The Eastern Lowland Gorillas
of the
Kahuzi-Biega National Park
in the
Democratic Republic of Congo (DRC):
A Literature Review

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#### The context as framework

In order to provide some structure to the literature review the notion of 'context' has been used. From a systemic perspective all contexts are inter-related, each impacting upon the other in a range of ways. The notion of contextual systems allows for a clearer understanding of the 'ripple' effect within, across and throughout systems. The contexts used within the presentation framework hereunder do not make a definitive list, but are rather those that clearly emerge as being critical or central to the current issue under consideration, the Eastern Lowland Gorillas, found in the Kahuzi-Biega area of the Democratic Republic of the Congo.

# **The Country**

The Democratic Republic of the Congo (DRC) is situated in equatorial central Africa. The country straddles the equator and covers an area of between 2 267 600 (United Nations, 2001) and 2 345 410 square kilometers (CIA, 2001), with



only three percent of its land being arable and 77% being forests and woodland.

Population estimations vary. In a report published in April 2001 the United Nations estimated the population to be 50 million (United Nations, 2001). Amnesty International (2001) suggested a population of 51.6 million, while the CIA (2001) estimated it to be slightly

higher at 53 624 718. Population life expectancy at birth averages for the total population to 48.9 and the fertility years, rate estimated for 2001 was 6.84 children born per woman. Infant mortality was estimated at 99.88 deaths per 1000 live births (CIA, 2001).



The citizenry is made up of a range of ethnic groups. According to the CIA (2001), over 200 ethnic groups can be identified as part of the population of the DRC while 45% of the population is made up of the four largest tribes, *viz*, Mongo, Luba, Kongo and Mangbetu-Azande (CIA, 2001). The country is currently administratively structured into ten provinces.

The DRC has a long history of turmoil and change. Across eras in its political history it has been known as the Congo Free State, Belgian Congo, Congo/Leopoldville, Congo/Kinshasa and Zaire. It gained independence from Belgium on 30 June 1960 and its first constitution was enacted in June 1967. A transitional constitution was promulgated in 1994 and a draft constitution approved by Laurent Kabila in 1998, has yet to be ratified by a national referendum.

Poverty is rife and thousands were facing starvation at the end of 2000 (Amnesty International, 2001), primarily as a result of ongoing war, displacement and exploitation. Inflation was estimated at

running as high as 540% during 2000, with the GDP 'real growth rate' being estimated as being –15% in 2000 (CIA, 2001). Human rights abuses too were rife, with organisations such as Amnesty International (2001) documenting killings, persecution of human rights defenders, political detainment, and the fact that at least 35 executions were conducted in 2000 by the Government, with an unconfirmed number also being carried out by the rebel forces.

The country is rich in natural resources. Cobalt, copper, cadmium, petroleum, diamonds, gold, silver, zinc, manganese, coal and coltan as well as timber, coffee and ivory are some of the resources that are found in the DRC (CIA, 2001; Agence France Presse, 2001). These resources have however, often been the subject of exploitation and struggles for possession and control, with Zimbabwe, Angola and Uganda the countries most frequently identified as guilty of the plunder of resources.

Greenpeace (2001) have commented on the plunder of natural resources such as forests. They made specific comment on the equatorial forests of Africa which make up the second largest tract of tropical forest in the world and are the home to 'human's closest relatives', the chimpanzee, dwarf chimpanzee and gorilla. Greenpeace (2001) noted that logging in itself in the central African region, is essentially a 'mining operation' where selective destruction of specific tree species that generally make up the forested habitats are facing the risk of extinction (Greenpeace, 2001).

# The Geography

The Kahuzi Biega National Park (KBNP) was officially established by decree on 30 November 1970, although part of the area had been recognised as a 'reserve' ten years earlier. In July 1975 a further decree increased the size of the park substantially from 75 000 ha to 600 000 ha and the park has remained this size since then (WCMC, 1998).

The KBNP is geographically located 50km west of the town of Bukavu in the Kivu Province, near Lake Kivu and the Rwandan Border. A small sector lies on the eastern side covering part of the Mitumba Mountains and is linked by a narrow corridor to a larger western sector in the Congo central basin. The official park entrance is at Tshivanga on the eastern side (WCMC, 1998; McGrew, Marchant & Nishida, 1996).

Besides its ecological value, the Kivu area is considered to have been rich in gold deposits with gold prospecting having originally taken place around, and even within, the park boundaries. Two extinct volcanoes, Mount Kahuzi and Mount Biega are key to the park's topography and it is from these that the park derives its name. The park is also in close proximity of the Rwandan border.

