant, or increases</li> </ul>
<b>2. Reduce conflict between local communities and chimpanzees</b>	There is friction between people and chimpanzees over crop-raiding, loss of habitat and killing of human babies. Chimpanzees can only survive with local community support and therefore there is a need to minimise the friction.	<ul style="list-style-type: none"> <li>• Reduced number of crop raiding incidents where projects are initiated.</li> <li>• Agreement at a national level and in 3 districts to promote the farming of non-palatable crops adjacent to chimpanzee habitats. (non-palatable to chimpanzees, baboons, bushpigs, vervets)</li> <li>• Establish awareness and conservation programmes in targeted schools within 5km of PAs</li> </ul>

<p><b>3. Promote awareness of the value of chimpanzees (including policy &amp; law makers)</b></p>	<p>There is little awareness in the villages about the endangered status of chimpanzees and their potential value as a tourism attraction. There is a need to raise the awareness at all levels of society in Uganda.</p>	<ul style="list-style-type: none"> <li>• 50% of students/law enforcement officers/members of the public/policy-makers/magistrates show a positive change in attitude towards conservation by project completion</li> <li>• A minimum of two policies/laws developed and approved by cabinet/parliament that directly promotes chimpanzee conservation</li> <li>• At least 30% increase in revenue from chimpanzee tourism</li> </ul>
<p><b>4. Reduce levels of human caused deaths, injuries and the pet trade</b></p>	<p>Poaching of chimpanzees is one of the main threats to chimpanzees in Uganda. Not all poaching targets chimpanzees directly but they are often caught in snares and traps set for ungulates. There is a need to reduce the incidence of hunting.</p>	<ul style="list-style-type: none"> <li>• 50 % reduction of snares collected in areas where snare removal projects have been established (Kibale Budongo, Kasyoha-Kitomi, Bugoma, Kalinzu, Bwindi)</li> <li>• 50% reduction in new snare injuries</li> <li>• An increase (70%) in prosecution rates of the individuals in possession of infant chimpanzees (and reduction in confiscations)</li> </ul>
<p><b>5. Enhance corporate social responsibility where it affects chimpanzees</b></p>	<p>As the Poverty Eradication Action Plan encourages development and investment, conflict is developing where large business affects conservation. For example, tobacco growers are forced to clear forest as soil fertility declines, sugar cane growers kill crop-raiding chimpanzees.</p>	<ul style="list-style-type: none"> <li>• At least 50% of the identified corporations have implemented 100% of the key actions identified in environmental policies developed in relation to chimpanzee conservation</li> <li>• At least 50% of companies receiving the endorsed certification maintain the practices necessary to keep the label for a minimum of 3 years</li> </ul>
<p><b>6. Minimise the potential risk of disease spread</b></p>	<p>As tourism is developed in Uganda there will be increasing risks of the spread of exotic diseases to chimpanzees. The presence of researchers, UPDF and local people in the forest is also a disease risk.</p>	<ul style="list-style-type: none"> <li>• At least 80% adherence to tourist and research guidelines (annual and bi-annual survey)</li> <li>• At least a 50% improvement in sanitation</li> </ul>

		<p>levels in local communities surrounding areas of tourism and research</p> <ul style="list-style-type: none"> <li>• Standardised health monitoring and treatment programme in place for UWA and FD staff</li> </ul>
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### 3.1 Projects

In order to address each objective, specific projects were identified and clearly defined. The projects are listed following the objectives they are expected to achieve.

#### Objective 1: Reduce fragmentation and loss of chimpanzee habitat

1. Encourage Forest Department to develop a monitoring system that will allow them to quickly detect illegal activities and control them. This could be based on the system currently being used by UWA (MIST)
2. Work with private land-owners to identify and maintain corridors (particularly around Bugoma & Budongo Forests)
3. Develop alternative sources of energy
4. Investigate what attributes corridors require to ensure chimpanzees can move through them
5. Identify patches of forest where chimpanzees occur outside protected areas and prioritise for action (e.g connectivity with main forest blocks).
6. Develop protocols to hold big companies accountable for environmental damage.
7. Monitor chimpanzee populations

