

"Coaching – poaching?"

**Governance, Local People and Wildlife around Mount Elgon
National Park, Uganda**

By

Ana Jankulovska, Paul Vedeld and John Kaboggoza

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Ana Jankulovska, Paul Vedeld and John Kaboggoza*

Abstract

This paper explores traditional hunting practices and institutions in the Mt. Elgon area of Uganda, local people's attitudes toward wildlife and their perceptions of conservation and co-operation with park staff. It also assesses the costs for local people of living with wildlife.

Data were collected through 100 household interviews and group discussions with hunters and elders from two ethnic groups, the Seabee and the Bagisu.

Results show that hunting is commonplace even if it is illegal. Local people hunt for food, for use of wildlife in circumcision ceremonies and to acquire cash income. They employ traditional hunting techniques such as snares, traps, spears, arrows and dogs. Bagisu hunters enjoy direct benefits from hunting inside the Park, while the Sabei hunt outside the Park. Both ethnic groups reflect strong utilitarian attitudes towards wildlife, followed by dominionistic and aesthetic attitudes. The attitudes are not found to vary by ethnic group nor are they dependent on gender. Perceptions of wildlife conservation and co-operation with the park staff are found to depend on three socio-economic factors: ethnic group, household size and village. The hunting is organized in social groups, with each their own particular values and norms for behaviour. The paper shows that wildlife hunting can be understood as a social institution with its distinct social values, norms and rules for behaviour.

The people of Mt. Elgon incur substantial costs by living with wildlife, through agricultural loss, predation on livestock and threats to human life. Such costs, although subject to substantial uncertainty, account for around 20% of the average gross household income. Improvements in the institutional arrangements and a real co-operation between the park staff and the local people are fundamental if wildlife is to be managed successfully in the future.

Wildlife authorities should accept hunting as an important social institution and to develop good models for co-operation, rather than the present futile banning approaches. An important suggestion is to treat wildlife similar to other forest resources, allowing communities to harvest goods and to exercise legal management rights, involving also controlled hunting of non-threatened species. This secures poor people direct access to important protein and cash generating resources. It could, at the same time, drastically improve the battered relationship between government bodies and local people, thus serving as an example of improved governance as local people meet wildlife authorities in a context of positive or constructive every day "state making".

Key words: Mount Elgon National Park, local people, participation, attitudes, costs, hunting, utilization, wildlife.

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1. Introduction

Benefits of conserving biodiversity tend to be long-term, indirect, diffuse and difficult to capture in sustainable ways. Local people in developing countries, both rural poor and rural elites, live under difficult conditions with substantial risks and uncertainties threatening their livelihoods. Such risks relate to natural given vagaries of different types, but also to economic and political factors often beyond the control of households and rural communities. Shifting government policies implying reduced profitability in traditional agriculture and conservation policies constraining access to environmental incomes form blurred and unpredictable decision-making environments for rural dwellers and unclear situations of rights and duties relative to management of local biodiversity resources. Under such circumstances, many households and communities at large may rationally assume individual, easily captured, rent-seeking, short term direct benefit strategies at the expense of traditional, communal, future generation oriented and long-term biodiversity management ideals (see also Ferraro and Kiss 2002).

Uganda is rich in biodiversity and wildlife is considered one of its most significant biological resources. Over the years, different types of protected areas (national parks, wildlife reserves, sanctuaries and controlled hunting areas) have been established to help conserve wildlife and forests. Two approaches in wildlife conservation have been applied in practice. During the colonial times, the natural resources and conservation were controlled by the central government. The "Fortress Conservation Approach" or "Traditional Protectionism" implied the creation of protected areas where people were excluded (Kiss 1999; Brochington 2002; Adams & Murphree 2001; Vedeld 2002). Uganda has furthermore a long history of civil conflicts that have led to depredation of many protected areas. Granting or denying access to forest and wildlife resources was used politically also by Ugandan leaders in political games in order to gain support or to suppress opponents (see Gibson, 1999 and Infield and Namara, 2001, citing Kamugisha and Stahl, 1997).

Wildlife populations have been severely reduced and many species have been become extinct (Republic of Uganda 1999). However, the ratification of the Convention on Biological Diversity (CBD) by Uganda in 1993 signalled an interest in integrating biodiversity and development objectives within national policies, including conservation of biological

diversity, sustainable use of its components and fair and equitable sharing of the benefits from the utilization of resources (NEMA 1998; Republic of Uganda 1999; NEMA 2001).

Current trends in Uganda favour decentralised "community conservation" (CC) as an alternative, where local people are involved in decision-making (IIED 1994). Starting from the Ugandan Constitution (Republic of Uganda 1995) that urges the state "to promote rational management of natural resources as a measure to safeguard and protect biodiversity", a number of regulations have been imposed to protect the Ugandan environment, including the conservation and sustainable use of biodiversity. All forms of hunting, which used to be a major economic activity, are currently banned, primarily because wildlife populations are perceived to be at low levels. However, "hunting may be permitted on a case-by-case basis in selected areas as an incentive" (Republic of Uganda 1999:8).

The conservation of Uganda's wildlife takes place within the designated protected areas, under the management of the Ugandan Wildlife Authority (UWA). Currently, Uganda has ten National Parks, ten Wildlife Reserves, six Wildlife Sanctuaries and thirteen Controlled Hunting Areas (Republic of Uganda 1999). The focus of this paper is the wildlife conservation and local people-wildlife interactions in the Mt. Elgon National Park area.

The present populations of wild animals in Mt. Elgon are little known and even less explored than other national parks in Uganda (UWA 1998). The only available data that covers distribution of some mammals in the Mt. Elgon area were reported by Howard (1991) within the survey of Uganda's tropical high forests, carried out between 1985 and 1988. Recent research and studies about Mount Elgon (Scott 1994; Jaqueline 1996; Kings 1996; Cameron 1997; McLeod *et al.* 1997; McParland 1997; Reed & Ingram 1998; Reed & Clokie 2000) have not considered wildlife. Mt. Elgon was, however, a significant site for wildlife research in the past (Wroughton 1910a; Wroughton 1910b). In addition to the neglected wildlife management component of Mt. Elgon, very little is known about the local people (Bagisu and Seabee) and their attitudes and perceptions toward wildlife.

In general, local people's relationship to wildlife is complex. On the one hand, wildlife serves as an important source of material livelihood. On the other hand, wildlife and forests in national parks constitute substantial threats and costs to local people's livelihoods through pests, crop destruction, fires and prey animals (see Bell 1984; Kiiru 1995; Prins *et al.* 2000;

Weladji *et al.* 2003). Thus, for people living close to forest areas, the forest and wildlife form complex and even contradicting parts of people's life modes and culture, and also partly constitute people's lives and meanings. The complex relationship to nature is formed through growing up in proximity of nature, through experience-based learning, through interaction with the forest and wildlife and with knowledge passed on over generations through complex socialization processes and manifested both through social norms and practices, but also through expressed social values and perceptions.

The transition from hunting and gathering societies to pastoral societies and over to societies with sedentary agricultural systems can be seen as one way to reduce dependency on a highly variable and unreliable natural resource base, and where eliminating threats such as wildlife must be understood as an important adaptation to secure livelihoods. However, man as a cultural being also attaches meaning and importance to non-material values. We thus expect to re-find a tension between conservation and use when assessing statements and adaptations among local people towards wildlife.

Mount Elgon has over the last years experienced "the empty forest" phenomenon, which can be seen as a result of a narrow forest management approach. This approach does not cater well for wildlife resources, as hunting and loss of habitats also can deplete populations of many forest animals (Bennet and Robinson 2000). UWA (1998:19) reports that "poaching of animals remains a serious potential problem in Mt. Elgon National Park". Poachers obtain meat from buffalo and small antelope for own consume and for sale in nearby communities. The illegal hunting of Colobus monkeys for their skin, widely used in regalia associated with circumcision events, is also a highly sensitive issue (UWA 1998).

The scarcity of material addressing the issue of wildlife and local people in Mount Elgon was therefore one reason for conducting this research. Most of the studies about human-wildlife interactions in Uganda come from the "prominent" national parks, such as Queen Elizabeth, Murchison Falls and Buwindi Impenetrable, where the wildlife is spectacular compared to Mt. Elgon. The previous studies and projects carried out in Mt. Elgon have focussed on forest and forest products, neglecting the wildlife component. We believe that this lack of knowledge about the wildlife in not so spectacular parks ("low tourist potential") is unfortunately not only typical for Mt.Elgon and Uganda, but is a more universal phenomenon. This study thus represents one modest contribution to fill knowledge gaps in this respect. The objectives of

this study were to (1) identify the hunting practices and preferences among the local people of Mount Elgon; (2) explore their attitudes toward wildlife, conservation perceptions and co-operation with the park authorities; (3) determine the costs of wildlife for local people.

2. Methodology

2.1 Study area

Mount Elgon is a large mountain massif in East Uganda (Figure 1) and it is the oldest mountain (about 20 million years) in the Rift Valley (UWA 1998). It is located on the border between Uganda and Kenya. Including the lands on both sides of the international border, the mountain massif is 80 km from north to south and about 50 km west to east. The highest point on the crater rim is 4,321 meters above sea level, making Mount Elgon the eighth highest massif in Africa and the second highest in Uganda. This has important bearings on vegetation and wildlife.