Kahuzi-Biega Park is a World Heritage Site (criterion iv)<sup>1</sup> said to be one of the two most biologically diverse sites in Africa (ECES,

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<sup>&</sup>lt;sup>1</sup> "contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation" (Unesco, 1999).

2001). The park was inscribed on the World Heritage List during 1980 (WCMC, 1998) and is recognised by the UNESCO World Heritage Convention as being of 'outstanding universal value' stressing the extent to which this area is of international significance. David Sheppard of the Swiss based World Conservation Union (IUCN, 2001) noted that "mining together with the presence of so many people looking for food is severely impacting on the ecology of these sites and is in flagrant violation of world heritage principles" (Straightgoods, 2001).

Records indicate that the park was initially established with the primary aim of protecting the Eastern Lowland Gorillas (ELGs) (*Gorilla beringei graurei*) which were living in the high altitude region. During 1997 formal processes to safeguard the park were set in place with the signing of a decree by the regional governor that resulted in patrols taking place within the park. By 2001 however, The Dian Fossey Gorilla Fund noted that Kahuzi-Biega rangers only patrolled 10% of the park area, while Hayes (2001) noted that in December 2001 Park officials maintained some form of control over only 5 - 10% of the KBNP. Meder (2001) concurred, commenting that 95% of the park was not under the control of the DRC conservation authority, the *Insitut Congolais pour la Conservation de la Nature*.

#### The Gorillas

The Eastern Lowland Gorillas (ELG), or Grauer's Mountain Gorillas, are a severely threatened sub-species (The Dispatch, 2001; ECES,

2001). They exist exclusively in the DRC with an estimated 86% of the total population inhabiting the area within and directly around the boarders of the Kahuzi-Biega National Park (Justgiving, 2001; Bailey, 2000; Hayes, 2001).

According to the BBC (cited in The Dispatch, 2001), 90% of all gorillas worldwide have been killed during the three years preceding 2001. The Eastern Lowland Gorillas have not escaped this mass decimation, and have, in many senses been catapulted to centre stage as a case study of the impact of human activity on wild environments, albeit too late and too slowly.

Indeed, ECES (2001) makes a strong point in their statement that these gorillas are being "wiped out". They suggest that between 1996 and 2001 the Eastern Lowland Gorilla population, resident primarily within the Kahuzi-Biega National Park has been halved due to human Exact numbers are difficult to ascertain since accurate counts have only occurred in the smaller eastern sector where historically there have been ranger patrols and research projects. The most current figures argue that there are less than 150 gorillas left in that area from a 1990 figure of 258-284 (WCMC 1998, Yamagiwa et al, 1993; ECES, 2001). This is supported in a Red Alert published by Filmmakers for Conservation (2001) which argued that at last count there were between 130 and 150 Grauer's Gorillas left in KBNP. Within the larger western sector of the park it had been estimated that approximately 8 000 gorillas existed prior to the 1998-present civil war (Bailey, 2000). Today it is generally accepted that most of these have probably been killed (Hayes 2001, citing Redmond, 2001).

Hayes (2001), speaking more generally of wildlife decimation in the area within which the Eastern Lowland Gorillas exist, noted that while the exact "toll is unknown", the majority of the sub-species had been killed. The Dian Fossey Gorilla Fund (2001) concur with Hayes (2001) with regards the original population size and note that only approximately 1000 of the ELG currently exist within the Park (personal communication, Cummings – Dian Fossey Gorilla Fund /Caine, 19 September 2001). Regardless of any differences in data, which may also be due to species definition or other variables, it is clear from all literature consulted that this sub-species (and indeed other species) in the area are under severe threat. As Clarke, (cited by Justgiving, 2001) noted, the ELGs were "highly endangered", and urgent action was required to prevent the sub-species from extinction.

# The People

At the time of the establishment of the park fifteen villages, described as being populated by "shifting cultivators" (WCMC, 1998 citing Hart & Hall, 1996), existed in the eastern areas of the park. The authors noted that these villages continued to exist in 1996.

The original Kivu province population was predominantly rural, and survived by means of agriculture and some level of subsistence hunting (WCMC, 1998). These peoples comprised seven tribal groups which included the Pygmy, Barega and Bashi tribes (WCMC, 1998).