#### Objective 2: Reduce conflict between local communities and chimpanzees

1. Work with MAAIF to develop recommendations on farming practices that will help to reduce conflicts – develop land use/buffer zone policies around protected areas
2. Compile a list of potential buffer crop species
3. Promote & evaluate crop guarding around forests in Hoima and Masindi Districts
4. Design chimpanzee-proof bee-hives for local communities around forest blocks
5. Develop and fund community conservation, education and development projects in Budongo, Bugoma, Kasyoha-Kitomi forests.
6. Strengthen existing local environmental committees
7. Improve the chimpanzee tourism experience in Uganda and enhance the marketing of Uganda's tourism product

**Objective 3: Promote awareness of chimpanzee values (including policy makers and law makers)**

1. National environmental awareness campaign for school children (emphasis on great apes, and in primary schools – but include secondary schools, and incorporate with the national curriculum).
2. Lobby with environmental lawyers associations to strengthen legislation and policies. Review existing legislation and policies.
3. Raise the awareness of law enforcement agencies (customs, police, etc), international organizations (UN, Diplomatic Corps, airline companies, Interpol (for example, develop posters/leaflets for distribution, ensure incorporated in law enforcement training).
4. Develop a national public awareness raising campaign through posters, radio announcements, newspaper articles, television advertisements, billboards.(targeting the public not living around chimpanzee habitat )
5. Raise the profile of primate conservation and tourism, particularly internationally (e.g. develop and promote alternative primate tourism products, and enhance chimpanzee tourism experience)

**Objective 4: Reduce levels of human caused deaths or injuries, and the pet trade**

1. Develop and fund snare removal projects in Bugoma, Budongo and Kasyosha-Kitomi forests.
2. Develop and fund community conservation, education and development project in Budongo, Bugoma, Kasyoha-Kitomi forests
3. Strengthen law enforcement in Bugoma, Budongo and Kasyosha-Kitomi forests
4. Investigate methods to reduce road kills
5. Develop and fund information package for law enforcement officers on border posts
6. Research project to assess effectiveness of snare removal projects and determine possibilities for improvement

**Objective 5: Enhance corporate social responsibility where it affects chimpanzees**

1. Identify corporations that affect chimpanzee conservation
2. Improve environmental awareness amongst corporations that will lead to the development and implementation of environmental policies that promote chimpanzee conservation.
3. Develop environmental awards/standards/labelling for corporations that carry out environmentally friendly practices and promote chimpanzee conservation

**Objective 6: Minimise the potential risk of disease spread**

1. Evaluation and development of standardised chimpanzee research and tourism guidelines
2. Develop a health monitoring programme for chimpanzees
3. Fund and develop a project to establish health guidelines for tourists visiting chimpanzees

4. Fund improvements in public health facilities available to communities in areas near tourism and research sites.
5. Fund a sanitation survey of local communities around major chimpanzee habitats (Budongo, Bugoma, Kibale, Ruwenzoris, KK, Semuliki, Bwindi, Kalinzu).
6. Evaluate the impact of ecotourism on chimpanzees, local people, and the environment.
7. Improve chimpanzee tourism experience in Uganda and enhance the marketing of Uganda's tourism product (improve facilities, invest in habituation, improve guiding experience)

The projects were also grouped into the following strategic categories: policy and legislation, protection of the species or habitat, monitoring and research, public awareness and training, and community involvement (Table 3.2). Agencies who could undertake the work and approximate time scales and costings were also estimated.

**Table 3.2** The projects and the potential agencies that should be involved with them as identified by the group. ♦♦♦♦ = high; ♦♦♦= medium-high; ♦♦=medium; ♦=low

	Project	Priority	Agencies who could be Responsible	Time scale	Estimated Cost
	<b>a) Policy and legislation</b>				
2.1	Work with MAAIF to develop recommendations on farming practices that will help to reduce conflicts – develop land use/buffer zone policies around protected areas	♦♦♦♦	MAAIF, ITFC, BFP, LG, GRASP, JGI, UWA (MTTI), EC (for funds for research project)	2003-2008	♦♦♦♦
3.2	Lobby with environmental lawyers association to strengthen legislation policies	♦		2004-2006	♦♦
	<b>b) Species and habitat</b>				
4.1	Develop and fund snare removal projects in Bugoma, Budongo and Kasyosha-Kitomi forests.	♦♦♦	UWA, FD, JGI, BFP, KCP	2003-2008	♦♦
4.3	Strengthen law enforcement in Bugoma, Budongo and Kasyosha-Kitomi forests	♦♦	UWA, FD, JGI, BFP, KCP, AWF, PAMSU	2003-2008	♦♦♦♦
6.7	Improve chimpanzee tourism experience in Uganda and enhance the marketing of Uganda's tourism product (Improve facilities, invest in habituation, improve guiding experience)	♦♦♦♦	UTB, MTTI, Tour operators, EU	2003-2008	♦♦♦♦
6.3	Fund and develop a project to establish health guidelines for chimpanzee tourists	♦		2003	♦
	<b>c) Monitoring and research</b>				
1.1	Encourage FD to develop a system to monitor illegal activity	♦♦♦♦	FD, WCS, UWA,	2003-2008	♦♦♦