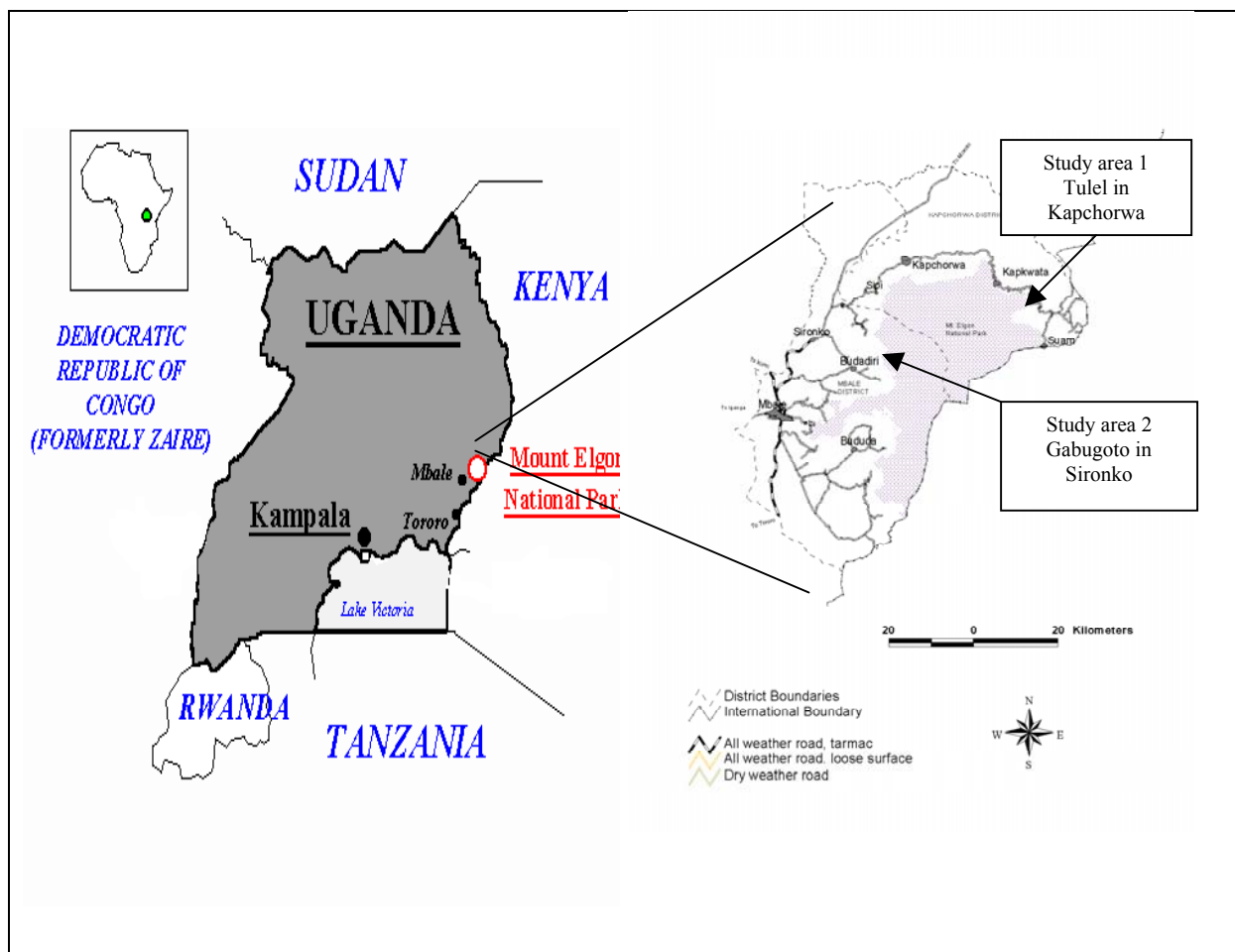


Figure 1 Map of Uganda and Mt. Elgon National Park with the study area

Source: WebRelief and UWA 1998

The main influences on the amount of rainfall in Mt. Elgon National Park are firstly the mountain massif itself, and secondly the proximity to Lake Victoria. Rainfall is abundant on Mt. Elgon throughout the year and range from 1,500 to 2,500 mm per year. Mid-slope locations at elevations between 2,000 and 3,000 meters tend to receive more rainfall than the lower slopes or the summit. Relatively dry periods are from July-August and December-February. Moisture deficits are extremely rare occurrences in the Mount Elgon region.

The soils of Mount Elgon are primarily volcanic in origin. They are young and fertile, rich in calcium, sodium and potassium. Under natural conditions, these soils will support a varied tropical forest. Cleared of forest cover, soils support a highly productive agriculture and a high population density.

2.2 Flora and Fauna of Mt. Elgon

The vegetation of Mt. Elgon is grouped in four altitudinal zones (Howard 1991); (1) mixed montane forest, up to an elevation of 2,500 meters (48 % of the total park area); (2) bamboo and low canopy montane forest, from 2,400 – 3,000 meters (21 % of the Park); (3) high montane heath, from 3,000 to 3,500 meters (7 % of the Park) and (4) moorland, above 3,500 meters (24 % of the Park). These vegetation belts have emerged since the disappearance of Elgon's glaciers, some 10,000 to 11,000 years ago.

Thirty species of small mammals (shrews and rodents) are known to occur in Mt. Elgon, consisting of a mix of highland species, forest-dependent species and open habitat species (Howard 1991; Wilson 1995; UWA 1998). There is a range of monkeys: Black and White Colubus (*Colobus guereza*), de Brazza (*Cercopithecus neglectus*), blue monkey (*Cercopithecus mitis*) vervet monkey (*Cercopithecus aethiops*) and olive baboon (*Papio anubis*). The larger mammals are represented by the bushbuck (*Tragilaphus scriptus*), elephant (*Loxodonta africana*), buffalo (*Syncarus caffer*), foresthog (*Hylochoerus menerthagen*), sitatunga (*Tregalaphus spekei*), duiker (*Sylvicapra grimmia*) and carnivores like spotted hyena (*Cocuta crocuta*), leopard (*Panthera pardus*), serval cat (*Felis serval*) and wild cat (*Felis silvestris*). Mt. Elgon also supports a diversity of 296 bird species, 171 butterfly species and 71 moths associated with the tropical mountain massifs and forest zones.

2.3 People and social customs in Mt. Elgon

The human population of Mt. Elgon is found in three administrative districts, Mbale, Sironko, and Kapchorwa. Over 80% of the population is rural (UBS 2002), with agriculture as the dominant economic activity. The three districts consist of 26 sub-counties and 63 parishes, all bordering the Park. The rural population density ranges from 100 to 600 people per square kilometre, amongst the highest recorded in the world (UWA 1998).

Bagisu and Seabee are the two main ethnic groups in Mt. Elgon. The Bantu-speaking Bagisu are predominant on the southern and western sides of Mt. Elgon in the Mbale and Sironko District. They are thought to have settled in the Elgon area about 1,500 AD. Seabee dominate on the northern side of Mt. Elgon in Kapchorwa district. They belong to the Nilo-Hamitic group, related to the Kalenjin of western Kenya. Seabee settled in the northern part of Elgon later than the Bagisu. Bagisu are crop farmers, but they also keep some livestock and involve in off-farm activities, while Seabee traditionally have been herders or pastoralists. The differences in production systems and life modes between the groups implies different uses of land and of natural resources, as we shall return to.

One unique social custom practiced by both ethnic groups is male circumcision. It is carried out every second year in November and December. Circumcision is connected to hunting of Black – and – White Colobus monkeys. As a part of the tradition, all participants in the ceremony should have an ornament from a Colobus monkey in order to perform their traditional initiation dance. In addition to male circumcision, the Seabee also circumcise girls. Female circumcision is an annual event with much less ceremonial organisation.

2.4 History and wildlife management in Mt. Elgon

Gazetted as a forest reserve in 1938, Mt. Elgon remained under the management of the Forest Department until 1993, when it was gazetted as a national park (UWA 1998) (see Gosamalang 2003). Mt. Elgon National Park now occupies an area of 1,145 km². Economically, it plays a crucial role as water catchment supplying more than one million people with drinking water (Howard 1991; USAID 2001) and it is an important source of montane bamboo, whose shoots are used extensively as food by the local communities (Scott 1994; USAID 2001). Mt. Elgon is also an important area for species conservation due to the richness of endemic plant and animal species found in the mountain (Howard 1991).

The wildlife in Mt.Elgon is managed by UWA through three different departments. The Monitoring and Research Department is to “ensure that the wildlife and other resources are surveyed at a frequency which enables their status to be adequately monitored” (Republic of Uganda 1999: 16). The Community Conservation Department acts as a liaison between the protected area and the local community, local leaders and government extension agencies and the Law Enforcement Department is responsible for security of the resources contained in the protected area. The fauna of Mt. Elgon has not been extensively monitored or studied (UWA 1998) and no formal wildlife census or monitoring activities have been undertaken. The absence of infrastructure and equipment for wildlife monitoring and the deficiency in staff explains the lack of monitoring processes in Mt. Elgon. Much more effort is, in fact, put into controlling illegal activities than wildlife census and monitoring activities, indicated by the fact that the Law Enforcement Department has 78 rangers whereas the Monitoring Department has no rangers at all (Jankulovska 2003).

Hunting activities persist within the Mt. Elgon area and are perceived as a serious problem by UWA (1998). Illegal hunting and attempts to hunt are recorded on a monthly or quarterly basis. It is difficult to determine the frequency and dynamics due to the inconsistency in data collected and the insufficient description. Measures against hunters vary from warnings to e.g. fining (100,000 Uganda Shillings (1USD= 1,820US\$) for killing a Black and White Colobus), reporting to the police and pressing charges against hunters (Jankulovska 2003).