Methods of agriculture included 'slash and burn' processes. In addition, local people prospected for gold within the general area of the park and inside its boundaries. The area is now considered to be one of the most densely populated in the country with (potentially outdated) data suggesting a density of 300 people per km square (WCMC, 1998). Economic and political developments may have increased this density somewhat. This assumption is supported by The World Conservation Union's statement in March 2001, that an additional 10 000 people had moved into the KBNP and another nearby park (IUCN, 2001; Harden, 2001). In addition, Pitman (2000, in The St Petersberg Times) noted that park officials claimed that approximately 3150 families had moved into the park illegally. On a broader level, Human Rights Watch (cited in Essick, 2001) estimated that 200 000 people had been displaced in the area, with 10 000 civilians said to have been killed.

Among the range of issues confronting these people, including violence, loss of land and income, poverty and civil war, Walker & Butembo (2001) have noted a negative impact on the health of the population. Infant mortality is estimated at 99.88 deaths per 1000 live births (CIA 2001). "In parts of the country, once known for exporting food, malnutrition rates for children under five have reached 30% and in the east of the country infant morality rates are estimated to have reached 41%" - (BBC, 2001, citing Peter Hawkins of Save the Children UK). Evidence from Kivu province is also suggesting that a 50% increase in the rate of stillbirths and birth deformities exists. The exact reasons for this are still under investigation but some doctors are blaming the substantial uranium deposits in the ground

which are uncovered during coltan mining (Walker & Butembo, 2001). However, the World Health Organisation (WHO, 2001a) noted that conflict in the region continues to hamper heath care work and has destroyed the health service provision infrastructure, preventing access to many areas. In a further publication by the Organisation (WHO, 2001b), comment was made of the serious impact on child mortality in the DRC by common childhood diseases such as malaria, measles, pneumonia, diarrhoea and malnutrition, what the WHO refers to as the 'major killers of children'.

# The Pygmy Peoples Specifically

# History and description

The term 'pygmy<sup>2</sup>' defines a people living in equatorial rain forests and averaging less that 150cm in height (Eder, cited by Learning Network, 2001). These people have also been described as a 'human sub-population' found not only in the central African tropical forests but also in the Malay Peninsula, the Philippine Islands, central New Guinea and the Andaman Islands of India (Yaeger, 2001). The largest pygmy population are the African Pygmies (Yaeger, 2001).

The African Pygmies, (numbering in total approximately 250 000 in 1998) have, according to some authors, lived in the DRC region prior to the arrival of other peoples. The most known pygmy tribes are the Mbuti/Bambuti, who are also the shortest human group, with an average height of 51 inches (Yeager, 2001). Eder (1987 cited in TLN, 2001) noted that some believed pygmies in the central African

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<sup>&</sup>lt;sup>2</sup> The term 'pygmy' is disliked by many given that it is often used as a term of contempt (Survival, 1998)

region to have pre-dated agricultural peoples in that region. This notion is supported by the *Programme d'Intégration et de Développment du Peuple Pygmée au Kivu (PIDP-Kivu)* who have suggested that the Bambuti 'Pygmies' were the initial human inhabitants of the Kahuzi forest areas. However, some contention exists with regards this, and suggestions are that the agricultural communities and the Pygmy groups have always coexisted (TLN, 2001).

Within the central African region the various groups of Pygmy people speak a range of languages (Survival International, 1998). In recent times it appears that they have adapted dialects from their settled neighbours (OTN Congo Glossary, 2001), however certain words shared by the various Pygmy people suggest that a common Pygmy language once existed (Survival International, 1998).

### Culture

Traditional Pygmy culture is without hierarchy and generally 'leaders' were identified 'merely as a reference point for outsiders' (Maricopa, 2001). This is supported by Survival International (1998) who noted that none of the Pygmy people 'have chiefs or formal systems of government' and that individuals are responsible for their own actions. Traditionally, disputes were resolved through peaceful means; humour, ritual, or disengagement. Folvary (1998) noted that the Pygmy cultures resulted in a people who have 'existed in harmony with the environment for thousands of years.' This was confirmed by Hallett (1987), the founder of The Pygmy Fund who is said to have worked extensively with groups of Pygmies, in his

statement that the pygmies lived 'in harmony with nature for an incalculable number of years.'

Hallett (1987), and almost every other author commented on the relationship between the Pygmy people and the natural environment. Hallett noted that 'they never killed an animal or even a plant without reason'. Yaeger (2001) commented on the Pygmy's 'natural and total harmony with their ecosystem.' This harmony is entrenched through a belief in the vision of the natural environment as a 'personal god' (Survival International 2001). This suggestion of harmony is carried through the literature on traditional Pygmy-environment relationships, but becomes a point of concern in commentary on contemporary interaction between Pygmy and environment.