1.7	Monitor chimpanzee populations	◆◆◆		2005	◆◆
1.4	Learn dimensions of corridors optimal for chimpanzees (identify forest patches currently being used and by which chimpanzee communities)	◆◆◆	WCS	2004-2007	◆◆
1.5	Identify patches of forest where chimpanzees occur outside PAs and prioritise for action (eg connectivity with main forest blocks)	◆◆	GEF-Albertine Rift Project, Ecotrust, LG, NEMA	2003-2004	◆
6.6	Evaluate the impact of ecotourism on chimpanzees, local people, and the environment	◆◆		2003-2005	◆
2.2	Compile list of potential buffer crop species	◆◆		2003	◆
4.6	Assess the effectiveness of snare removal and determine possibilities for improvement	◆	UWA, FD, NGOs	2004	◆
6.3	Fund a sanitation survey of local communities around major chimpanzee habitats (Budongo, Bugoma, Kibale, Ruwenzoris, Kasyosha-Kitomi, Semuliki, Bwindi, Kalinzu).	◆	Makerere University, UWA, FD, JGI	2003-2004	◆◆
6.2	Develop health monitoring programme for chimpanzees	◆	(MAF, Kristof Bush GAHAU)	2003-2004	◆◆
6.1	Fund an evaluation, and the development of standardised chimpanzee research and tourism guidelines  Assess impact of refugees and migrants and with UNHCR to reduce threats	◆	Makerere University, NGOs, UWA, FD	2003	◆
4.4	Investigate methods to reduce road kills	◆		2005	◆
	<b>d) Public awareness and training</b>				
3.1	National environmental awareness campaign for school children (emphasis on great apes, and in primary schools – but include in secondary school for incorporation into national curriculum)	◆◆◆	UWA, FD, JGI, BFP, KCP, AWF, PAMSU Ministry of education, relevant NGOs	2003-2008	◆◆◆
3.5	National public awareness raising campaign through posters, radio announcements, newspaper articles, television advertisements, billboards.(targeting the public not living around chimpanzee habitat )	◆◆◆		2004-2008	◆◆
3.6	Raising the profile of primate conservation and tourism, particularly internationally e.g. develop and promote alternative primate tourism products	◆◆		2004-2008	◆◆

5.3, 1.6	Develop environmental awards/standards/labelling for corporations that carry out environmentally friendly practices that promote chimpanzee conservation. Develop Golden Chimpanzee awards	◆	GRASP, FD, UWA, relevant NGOs lead by GRASP	2004-2008	◆◆
5.2	Identify corporations that affect chimpanzee conservation	◆	UWA, FD JGI	2003	◆
4.5	Develop and fund information package for law enforcement officers on border posts	◆	UWA, JGI	2004	◆
5.1	Environmental awareness amongst corporations that will lead to the development and implementation of environmental policies that promotes chimpanzee conservation (including tourism).	◆	GRASP supporting MTTI	2004-2008	◆
3.3	Awareness raising to law enforcement agencies (customs, police, etc), international organizations (UN, Diplomats, airline companies, Interpol eg develop posters/leaflets, ensure it is incorporated in law enforcement training.	◆	UWA, FD	2004-2008	◆
	<b>e) Community involvement</b>				
1.2	Work with private land owners to identify and maintain corridors (between Bugoma, Kagombe & Budongo forests)	◆◆◆	GEF-Albertine Rift Project, Ecotrust, LG, NEMA	2004-2008	◆◆◆◆
2.5	Strengthen existing local environmental committees	◆◆	Donors, LG	2004-2008	◆◆
2.4	Develop and fund community conservation, education and development project in Budongo, Bugoma, Kasyoha-Kitomi forests	◆◆	JGI, UWA, WCU	2003-2008	◆◆◆
2.2	Promote & evaluate crop guarding around forests in Hoima and Masindi Districts	◆	UWA, JGI, WCS, CARE, FD, GTZ	2003-2007	◆◆◆
1.3	Develop alternative sources of energy	◆	FD, Donors	2005-2008	◆
2.3	Design chimpanzee-proof bee-hives for local communities around forest blocks	◆	CARE	2006	◆
6.2	Fund improvements in public health of communities in areas near tourism and research sites	◆	WARM, Makerere University, FD, UWA, Min of Health	2007-2008	◆◆◆