The Wildlife Statute (1996) states that extraction of resources from national parks is illegal, but a clause was added allowing UWA to permit “otherwise illegal activities” if they were demonstrated to be beneficial to conservation (Government of Uganda 1996; Barrow 2000). Still, hunting is not permitted in Mt. Elgon and local people are sensitised not to hunt, primarily because there is a general perception that the game populations are at very low levels, even if no recorded data exists (UWA 1998).

A community conservation approach at Mt. Elgon was proposed in 1994 (UWA 1998). Local people have since been involved in conservation of the forest by being given rights to extract in particular forest products (firewood, bamboo shoots, poles, medicinal plants) against duties of guarding the forest. Resource use agreements were developed in collaboration with the local communities and facilitated through IUCN (UWA 1998). The agreements give the right

to extract forest resources but exempts wild animals, as they are considered to be state property.

Wildlife is often found on private or communally controlled land, also outside the protected area, causing damage to the local people. Even in such cases, the State owns the wildlife - also on private land (Republic of Uganda 1999:19). As part of the general decentralization process in Uganda, the Local Government Act (1997) mandates districts to handle problems related to “problem animals”, but UWA still has the responsibility to manage and control problem animals (Problem Animal Policy, forthcoming). In the case of Mt. Elgon, 20 % of tourist revenues from gate receipts are to be shared with communities living adjacent to Mt. Elgon National Park. UWA has agreed, as a special case, to share an additional 20 % of the revenue accrued from softwood plantation harvesting at Suam and Kapkwata with communities adjoining the Park (UWA 1998). This programme is, however, not yet implemented.

2.5 Data sampling and methods used

In this research, an exploratory case study design (Babbie 1998), with both qualitative and quantitative research methods was used. This approach is useful in order to learn about wildlife utilization and local people's attitudes and perceptions of benefits and costs accrued from wildlife. Two ethnic groups, the Bagisu and Sabei were target groups for this study. The study focused on two out of three districts in Mt. Elgon: Sironko and Kapchorwa. One parish from each district was selected. The main sampling criterion was that each parish ideally should represent one district and one ethnic group. Gabugoto parish was chosen for Sironko district and the Bagisu, while Tulel parish represented Kapchorwa district and the Sabei. A stratified sampling was employed to select six villages (Kifundi, Gibuzale, Masesegwa, Kisagali, Gombe, Kikobero A) out of twenty from Gabugoto parish and five villages (Chekwir, Rorok, Kabokwo, Tulel, Burkweyo) out of twelve villages from Tulel parish. The main village selection criterion was distance from the park border. Villages were grouped in three strata. A random sample of 100 households was made, 50 from each parish.

Data were collected from October to December 2002. Household questionnaires formed the basis of data collection, combined with group discussions and Participatory Rural Appraisal (PRA) tools (Theis & Grady 1991; Chambers 1992). They were combined in flexible sequences. At each stage crosschecking was carried out to improve data reliability. Initial

methods were used to enable people to qualitatively describe their environment. Subsequent methods were used to study the diversity of resources, trends in wildlife utilization, attitudes toward wildlife, values and costs of wildlife for local people in Mt. Elgon.

Questionnaires were used as a main tool for collecting primary data. Interviews were carried out either with the household head, the wife or another member of the family. There were 69 % male and 31 % female respondents. The questionnaire included a mixture of open and close-ended questions, which covered respondent's background (age, education, marital status, ethnic group and length of residency in Mt. Elgon) household size, farm size and distance from the park, and annual gross household income. Close-ended questions and Lickert-scale statements with five options (from strongly agree to strongly disagree) were used to assess local people's perceptions of wildlife conservation, hunting practices and to assess the quality of co-operation with the park staff. A combination of descriptive and close-ended questions was used to describe and understand hunting habits; to determine local people's attitudes toward wildlife and to assess costs accrued from living with wildlife. Pre-testing of the questionnaire was conducted in the neighbouring parishes in order to identify potential problems for the interviewers and respondents.

Group discussions with elders and hunters were based on Participatory Rural Appraisal (PRA) techniques (Theis & Grady 1991; Chambers 1992) and Rapid Rural Appraisal (RRA) (Chambers 1980; Mc Cracken *et al.* 1988). They comprise visualization, interviewing and group work methods. Pre-appraisal dialogues took place in order to inform villagers about the objectives of the research, to ask for their participation in a PRA and to prepare logistical arrangements. A main principle was to learn from the participants, and the main purpose was to help communicate people's knowledge, needs and ideas. Emphasis was placed on the collaborative creation of human-wildlife conflict calendars (PMU & MEICDP 2000), which gave an opportunity to present the damage caused by wild animals throughout a year.

2.6 Data analysis

Data analysis was executed by means of a statistical software package (Minitab 13). A preliminary factor analysis was employed to summarize the data's covariance structure and to identify factors that might clarify problems associated with large data variability. The socio-economic factors examined as independent variables were ethnic group, village, gender, age, marital status, education, household size, distance from the park and wealth. Local people's

attitudes toward wildlife were grouped according to Kellert's (1980a) classification. In addition, Chi-square tests were used to analyse the relationship between socio-economic factors and attitudes held by local people towards wildlife. Logistic regression analysis was used to analyse why some respondents had more favourable perceptions towards wildlife conservation and co-operation with park staff. Results are presented at the $p < 0.05$ significance level for separate variables, while the reported χ^2 values present the significance of either the final Chi-Square or the logistic regression tests. Wildlife costs were assessed from statements made by local people, as a percentage of gross household income (sum of products consumed or sold).

3. Results

3.1 Hunting activities

A number of animals were hunted: ungulates, particularly larger ones such as buffalo, giant forest hog, bushbuck and bushpig and various species of duikers and other antelopes. In addition, monkeys are hunted, especially Black – and – White Colobus. The two ethnic groups practice the same hunting methods (1) Hunting with arrows and bows; (2) Hunting with dogs, triggered snares and other traps; (3) Hunting with simple snares. Regular and poison – tipped arrows are used for hunting small animals, mainly Black – and – White Colobus and duikers. They can also be caught with *maliba* (trap). Triggered snares are widely used to capture forest ungulates; animals are trapped by the leg or neck, by means of a lasso that is tightened by the release of tension in a bent-over seedling attached to the end of a lasso. Snares made of a simple loop of wire or bush rope are placed in an animal path. A trapped pit is normally two meters deep, with masked top by sticks and leaves, into which a passing animal may fall. The most common way of hunting is in a group of between 5 and 20 men with dogs to drive a forest ungulate into the pit, where it is speared to death. Hunting occurs during daytime since it is the best time for following animals' footprints. Guns are rarely used for hunting in Mt. Elgon, as local people reported to be disarmed, but guns would also obviously make noise and increase the danger of being caught.

The ethnic groups use the same hunting methods, but when it comes to the hunting frequencies, the Sabei hunter report to hunt five times per months, and a Bagisu hunter three times a month. Sabei thus hunt more than Bagisu. They mainly hunt outside the Park, while

Bagisu hunt more inside the Park (Table 1). Tribal affiliation showed significant influence on the hunting practices ($\chi^2 = 56.99$, d.f. = 1, p-value < 0.0001, n=100).

Table 1. Hunting Practices Among Local People, Mt. Elgon, Uganda 2002

Ethnic group	Hunting practices		χ^2	d.f.	p-value
	Inside the Park	Outside the Park			
Bagisu	86.9%	13.1%			
Sabei	10.3%	89.7%	56.99	1	<0.0001

Hunting for food was the main reported reason for hunting (74 % of the respondents), followed by hunting for traditional reasons (18.5 %), for cash (5 %) and reduction of crop raiding animals (2.5 %). Hunting for traditional purpose targets the Black – and White Colobus because of their white bushy tails and their black – white mantels used in the circumcision ceremonies.

Circumstantial evidence gave an overall picture of the extent of hunting, such as the number of confiscated snares, bows, arrows and mantels stored in the UWA Mt. Elgon headquarters. Unfortunately, no systematic data or figures were found for confiscated materials. During the research stay in Mt. Elgon, we frequently came across people holding monkey tails or wearing mantels on their heads, used in performing circumcision dances. On some occasions, monkey tails were even available in local shops “as a souvenir from Mt. Elgon”.

Only 4 % of Bagisu and 6 % of Sabei report cash income to be the main reason for hunting. Skins from leopards, serval and wild cats, tusks from elephants and snakes' skins have been the most valuable parts from the wildlife in Mt. Elgon (Table 2).

Table 2. Local Market Prices for Animal Products, Mt. Elgon, Uganda, 2002

Animal product	Price (USh)*
Tail from Black and White colobus	7,000
Mantel from Black and White colobus	30,000
Snake skin	60,000
Leopard skin	100,000
Elephant tusk	500,000

*1 USD = 1,820 USh (currency rate from November 2002)

Hunting for money occurs incidentally partly due to lack of guns, partly due to other reasons. Cash income hunting used to be better organized and more frequently practiced in the past (see Gosamalang, 2003). Yet, local people and particularly the hunters are well aware of the high economic values different wild animals have in the market.

3.2 Local people's attitudes toward wildlife

Local people from Mt. Elgon were asked to relate to a set of ten possible attitudes toward wildlife, as designed by Kellert (1980a, 1980b) (see Table 3).