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## Appendices

### Appendix 1. All Stakeholders identified during the workshop

These stakeholders were listed in answer to the question; 'who has an affect on chimpanzees in Uganda'. The stakeholder is named with their main interests and which activities may affect chimpanzees. The impact is given (p=positive, n=negative) with a crude estimate of the intensity of the impact (◆◆◆◆=high;... ◆=low). The group did not have time to complete the intensity of the impacts throughout and hence there are some blanks.

Stakeholder	Interests	Activities	Impact on chimps	Intensity
<b>Jane Goodall Institute (JGI)</b>	Chimpanzee conservation & welfare	-sanctuary -snare removal -census -education -human chimpanzee conflict -workshops -ecotourism	P	◆◆◆◆ ◆◆ ◆◆◆◆ ◆ ◆ ◆◆ ◆◆◆
<b>WCS</b>	Conservation	-chimpanzee census (Albertine Rift Program) -monitoring -capacity building -threats assessment.	P	◆◆◆◆  ◆◆ ◆ ◆◆◆
<b>WWF</b>	Conservation	GEF-ARFP	P	◆◆
<b>AWF</b>	Conservation		P	◆
<b>IUCN</b>	Community conservation	-policy KSCDP -law enforcement -human/wildlife conflict -reforestation -community development	P	◆◆◆ ◆◆◆
<b>IFAW</b>	Welfare conservation of wildlife	-law enforcement (QENP)	P	◆
<b>CARE</b>	Community conservation Bwindi, QENP	-community development -agricultural development -map development -replanting projects.	P	◆◆◆
<b>IGCP</b>	Conservation	-ecotourism -capacity building -community development -snare removal -monitoring	P	◆◆◆◆ ◆◆◆ ◆◆ ◆◆ ◆◆
<b>UN Monitors</b>	Maintain peace in DRC	paid well and occasionally leads to demand for baby apes	N	◆◆
<b>Wildlife Clubs of Uganda</b>	Conservation education	-conservation education in schools	P	◆◆
<b>NACOPRA</b>	Community development & chimpanzee conservation	-tree planting -law enforcement -monitoring -capacity building -conservation education	P	◆ ◆◆◆ ◆ ◆ ◆◆◆

<b>UCOTA</b>	Community development	-standardised tourism -craft -capacity building -marketing/selling products	P	◆◆
<b>BUCODO</b>	Community development	-education -sustainable forest use -capacity building	P	◆ ◆◆◆ ◆◆◆
<b>ITFC</b>	Research and forest conservation	-research (gorilla) -ecological monitoring	P P	◆◆◆ ◆◆◆◆
<b>UNHCR</b>	Welfare and settlement of refugees	-settlement of refugees -tree planting -environmental education	N P P	◆◆◆◆ ◆◆◆ ◆◆◆
<b>Kibale Chimpanzee Project</b>	Research and conservation	-research -snare removal -conservation ed -community development	P	◆◆◆◆ ◆◆◆ ◆◆ ◆◆◆
<b>Budongo Forest Project</b>	Research and forest conservation	-research -community development -snare removal -conservation education -vermin control -tree planting	P	◆◆◆◆ ◆◆ ◆◆◆◆ ◆◆◆◆ ◆◆ ◆
<b>Kalinzu Forest Project</b>	Research and forest conservation	-research -ecotourism -conservation education	P	◆◆◆◆ ◆ ◆
<b>KAFRED</b>	Habitat and community based conservation	-ecotourism - local craft making/selling	P	◆◆◆ ◆◆
<b>Bulindi Forest Project</b>	Habitat and community based conservation	-ecotourism -law enforcement -community development -capacity building -forest restoration		◆ ◆ ◆ ◆ ◆
<b>Semuliki Chimpanzee Project</b>	Research	-research -trail making (makes forest more accessible)	P N	◆◆◆
<b>Big Ape Project</b>	Research	-research -capacity building	P	◆◆◆◆ ◆◆◆
<b>Ngogo (KNP)</b>	Research	-research	P	◆◆◆◆
<b>Makerere University</b>	Research Education Capacity building	-MUBFS-KNP -WARM -MUIENR FNC - Budongo	P	◆◆◆◆ ◆ ◆ ◆◆
<b>Mbarara University</b>	Research Education Capacity building	-research – Bwindi -research - Kalinzu	P P	◆ ◆
<b>Ministry of Trade Tourism and Industry - MTTI</b>	Wildlife conservation	-laws and policies	P	◆◆◆
<b>Ministry of Agriculture and, Industry and Fisheries – MAAIF</b>	Ministry responsible for Agricultural development	-agricultural policies	P & N	