Table 3. Local People's Attitudes Towards Wildlife, Mt. Elgon, Uganda, 2002

Attitude	Strongly oriented toward (estimated)*	Common behavioural expressions**
Utilitarian	86	Hunting for meat, fats, medicine and money
Dominionistic	48	Hunting for traditional purposes (skins, tails, horns) and trophy hunting (ivory)
Aesthetic	15	Nature appreciation, enjoy the beautiful colours of the animals
Humanistic	7	Kept as pets, tourist attraction
Other	6	Preserve the animals for the future generations
		The animals are far away and they are good

* Totals more than 100 because persons can be strongly oriented toward more than one attitude

** Used in questionnaire

These attitudes can be grouped under two broad sets of perceptions of the relationship to animals. The *use-oriented* utilitarian and dominionistic are the two most common attitudes held by the local people. Both support human exploitation of animals. The second, *non-use oriented* set of values, represented by aesthetic, humanistic, ecological and naturalistic attitudes, opposes exploitive uses of animals and one would rather enjoy and keep the wildlife for tourist attractions. Related to option and existence values, one would also want to keep wildlife for the benefit of the future generations.

The data on attitudes were examined relative to socio-economic characteristics of respondents. We collected 162 statements from 100 respondents, as some respondents expressed strong orientation towards more than one attitude. The null hypothesis assumed that there would be a systematic relationship between the selected socio-economic characteristic of the respondent and the expressed attitude toward wildlife. The overall pattern of responses for the sample was, however, quite similar and local people in general agreed that “wildlife should be utilized for food and traditional purposes”. No significant difference was found in

the answers from the two ethnic groups ($\chi^2 = 4.839$, d.f. = 2, p-value = 0.089). There was no significant relationship between gender and attitudes toward wildlife ($\chi^2 = 0$, d.f. = 2, p-value = 0.986). The findings thus indicate that the selected attitudes towards wildlife do not vary by gender or by ethnic group in the sample.

3.3 Perceptions on wildlife conservation and co-operation

Local people's concern for wildlife conservation was explored through three close-ended questions (Table 4). The majority of respondents (78%) strongly support wildlife conservation. Local people's perceptions on conservation were crosschecked with a statement related to future hunting inside the Park. The results after crosschecking indicated more divided opinions among respondents, with 38.4 % of the respondents supporting the hunting and 60.6 % opposing future hunting (Table 4). Local people were also asked to assess the co-operation with the park staff. Findings indicate that the present co-operation with the park staff is perceived as poor by 39%, while 25% are more positive (Table 4).

Table 4. Local People's Perceptions of Wildlife Conservation and Co-operation with UWA staff, Mt. Elgon, Uganda 2002

Statements	Response (%)				
	Strongly Agree agree	Indifferent	Disagree	Strongly disagree	
Wildlife should be conserved for future generations	78	18	0	1	3
Hunting should be allowed inside the Park	22.2	16.2	1	19.2	41.4
There is good co-operation with park staff on wildlife	0	25	36	20	19

Factor analysis was employed to identify factors that might explain the large data variability on local people's perceptions on conservation, hunting and co-operation with park staff. Various socio-economic factors such as ethnic group, village, gender, age, marital status, education, household size, distance from the park and wealth were tested against the perception variables. Ordinal logistic regression analyses were undertaken to determine socio-economic variables identified from the factor analyses that had significant influence on local people's opinions regarding wildlife conservation, future wildlife hunting and co-operation with the park staff.

Tribal affiliation proved to have highest influence on the response of the future hunting and co-operation statements, followed by the household size and the village (Table 5). The rest of the factors were not statistically significant. No significant pattern of association was found for responses concerning the first statement on conservation for future generations. Indeed, none of the factors tested, including ethnic group, household size and village, were significant relative to responses to wildlife conservation (Table 5). As we see, the responses are quite uniform throughout the sample (96 %).

Table 5. Socio-economic Factors and Perceptions on Conservation and Co-operation Expressed by Local People from Mt. Elgon, Uganda 2002

Conservation attitudes	Factors identified	χ^2	df	p
Wildlife conservation important	Ethnic group	5.27	2	NS
	Household size	1.66	2	NS
	Gender	1.78	2	NS
Future hunting inside the Park	Ethnic group	30.21	3	< 0.0001
	Household size	6.94	2	= 0.031
	Gender	1.525	3	NS
Co-operation with the park staff	Ethnic group	3.06	1	< 0.0001
	Household size	6.847	2	= 0.033
	Village	48.77	10	< 0.0001

In answering the question whether to allow future hunting in Mt. Elgon, the tribal affiliation showed significant association with the responses ($\chi^2 = 30.21$, d.f. = 3, $p < 0.0001$). The Sabei ethnic group perceives hunting as a part of wildlife conservation, while the Bagisu sample strongly oppose any kind of future hunting inside the Park, even if they are the ones mainly hunting inside the Park. Household size was found to be the second most influential factor for the hunting statement ($\chi^2 = 6.94$, d.f. = 2, $p = 0.03$). Households with 4 to 7 members were more supportive toward hunting inside the Park, followed by households with more than seven members.

Local people's perceptions on co-operation with park staff are found to be correlated with three socio-economic factors. Once again, tribal affiliation is significantly associated with the responses ($\chi^2 = 3.06$, d.f. = 1, $p < 0.0001$), together with household size ($\chi^2 = 6.847$, d.f. = 2, $p = 0.033$) and the village people originate from ($\chi^2 = 48.77$, d.f. = 10, $p < 0.0001$). Most Bagisu report to share the opinion that UWA practice fair and good co-operation, while Sabei rated the existing co-operation as bad or very poor. Households with 4-7 members perceive the co-

operation more negatively than households consisting of less than 4 members. Four villages (Rorok, Kabukwa, Tulel, Burkweyo), all from Tulel parish, shared negative opinions regarding co-operation with the park staff.

3.4 Human – wildlife conflicts and costs of wildlife

Information on the human – wildlife conflict in the two parishes was collected through discussions with elders, which resulted in the creation of a human-wildlife conflict calendar (Table 6). Objects damaged by wildlife may be classified in three categories: agricultural crops, domestic animals and threats to human lives. In Gabugot and Tulel, the crop damage accounted for 79 % of all complaints about animal problems. The main problem animal in this category is the baboon, followed by the rat, porcupine, bushpig and the Black – and – White Colobus. Baboons are the main culprits for maize losses, both during planting and the germinating season (March – May) and also later in the year before the harvesting (July – October). The monkeys damage beans as well. The giant rats damage maize stored in the granaries (October – December). Porcupines destroy potatoes, cocoyams and pumpkins throughout the year. Black – and – White Colobus raid different crops such as tomatoes, maize and beans and fruits. The last among crop raiders is the bushpig that damages maize and potatoes.

Complaints regarding predation on livestock accounted for 21% of all complaints about wildlife. Several wild carnivore species, from wildcat, wild fox, hyena to leopard prey on livestock and poultry in Mt. Elgon. Local people complained about hyenas and leopards killing poultry, goats and sheep, but only few of them officially complained to UWA. Losses from predation on livestock occur throughout the year and the elders characterized them as highly destructive. Such losses occur suddenly and cannot be predicted as it is with crop raiding, which is expected to occur in certain months. That uncertainty makes local people fear more from carnivores than from crop raiders.

Table 6. Human – Wildlife Conflict Calendar with Perceived Levels of Destructions, Mt.Elgon, 2003

<i>Animal/ Month</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
Baboons			Low	Medium			High					
Bushpig						← Low		→			High	
Wild cat				←		High		→	←			→
Hyena	←					High						→
Leopard	←					High						→
Porcupine	←									High		→
Wild fox			←	→		High		←	→			
Rats	←										High	→
Black & White Colobus							High					

Local people in Mt. Elgon fear the wild cat and the fox the most, since they might carry rabies. Two people (one child and one man) from Mt. Elgon were reported to die from rabies in 2002.

The information gathered from household interviews aimed at assessing the losses from wildlife at household levels and to obtain its share in terms of gross income losses (Figure 2). Results from household interviews indicate that the damage accounted for 21 % of the gross household income on average. Crop raiding accounted for 79 % of all complaints about animal problems. The smallest and the largest damage accounted for 4 % and 51 % of the total household income. Seven households reported damages from 110 % to 440% of their income, which must partly be due to over-reporting of losses and partly that livestock losses cuts into the stocks of livestock beyond the level of an annual income.

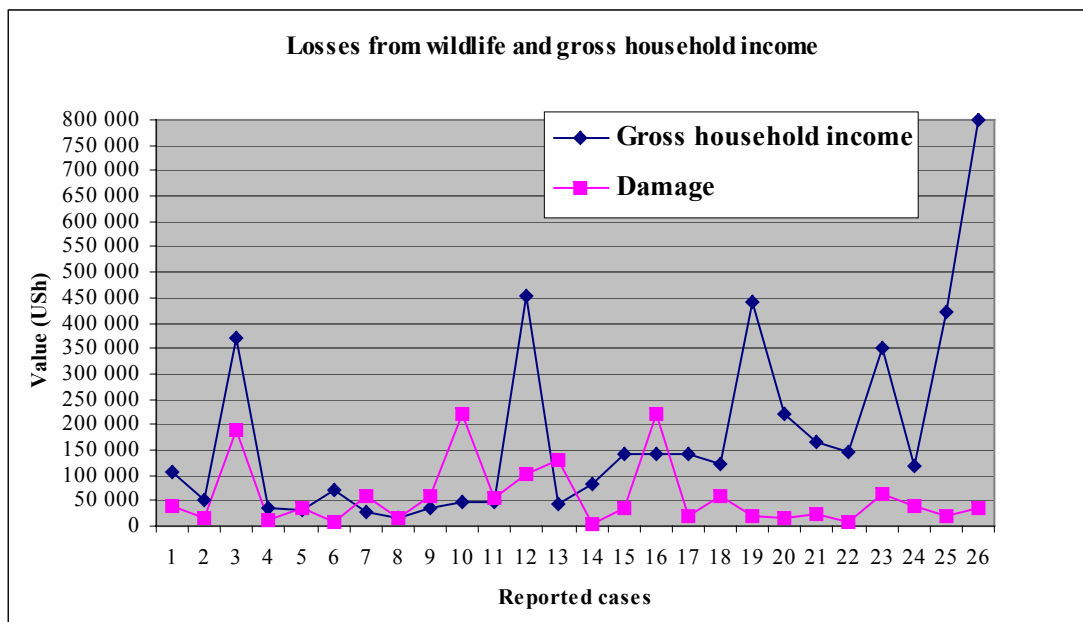


Figure 2. Losses from wildlife and gross household income in Mt. Elgon, Uganda, 2003

4. Discussion

4.1 Hunting activities

It has been difficult to assess the overall extent and economic importance of hunting as it is illegal and most households would not share this information freely. However, based on Gosamalang, 2003, some 43% of the households reported to hunt prior to 1993, when people still were allowed to hunt inside what was then a forest reserve. Today, very few would openly confess to hunt in the questionnairing process. However, by using other approaches, we were able to meet and discuss with hunter groups directly and indirectly also get information about hunting through the questionnaire.

Results showed that some 87 % of the reported Bagisu hunting activities takes place inside the Park, while only 10 % of the Sabei reported the same. The main reason for Sabei to hunt outside the Park is most likely the position of their parishes. Tulel borders the National Park in the south and the Kapswama plain in the north. The Pian-Upe Wildlife Reserve and the Karamoja Controlled Hunting Area offers a vast alternative source of wildlife for the Sabei. There are, on the other hand, no other opportunities for the Bagisu hunters in Gabugoto parish than the Park.

The survey also show that Sabei hunt more often than Bagisu, which can be supported both by that the access is better, but also by the argument that Sabei originally were pastoralists and hunting was an integral and important part of their livelihood strategies. The Bagisu, on the other hand have always been agriculturalists and as such have been less oriented towards hunting as an important economic activity.

It proved difficult to obtain information on the extent of hunting that takes place in Mt. Elgon and the importance of game meat (bush meat) in the diet of households. Perceived as sensitive information, some people were co-operative, whilst others were not. The villagers reported an extreme decrease of game meat consumption since the national park establishment. Being fed on game meat for generations, local people expressed that they are still interested in consuming it, but they said that in the last ten years the wild meat consumption has decreased due to the imposed restrictions on hunting. Some have adapted by practicing cattle breeding and, they consume domestic meat instead of game meat. Some do still hunt and thus risk

being caught. The expressed desire for increased wildlife meat consumption is clearly related to local people's traditions for game meat intake.

Observations from the fieldwork gave the impression that hunting for traditional purposes is practiced more than for food. This might have two explanations. Evidence from killed monkeys is easy to witness as they are hunted for public use, while hunting for food does not provide such evidence. Secondly, the circumcision ceremonies occur every even year from October to December, a period that overlapped with the research carried out in Mt. Elgon area. This gave the opportunity to witness more hunting of Black – and – White Colobus monkeys than hunting of wildlife species for food. The quantitative data however, indicate hunting for food to be by far the main reason for hunting. Anyway, there is no doubt that hunting is an important activity in Mount Elgon area, for own consumption, for acquiring cash incomes and for traditional purposes.

The study also revealed that hunting is carried out by particular hunting groups found in the different villages. These groups, often organised along kinship lines or by hamlets, share social values and norms and an experience-based local knowledge about wildlife; wildlife behaviour, wildlife utilization, hunting techniques and monitoring and control mechanisms for hunting. It must also be remembered that hunting has a long history and where local people would have developed rules and responsibilities for hunting; see for example Naughton-Treves reporting for the Toro tribe in West Uganda where all men had to have hunting nets and hunt for bush-pig; and would even be fined if he did not assume this social responsibility. "Toro rights regarding hunting and wildlife property rights centered on appeasing ancestral spirits and protecting crops". The hunting rights were not landed, but related directly to types of animals. The present formally illegal hunting can thus still be described as a living social institution in the local communities; with informal rules for membership, for provision and appropriation, for monitoring and control, and for joint behaviour towards external agents (see Jankulovska, 2003 for more details).

4.2 Attitudes toward wildlife conservation and co-operation

Human – wildlife interactions have been of interest to conservationists and to social anthropologists for a long time. Researchers have documented and analysed both positive and negative human-wildlife interactions (Fitter and IUCN, 1986; Caldecott 1988; Robinson & Redford 1991; Swan 1995; Prins *et al.* 2000) and have come to the conclusion that local

people consume wildlife for food; harvest it for skins, leather, and other non- edible products like ceremonial use; exploit it in the form of live animals or pets, zoos, and biomedical trade; use it as ornamentation and sport hunting or tourism; and finally exploit it as a source of domesticated animals.

Research findings on attitudes toward wildlife based on Kellert's (1980a, 1980b) typology can be summarized in a few points. Local people of Mt. Elgon easily recognized and understood the meaning behind two out of ten attitudes toward wildlife; the utilitarian (86 %) and dominionistic (48 %). Additional analysis showed no association between any of the nine socio-economic factors (ethnic group, village, gender, age, marital status, education, household size, distance from the park and wealth) and the responses on attitudes toward wildlife as most people held the same attitudes for the different statements. Social scientists, especially psychologists, tend to assume that attitudes are related to feelings, beliefs and values possessed by individuals (Kellert, 1980b) , but that they are not necessarily consistent with an individual's behaviour and they are subject to change over time. From cultural theories on socialization and based on phenomenological approaches one may assume that attitudes and values are commonly formed through primary and secondary socialisation processes, and that they are often found to be rather stable and similar in local communities with strong social cohesion and where people basically have similar life modes (see also Molander, 1990; Vedeld, 2002; Vedeld and Krogh, 2003).

Perceptions on wildlife conservation and co-operation indicated significant difference between the two ethnic groups. During the fieldwork, the Bagisu from Gabugoto parish were in the initial phase of negotiation with the park staff and they hoped to sign a user-right agreement for collection of firewood. In dire need of such an agreement, they might have strategically expressed conservation awareness. The pro-conservational opinion expressed by the majority of Bagisu contradicts previous findings, since it is not expected from an ethnic group that hunting inside a park to be interested in conserving the wildlife and more than the Sabei who primarily hunt outside the Park. This situation deserves additional research. Our conclusion on this is that the Sabei response is more in line with how local people generally would like wildlife conservation to be e.g. allowing some kind of hunting even inside the park.

In the case of co-operation with the park staff, the Bagisu again gave unified rather positive answers. They were more reluctant to respond to this issue than the Sabei, most likely fearing possible consequences that might jeopardize the agreement they expected to sign with UWA. Circumstantial evidence from observations and informal talks also confirmed this.

Local people thus want to conserve wildlife for the future and at the same time hunt wildlife today. This may not be contradictory. Many local people feel that the present relationship to park staff is not very good and that there is room for improvements in this respect. A key to achieve this may actually lie in the hunting itself.

4.3 Costs of wildlife

In contrast to the positive values of wildlife described above, wildlife also has negative impacts on local people's livelihoods through crop damage, loss of human lives, property and incomes. Doing research on this quickly revealed that local people and park staff have very different stories to tell.

Regarding the assessment of the damage, local people most likely have a tendency to overestimate their losses and to underestimate their household incomes (Parry & Campbell 1992; Heinen 1993; de Boer & Baquete 1998, Gillingham et al, 2003). This could be inferred from the human – wildlife calendar (Table 6) where most of the costs were termed as high and most of them lasting throughout the year. Another point on quality of data on loss assessments was discovered while comparing the data from crop production and crop losses. When asked to assess the last year's production in amount of bags and money, most of the respondents estimated 5,000 – 7,000 Uganda Shillings (US\$1 = 1,820 USh) for a bag of corn. Later, when asked to estimate the damage from crop raiding, the value for a bag of maize ranged from 15,000 to 20,000 USh. It was also difficult to spot crop-raiding activities, since the research was carried out in October – December, when crops were already harvested. Evidence from predation on livestock could not be witnessed either.

Problem animals have increased according to 53 % and 80 % of the interviewed people from Gabugoto and Tulel respectively. The level of interaction and actual co-operation with the park officials was reported to be very low. Pest animals' crop destruction were perceived to be high by local people. Findings from this study have shown that on average they account for

79% of all complaints registered in the study. The total losses are found to constitute 21 % of the gross household income.

On the other hand, UWA officials refer to wildlife costs as 'not a major' problem, which again may contribute to local people's inclination to overstate the damage done by wildlife. The crop raiding and other costs for people around Mt. Elgon might well be considered insignificant or at least low compared to similar problems in other national parks in Uganda. That would be an inadequate comparison since it does not show the seriousness of the problem, as local people of Mt. Elgon perceive it. The cost of wildlife must be compared to other problems that local people of Mt. Elgon face. Findings from this study show that the damage from wildlife is significant and that the costs from wildlife are high for the local people of Mt. Elgon. In general, a 21% loss in gross income would be substantial for any household.