<b>Ministry of Lands Water and Natural Resources -MLWNR</b>	Environmental protection and conservation	-environmental policies	P	
<b>UWECT</b>	Education and Zoo	-education	P	
<b>Forest Department</b>	Manage Uganda's Forest Estate	-management of forests -promoting timber harvesting	P N	◆◆◆◆ ◆◆◆
<b>Uganda Wildlife Authority - UWA</b>	Wildlife conservation	-manage Uganda's parks and wildlife reserves and all wildlife in Uganda	P	◆◆◆◆
<b>National Environment Management Authority - NEMA</b>	Environmental conservation	-development of environmental policy	P	
<b>Uganda Wildlife Society</b>	Education and advocacy		P	
<b>Nature Uganda</b>	Wildlife conservation	education, advocacy, research	P	
<b>Local Govt</b>	District management		P & N	
<b>Law enforcement agencies</b> - police - customs -	Maintain and enforce laws	arrest and prosecute poachers	P & N	
<b>International Gorilla Conservation Program - IGCP</b>	Conservation	-mountain gorilla conservation	P	
<b>Oil Companies (mining)</b>	Oil exploration and mining	-exploration and drilling in Albertine Rift	N	
<b>Road construction companies</b>	Building roads	Fragment forests	N	
<b>Estate/agricultural Ops.</b> -Kinyara Sugar works -Tea estates - Mukwano, -BAT, -Cocoa	Large-scale agricultural production	-increased crop-raiding -fuelwood harvesting from natural forest -conversion of forests to agriculture -buffer crops	N N N P	
<b>Illegal Logging operations</b>	Timber harvesting	-illegal pitsawing	N	
<b>The Media</b>	Provide news	-educate people about conservation and chimpanzees	P	
<b>Researchers</b>	Research	-provide information on chimpanzees and their environment -cut many trails and affect habitat	P N	
<b>Donors –</b> -World Bank -EC -USAID International Zoos -NGOS -UNDP -UNEP -UNESCO -Ape Alliance	Support government of Uganda	-support conservation -support development -support agricultural expansion	P P & N N	

<b>Tour operators/ developers</b>	Tourism	-track chimpanzees -earning revenue for economy -provide employment for local people -revenue to local people -education -harass chimpanzees -opens forest to poachers	P & N P P N N	
<b>Tourists</b>	Visiting Uganda	-provide foreign exchange -increase disease risk -benefit local communities	P & N N P	
<b>Local people– Small holders</b>  <b>nb : hunters and poachers should be separated from 'local people'</b>	-Farming -making a living	-farming -clearing -killing chimpanzees -deforestation/ conversion -NTFPs -snaring/hunting -charcoal burning -pit sawing -firewood collection -travelling/trails -no waste management -mining -tourism -harrassing chimpanzees -cultural taboos <u>against</u> killing/ eating chimpanzees -research	P & N N N N N N N N N N N N N N N N P&N P	♦ ♦♦ ♦ ♦♦♦♦ ♦ ♦♦♦ ♦♦♦ ♦♦ ♦♦ ♦ ♦ ♦ ♦ ♦♦ ♦♦ ♦♦ ♦♦

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