4.4 Costs and co-operation

From local people's perspective, the wildlife in the park accrues substantial costs, and very little of the meagre park revenues are returned at present. From a park staff point of view, the wildlife is not seen to create any major problem for local people (see Jankulovska, 2003).

The wildlife system inside the park is based on a complete ban on hunting. The wildlife management system outside the protected area is based on certain duties assigned to the local people and particular responsibilities to be undertaken by park staff. Formally, there is to be a compensation system based on revenue sharing from entrance fees (20 %) and from the revenues from soft wood plantation (20 %). The systems are not yet much implemented. The study finds that none of the interviewed local people were aware of these compensation systems. Local people will not be individually compensated and no incentive is yet provided to make them accept the duties assigned by the park staff. This represents a non-congruence between appropriation and provision in Ostrom's (1990) words. The unbalanced distribution of duties and unequal share of the responsibilities between the park staff and the local people creates tension and dissatisfaction among the local people.

5. Implication of the study - the politics of wildlife

5.1 Historical background

The politics of wildlife and forests in Uganda is complex. Going back to colonial days, a structure based on the English model for conservation was developed catering partly for conservation purposes, and partly for white settlers hunting, livestock and crop management needs.

In line with what Gibson, 1999, describes for Zambia, and partly for Kenya and Zimbabwe this policy was also followed by president Obote in Uganda after independence. In Gibson's words (1999:47-48); "The political fight among civil servants, interest groups, and politicians over the control of wildlife policy illustrates that political actors in all three countries regarded the primary benefits of wildlife policy to be *distributive* goods, and not the *collective* goods of conservation....the newly independent governments did not dismantle colonial conservation policies, despite popular resentments against these laws. Neither country sought to reverse the centralization of authority over wildlife. Neither degazetted parks and reserves. And neither sought to grant significantly greater access to wildlife resources to citizens. Control over wildlife presented new independent African governments with a valuable asset... Electoral and political institutions did not facilitate domestic backlash against such policy. Few, poor and scattered in the most remote regions of these countries, the rural dwellers that paid the highest costs of living with wildlife had little chance of collectively influencing policy. As in the colonial era, one way these Africans continued to express their discontent was through poaching.. the decline of many African economies and the construction of one-party states in the 1970s and early 1980s motivated politicians and bureaucrats to join in the hunt".

Although under-researched up to now, we believe that the situation in Uganda up to the civil war period (1971-86) resembled this. Gradually, however, tension built up with local people, and in the case of Uganda, one increasingly saw that wildlife and forest resources became part of internal land and rural development politics. It became increasingly entangled in political games of appropriation and distribution of resources by powerful elites.

During the civil war, the political actors and the military opened up the protected areas. The shrewd general Amin first of all, levied a general forest access for local people as one way to secure political support ("Take back the forests stolen from you by the British!"). Guards in

parks were reported outgunned and killed in clashes with army soldiers and gangs (Naughton-Treves, 1999).

The devastations that followed from the more or less free access were substantial. At the end of the 1980'ies with more peace, stock could be taken of the resources. Most parks had very little wildlife left and much forest reserves had been clearfelled and taken for agriculture by displaced and land-less people or at least been quite strongly deforested and degraded (see fi. Naughton-Treves, 1999).

Later leaders have followed suit in using forest access as a political (double-edged) instrument. Infield and Namara (1999) reported for example the banning of grazing areas for what was perceived to be government hostile pastoralist groups around Lake Mburo, in the name of conservation (from Kamugisha and Stahl, 1993).

Seeing the early 1990'ies, a major policy shift came in Uganda with the regazetting of 7 major forest reserves into National Parks, partly expressing a politically wanted move by Government, but also subdue to formal and informal pressures and payments by international donors (USAID in particular) and NGOs (see Gosamalang, 2003 for a more comprehensive analysis of this process).

This process of “public enclosure” following Woodhouse 2003, alienated literally millions of people around these areas (a total of 1.3 mill. km² over seven large areas) from continued access to forest related resources including wildlife.

5.2 Wildlife governance- policy goals, measures and instruments

In most of the Parks in Uganda, a series of CC measures are now being launched to counter the many problems and conflicts created by the establishment of the National Parks from the reserves.

The wildlife and forest policy field is complex as it encompasses biodiversity and environmental concerns, economic and agricultural development challenges, distributional issues and it involves complex issues of governance (see Bernstein and Woodhouse, 2001). There is no single goal that can be easily formulated; and no simple set of policy measures and instruments. This complicates governance. Public governance in the field of wildlife

policy thus needs to consider often conflicting ideas on economic efficiency, ecological effectiveness and socially and politically legitimate solutions (see fi. Etzioni, 1988, Vedung, Vedeld, 2002, Vedeld et al, 2003).

Typical features of wildlife and forest environmental income generation activities are high labour inputs, low economic returns, perishable products, unregulated markets and informal middlemen controlling markets, unclear and uncertain tenure rights with often illegal and unsustainable harvesting and a situation where several public bodies interplay in management and regulation of access (see Vedeld et al, 2003).

Complexing it further includes the multitude of public and private stakeholders; at national, regional and local level; and stressing the latter; where differences between wealthy and poorer segments of local communities often conflict over access to especially the more valuable forest resources.

In many Parks in Uganda, various CC arrangements are now being tried out. In light of the above, creating good policy formulation processes and outcomes seem like tap-dancing in a mine field. The experiences with CC seem to be mixed as is documented in a variety of recent publications (Hulme and Murphree, 1999, Holmes, 2003, Vedeld, 2003, Infield and Namara, 2001, Adams and Hulme, 2001 to mention a few).

The typical approaches have been to design systems of command, control and diversion activities. Quite often, resources are given to local leaders and communities in return for abstinence from resource withdrawal and waiving (contested) rights of access (Barnes, 2002). The resources have often been given as shares of assumed future potential incomes, unfortunately often not realized, not shared or sometimes also with-held by local leaders.

Some important features to consider in designing a CC would include;

- Is local participation a means to reach a conservation goal or an aim or a right in itself; who should define goals and measures? (Pretty, 1996)
- Who should plan, manage, monitor, control and enforce?
- Who should be included in CCs; is proximity to the park the most legitimate criteria?
- Should the CCs have a communal or an individual focus (Infield et al 2001)?

- Should the forest's function as a safety net in times of trouble be maintained even if conservation is an aim? (In periods of water shortage, lack of fodder and grazing resources, or lack of protein sources, an inflexible ban on all forest access is problematic, see Brown et al 2003).
- Should one rather use diversion measures, setting up alternative income generating activities, facing the fact that the restriction of resource access constraints farm household production possibilities (less fodder, plant nutrients, charcoal f.i.)? (It would imply thinking rural development in a broader context)
- Should one subsidize rural investments such as schools, health facilities etc.; measures not linking incentive directly to biodiversity resource, but rather generate a general goodwill?
- Would improved control of influx of landless people to avoid segments of people more likely to depend on forest related resources be a wise move (Infield et al, 2001)?

There are thus many choices or as Naughton-Treves, 1999, states; "it will entail tragic choices and creative compromises". Results of CC policies have unfortunately too often become aggravated situations of mutual distrust and sabotages of the installed rules; with biodiversity degradation, economic deprivation and governance distrust as rather commonplace outcomes.

Holmes (2003) reviews 18 studies of CCs, and generally finds that people are still negative to the outcomes; more negative to park staff than to conservation of animals, but still generally negative, although the CCs seem in general to reduce *how* negative people are.

5.3 Policy recommendations for Mount Elgon

So what can be done better in Mt. Elgon? In Mt. Elgon,, incomes from the environment constitute in the range of 15-25% of total household incomes (see Vedeld et al, 2003). Most of these incomes (60-80%) typically come from three sources; from fuelwood, fodder and from wild foods. The present CC initiatives in Mt. Elgon suggest to ban the two latter resources. We would, however, quite strongly argue that banning access and withdrawal rights both to fodder and wildlife seems unwise. In the case of Mt. Elgon, sustainable utilization of robust wildlife resources that do not have particular important biodiversity values and *under due control* should be part of a CC policy measure package;

- Including controlled hunting is compatible with local existing social institutions and can be based on local knowledge and local perceptions of what is seen as right and fair

- It is realistically accepting that poaching exists and will continue, regardless of formal bans, precisely because it is seen as a social (acceptable) institution
- Allowing for certain controlled hunting through negotiations and agreements facilitates an arena and a process for discussing more and less illegal hunting
- It is a measure that gives tangible, flexible in time and space, individual benefits directly to poor people. They have the time and labour available to utilize such resources; both as support for current consumption and as safety net in times of crisis
- Controlled hunting will reduce costs of wildlife close to homes, livestock and agricultural fields
- It avoids many of the obstacles of indirect community cash payments where national and local leaders much easier can withdraw shares of the funds allocated

Simply allowing controlled hunting is not a panacea in CC efforts. CC initiatives should be understood and handled as rather slow processes of social change, where actors needs time and space to develop relationships and gradually change mindsets.

Park staff perceptions, beliefs, attitudes, norms and “exemplaric ways” to solve problems are often not compatible with CC perspectives where participation is seen as a goal in itself and not merely a means to reach some ultimate conservation goal. Reports referred by Infield et al 2001:57;” A coercive military culture continues to dominate”.. key informants reported ill-disciplined and drunken rangers bullying and abusing people, making false accusations in order to demand bribes extorting money in exchange for “allowing” illegal grazing and poaching”. A successful CC initiative will require sincere follow-up from UWA (see also Infield and Adams, 1999, and it requires long-term perspectives and commitments, as stated by Hulme and Murphree, 1999.

Different groups of local people must also be given ample time to change attitudes and actions and to understand that the CCs are seriously meant to give both rights of access and duties to perform. Conflicts of interests between local leaders and poor local people and recent in-migrants must also addressed and clarified (see Naughton-Treves, 1999). A particular issue in this respect, raised by Adams and Infield, 2003, is the “park neighbour principle”. The proximity principle for distribution of rights of access is problematic as also other local actors may have historical rights or have been evicted from the forest.

It must further be stressed that local people's experiences with the state are bad; in Beck's (2000:3) words; regimes have employed state powers in authoritarian, corrupt and predatory manners.. Local communities have often tried to evade, rather than engage, state authorities". Generating processes where the actors manage to communicate and co-operate for the common good requires patience.

In this context, developing systems for combining scientific and participatory low-cost monitoring and control systems for the wildlife resources are crucial as is also pointed out by many authors; Hutton et al 2003, Danielsen et al 2003. The latter point out that such systems seem to be working best when;

- There are initiatives from government for sharing responsibilities with local people
- Rural societies have strong social coherence and a long history in the area
- The resources in question are not too valuable from an economic or ecological point of view- for external actors to intervene

This we believe is the case for Mt. Elgon.

To sum up, a change in the wildlife policies towards what has been more typical forest policies. Rather than preservation of nature, with restrictions and non-use approaches one should advocate a use oriented public and inclusionary approach typically of forest law (see Brown et al 2003) Exploitation of timber, regulated access, realistic licensing, rules to discourage damaging the resource. In line with this; we see the wise use of wildlife resource as a means to improve economic efficiency, wildlife resource management and governance.

6. Conclusions

There are substantial hunting activities in all investigated villages. Hunter groups report to hunt every week, both inside and outside the park itself. The hunting is basically for food (74%), but also traditional purposes (19%) and cash income (5%) are reported as reasons for hunting. Few report to hunt or kill crop raiding animals. Hunting is often carried out by particular hunting groups, commonly organised along kinship lines or by hamlets in the different villages. They share social values and norms and an experience-based local

knowledge about wildlife. The illegal hunting thus constitutes a social institution in the local communities; with informal rules for membership, for provision and appropriation, for monitoring and control, and for joint behaviour towards external agents.

People's attitudes towards wildlife reflect rather unison concern for wildlife relative to future generation, but they also express a use-oriented, utilitarian and dominionistic relationship to wildlife. They want to hunt, but also to keep wildlife for the benefit of future generations.

People accrue substantial costs living close to wildlife and even if there are good reasons to suspect over-reporting, annual costs are reported to constitute 21% of total gross household incomes. In view of this, and also that the problems have increased over the last ten years, it is interesting to register local people's general positive attitudes towards wildlife even if they stress the problems and costs of living with wildlife.

Park staff on their hand, view the costs of wildlife to be "not a major problem" – at least not when they compared to problems in other parks. This attitude may, however, not be very conducive for good co-operation- especially in light of the new participatory policies being launched in the park.

The present management system does not function well with respect to wildlife. Even future plans are dubious as wildlife is systematically excluded from the forest resource use agreements one has started to implement. The present *wildlife* management in Mt. Elgon is thus still a typical example of a top – down or a "fortress approach" that propagates wildlife protectionism and excludes local people through imposing penalties on wildlife-related activities and institutions. This study, however, reveals that while wildlife in Mt. Elgon is legally protected, it is in fact an open-access resource, as hunting is rather widely practiced both inside and outside the Park. It is this reality that must be addressed head-on when designing effective policies for the future.

What could be elements of such a policy? As Mt. Elgon National Park do not possess a database on the existing wildlife populations and no wildlife survey has been carried out so far, a rational policy is constrained as a point of departure. A survey of wildlife populations and estimates of possible sustainable take-offs should be carried out, followed by development of a low-cost database of the wildlife populations residing in Mt. Elgon. There is

also a need of detailed research on hunting patterns and ecology of the hunted species that take into account local culture, economic and political conditions. In addition to that, the effects of the wildlife hunting should be assessed together with the costs and benefits that local people acquire from living with wildlife. In order to understand the crop-raiding behaviour of the animals, mechanisms to control these animals and reduce their impact on the neighbouring communities must be developed.

It will not be possible to manage the wildlife resource in Mt.Elgon without co-operation between the park and the local people. The Fortress approach has failed in that it does not protect the biodiversity resources and do not yield net benefits to local people. However, experience now also tells us mixed stories about the participatory approaches. Still, a reversal to the Fortress approach will not solve the problem; or “No park is an Island, as Barrow et al, 2002 phrases it. There seems to be a need for models that attempt to be economically efficient, ecologically effective and that at the same time takes due consideration of the heterogeneity of local societies and conditions so as to secure reasonable distribution of costs and benefits also within local communities.

For Mt.Elgon National Park, wildlife has for some reason been excluded from resource use agreements. This seems unwarranted, even if it can be understood in a historical and institutional perspective. The park does not have “spectacular wildlife resources” and controlled hunting in specified buffer zones established through resource use agreements seems like a reasonable policy move. Furthermore, in a country about to rise after 30 years of civil war, the state and its officials has a substantial job to regain trust and legitimacy through “everyday state-making” operations. In meetings and in interviews it appears very clear that local people do not trust the state. In this context, the mindsets and practices of public bodies and officials need to change. In addition, local people need tangible results, at their doorstep, in a gradual process for social change between parties that at present have rather constrained relationships. We believe that a more open participatory approach on wildlife management in the case of Mt. Elgon could be one such move. We have identified what we believe are well-qualified groups in the local communities that have skills and experience-based knowledge in hunting. Through negotiations it should be possible to develop good co-operation schemes where local people are given rights to manage and utilize also wildlife resources under reasonable control by park authorities- coached poaching.

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8. References

- Adams, D. & D.Hulme (2001): If Community Conservation Is The Answer In Africa, What Is The Question?. *Oryx Vol 35. No.3 July 2001. 193-200.*
- Adams, W.M. And M. Infield (1999): Who Is On The Gorilla's Payroll? Claims On Tourist Revenue From A Ugandan National Park. *World Development. Vol. 31. No.1 177-190.*
- Adams, D. & Murphree, M. (2001): The Promise And Performance Of Community Conservation. In Hulme D. And Murphree M. (Eds.) *African Wildlife And Livelihoods. The Promise And Performance Of Community Conservation.* James Currey Ltd.
- Babbie, E. (1998): *The Practice Of Social Research.* 8th Ed. Wadsworth Publishing Company. USA.
- Barnes, R.F.W. (2002): The Bushmeat Boom And Bust In West And Central Africa. *Oryx Vol 36. No.3 July 2002. 236-242.*
- Barrow, E., Gichohi, H. Infield M. (2000): *Rhetoric Or Reality? A Review Of Community Conservation Policy And Practice In East Africa.* IIED,London. Evaluating Eden Series No. 5
- Barrow, E. And C. Fabricius (2002): Do Rural People Really Benefit From Protected Areas - Rhetoric Or Reality? [PARKS - Special Issue On Local Community And Protected Areas.](http://Wcpa.Iucn.Org/Pubs/Publications.Html) [Http://Wcpa.Iucn.Org/Pubs/Publications.Html](http://Wcpa.Iucn.Org/Pubs/Publications.Html) . Vol 12 (2): 2002.
- Beck.P. (2000): Collaboration And Credible Commitments: Experiments With Collaborative Resource Management In Uganda. Paper Presented At "Constituting The Commons: Crafting Sustainable Commons In The New Millennium," The Eighth Conference Of The International Association For The Study Of Common Property, Bloomington, IN, May 31-June 4, 2000.
- Bell, R.H.V. (1984): The Man-Animal Interface; An Assessment Of Crop Damage And Wildlife Control. In: Bell, R.H.V. & Meshane-Caluzi, E. (Eds.) *Conservation And Wildlife Management In Africa.* US Peace Corps, Washington DC.
- Bennett, L.E. & Robinson, G.J. (2000): *Hunting Of Wildlife In Tropical Forests: Implications For Biodiversity And Forest Peoples.* Biodiversity Series. Impact Studies. The World Bank Environment Department. US.
- Bernstein, H. And P.Woodhouse (2001): Telling Environmental Change Like It Is? Reflections On A Study In Sub-Saharan Africa. *Journal Of Agrarian Change, Vol 1. No.2. April 2001. 283-324.*
- Brochington, D. (2000): *Fortress Conservation. The Preservation Of Mkomazi Game Reserve, Tanzania.* Oxford Press: James Currey.

Brown, D. (1998): Participatory Biodiversity Conservation; Rethinking The Strategy In The Low Tourist Potential Areas Of Tropical Africa. *Natural Resource Perspectives*. No. 33- 1998. ODI. London.

Brown, D. And A. Williams (1998): The Case For Bushmeat As A Component Of Development Policy: Issues And Challenges. *International Forestry Review*. 5. (2) 2003.

Caldecott, J. (1988): *Hunting And Wildlife Management In Sarawak*. IUCN, Gland, Switzerland And Cambridge, UK.

Cameron, A. (1997): URL <http://www.env.leeds.ac.uk/elgon/mammal1.html> Accessed February 16, 2003.

Chambers, R. (1980): *Rural Development: Putting The Last First*, Harlow, England.

Chambers, R. (1992): *Rural Appraisal: Rapid, Relaxed, And Participatory*. IDS. Discussion Paper 311. Sussex.

Danielsen, F., M. Mendoza, P. Alcviola, D. Balete, M. Enghoff, M. Poulsen And A. Jensen (2003): Biodiversity Monitoring In Developing Countries. What Are We Trying To Achieve? *Oryx Vol. 37 October 2003. 407-409*.

Ferraro, P. and A. Kiss (2002): Direct Payments For Biodiversity Conservation. *Science* 298.

Fitter, R. & IUCN (1986): *Wildlife For Man. How And Why We Should Conserve Our Species*. IUCN, Collins Ltd, London.

Gibson, C. (1999): *Politicians And Poachers. The Political Economy Of Wildlife Policy In Africa*. Political Economy Of Institutions And Decisions. Cambridge University Press. 245 P.

Gillingham, S. And P. C. Lee (2003): People And Protected Areas; A Study Of Local Perceptions Of Wildlife Crop-Damage In An Area Bordering The Selous Game Reserve, Tanzania. *Oryx Vol. 37. No. 3. July 2003 316- 325*.

Gosalamang, D (2003): *Changing Legal Status Of Mt. Elgon Forest Reserve (Uganda) – Impacts On Local People's Livelihoods*. MSc. Thesis, Agricultural University Of Norway, NORAGRIC. Aas, Norway.

Heinen, J.T. (1993): Park-People Relations In Kosi Tappu Wildlife Reserve, Nepal: A Socio-Economic Analysis. *Environmental Conservation* **45**: 681-4.

Holmes, C.M. (2003): The Influence Of Protected Area Outreach On Conservation Attitudes And Resource Use Patterns: A Case Study From Western Tanzania.. *Oryx Vol 37. No.3 July 2002 305-315*.

Howard, C.P. (1991): *Nature Conservation In Uganda's Tropical Forest Reserves*. IUCN.

Hulme, D. and M. Murphree (1999): Communities, Wildlife And The “New Conservation” In Africa. *Journal Of International Development*. Vol. **11**. 277-285.

Hutton, J. and N. Leader-Williams (2002): Sustainable Use And Incentive-Driven Conservation: Realigning Human And Conservation Interests. *Oryx Vol 37. No.2 April 2002* 215-226.

IIED (1994): *Whose Eden? An Overview Of The Community Approaches To Wildlife Management*. London, IIED. Evaluating Eden Series No.8.

Infield, M. and W.M. Adams (1999): Institutional Sustainability And Community Conservation” A Case-Study From Africa.. *Journal Of International Development*. Vol. **11**. 305-315.

Infield, M. and A. Namara, 2001: Community Attitudes And Behaviour Towards Conservation: An Assessment Of A Community Conservation Programme Around Lake Mburo National Park, Uganda. *Oryx Vol 35. No1. January 2001*. 48-60.

Jankulovska, A. (2003): *People And Wildlife Of Mount Elgon National Park, Uganda*. MSc. Thesis, Agricultural University Of Norway, NORAGRIC. Aas, Norway.

Jaqueline, P. (1996): URL [Http://Www.Env.Leeds.Ac.Uk/Elgon/Trampling.Html](http://Www.Env.Leeds.Ac.Uk/Elgon/Trampling.Html) Accessed February 16, 2003.

Kamugisha, J.R. And M. Stahl (1993): Parks And People; Pastoralists And Wildlife. RSCU Report 7. SIDA. Nairobi. Kenya.

Kellert, S.R. (1980a): Americans' Attitudes And Knowledge Of Animals. Transactions Of The North American Wildlife And Natural Resource Conference 41:533-46.

Kellert, S.R. (1980b): Contemporary Values Of Wildlife In American Society. In Shaw, W.W. & Zube, E.H. (Eds.), *Wildlife Values*, Pp. 31-60. University Of Arizona Center For Assessment Of Noncommodity Natural Resource Values, Institutional Series Report No.1.

Kiiru, W. (1995): The Current Status Of Human-Elephant Conflict In Kenya. *Pachyderm*, **19**, 49-53.

Kings, S. (1996): URL [Http://Www.Env.Leeds.Ac.Uk/Elgon/Avifauna1.Html](http://Www.Env.Leeds.Ac.Uk/Elgon/Avifauna1.Html) Accessed February 16, 2003.

Kiss, A. (1999): Making Community-Based Conservation Works. Presented At The Society For Conservation Biology Annual Meeting, College Park, MD.

Mccracken, A., Pretty, W. & Conway, G. R. (1988): *An Introduction To Rapid Rural Appraisal For Agricultural Development*, International Institute For Environment And Development, London.

McLeod, K., Juch, P. & Otim S. (1997): URL [Http://Www.Env.Leeds.Ac.Uk/Elgon/Mammal2.Html](http://Www.Env.Leeds.Ac.Uk/Elgon/Mammal2.Html) Accessed February 16, 2003.

Mcparland, C. (1997): URL [Http://Www.Env.Leeds.Ac.Uk/Elgon/Avifauna2.Html](http://Www.Env.Leeds.Ac.Uk/Elgon/Avifauna2.Html) Accessed February 16, 2003.

Naughton-Treves, L. (1999): Whose Animals? A History Of Property Rights To Wildlife In Toro, Western Uganda. *Land Degradation And Development*. 10. 311-328. 1999.

NEMA (1998): *First National Report On The Conservation Biodiversity In Uganda*. NEMA, Republic Of Uganda.

NEMA (2001): *Second National Report On The Conservation Biodiversity In Uganda*. NEMA, Republic Of Uganda.

Ostrom, E. (1990): *Governing The Commons: The Evolution Of Institutions For Collective Action*. Cambridge University Press.

Parry, D. & Campbell, B. (1992): Attitudes Of Rural Communities To Animal Wildlife And Its Utilization In Chobe Enclave And Mababe Depression, Botswana. *Environmental Conservation* **19**: 245-52.

PMU & MEICDP (2000): Participatory Rural Appraisal. Report Completed At Kongit Sublocation Kongit Location Kaptama Division, Mt. Elgon District. Mt. Elgon Integrated Conservation And Development Project. Kitale.

Prins, H.T.H., Grootenhuis, G. J. & Dolan T, (2000): *Wildlife Conservation By Sustainable Use*. Kluwer Academic Publishers, Boston, US.

Reed, M. & Ingram, A. (1998): URL http://www.env.leeds.ac.uk/elgon/land_use.html Accessed February 16, 2003.

Reed, M.S. & Clokie, M.R.J. (2000): Effects Of Grazing And Cultivation On Forest Plant Communities In Mount Elgon National Park, Uganda, *African Journal Of Ecology* **38** (2):154-162.

Republic of Uganda (1995): *The Uganda Constitution*. Kampala. Government Printers

Republic of Uganda (1999): *The Uganda Wildlife Policy*. Ministry Of Tourism, Trade And Industry, Kampala, Uganda.

Robinson, G. J. & Redford H. K. (1991): *Neotropical Wildlife Use And Conservation*. The University Of Chicago Press. Chicago And London.

Scott, P. (1994): *Mount Elgon Conservation And Development Project: Assessment Of Natural Resource Use By Communities From Mount Elgon National Park*, Technical Report No. 15, IUCN.

Swan, J. A. (1995): *"In Defense Of Hunting"*. Harper Collins Publishers, New York.

Theis, J. & Grady, H. (1991): *Participatory Rapid Appraisal For Community Development*. London: Save The Children Fund.

Uganda Bureau of Statistics, (2002): *Uganda Population And Housing Census*. Provisional Results. Uganda Bureau Of Statistics, Entebbe, Uganda.

USAID/Uganda, (2001): Environmental Threats And Opportunities Assessment For Uganda. Biodiversity Assessment. Chemonics International Inc. Washington, D.C. And Makerere University, Institute Of Environment And Natural Resources, Kampala, Uganda.

UWA, (1998): *MENP: General Management Plan*. Ugandan Wildlife Authority.

UWA (Forthcoming): *Policy On Problem Animal Control*. UWA (Draft). Ugandan Wildlife Authority.

Vedeld, P. (2002): *The Process Of Institutional Building To Facilitate Local Biodiversity Management*. NORAGRIC. Working Paper No. 26. NORAGRIC, Agricultural University Of Norway.

Vedeld, P., A. Angelsen, E. Sjaastad and G.K.Berg (2003): *Counting on the Environment. Forest Environmental Incomes and Rural Poor*. (In Process). World Bank. Washington.

Wilson, S.E. (1995): *Bird And Mammal Checklists For Ten National Parks In Uganda*. Kampala: Makerere University, National Biodiversity Data Bank.

Woodhouse, P. (2003): African Enclosures: A Default Model Of Development. *World Development Vol 31. No.10. 1705-1720*.

Wroughton, R. C. (1910a): Some Servals And An Otomys From East Africa. *The Annals And Magazine Of Natural History*. (Pp. 205-207). London: Taylor And Francis.

Wroughton, R. C. (1910b): Two New Duikers Related To *Cephalophus Abyssinicus* And A New *Dendromus* From Mt. Elgon. *The Annals And Magazine Of Natural History*. (Pp. 273-275). London: Taylor And Francis.

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