#### The Threat

Survival International (2001) pointed out that the survival of all Pygmy people is currently under treat. The sources of the threat are, as pointed out by Survival International (2001), *inter alia*;

#### - Political violence

Ongoing political violence has resulted in wide-scale displacement of people, infiltration of rebel forces into traditional areas and depletion of natural resources. The resultant need for bushmeat and food generally has as its outcome a situation where Pygmies have been used as hunters by organised poachers (Gough, 2001)

# - Logging.

With West African forests depleted, a move towards the forests of central Africa resulted. International and regional/local exploitation of the forests has resulted in rapid destruction of the Pygmy environment, and in many senses, their traditional support and belief systems. Survival International (2001) also noted that landless farmers often move into forests after logging developments have taken root. They engage in further destruction and the introduction of 'a more commercial way of life.'

### - National parks.

The declaration of specific areas as national parks and reserves for wildlife resulted in the forced resettlement of the Pygmy peoples from these areas (Gough, 2001; Pitman, 1999) and the establishment of 'unnatural' boundaries which interfere with the traditional hunter-gather way of life of the Pygmies.

# - Government policies.

Over the decades extreme pressure has been placed on Pygmy people by a range of 'powers' of state. These have included colonial rulers, official governments and reel groups. Survival International (2001) noted that a general theme across 'governments' was the inclination towards non-recognition of Pygmy rights to forest areas, and Opressure to abandon forest life and 'integrate' into 'the life of the nation', through farming or other means. This has happened to some extent. As Survival International (2001)

pointed out, the Pygmy people 'are increasingly drawn to the mainstream of national life, though generally at the lowest level.'

It is clear from the literature that the existence of the Pygmy people is intricately liked to the existence of all dimensions of the natural environment. Perhaps the future of both are dependent upon each other and perhaps a key to the future lies within the comments of Survival International (2001)who mention increasing the consciousness of the Pygmy people of their exploitation. Social action from within the Pygmy peoples, demanding their rights to land and their environment could point to a future for both – this however would need to be facilitated with sensitivity and within the context of Pygmy culture.

#### The War

The CIA (2001) noted that the DRC "is in the grip of a civil war that has drawn in military forces from neighboring states." Haden (2001) described this war as "a sprawling and numbingly complicated civil war" which is at times referred to as "the deadliest conflict in the history of Africa." Linked to this, displacement and mass human movement has taken place (Amnesty International, 2001). UNICEF also reports the presence of child soldiers from the DRC in training camps in Uganda. The youngsters, aged between nine and 17, numbered 163, and among them were three girls. The UN reports that recruitment of child soldiers continues in rural areas (BBC, 2001).

Much of the recent human movement into and around the Kivu province and the KBNP stems from an economically based motive, possibly framed within the broader ambit of a civil war, and fuelled by the looting of the natural resources with Zimbabwe, Uganda and Angola the most frequently named culprits. While the politics of the region have brought about wide scale human displacement and major changes in the structure of the country (including a name change), the current foundation remains one driven by the interaction of geopolitics, economics and the basic need for survival (CIA, 2001; Meder 2001).

It is a well-known fact that the DRC has been embroiled in civil war for a number of years now (CIA, 2001; Meder, 2001). This war has been well documented across the array of media formats and will not therefore be presented in much detail here. This is not an attempt to minimise the war and its impact, but rather a pragmatic step within the framework of the task at hand.

Meder (2001) noted that the current cycle of war in the Great Lakes Region started in 1994. According to Essick (2001) the civil war in the DRC specifically was, in 2001, in its third year. Rebels, who appear to be funded by Uganda and Rwanda have waged a battle against the government of the DRC (Essick, 2001). Burundian rebels are also said to be involved in the war against the DRC government. Within the decade 1990-2000 troops from Zimbabwe, Angola, Namibia, Chad and the Sudan have also engaged in operations within the DRC (CIA, 2001).

The government, previously headed by the assassinated President Laurent Kabila, is currently headed by his son, Joseph. The Kabila governments appear to be backed by Angola, Zimbabwe and Namibia (Pitman, 2000).

It is the 'rebels' who are said to be central to the developments that directly impact on the viability of the ELGs and other species. They are said to occupy large tracts of land in the northern and eastern areas of the DRC and, according to Pitman (2000), are said to be disliked by most civilians and blamed for the "plundering (of the DRC's)... vast mineral wealth", and in particular 'coltan'.

According to the United Nations Report published in April 2001 (United Nations, 2001), the KBNP specifically, was controlled by Rwandan rebels and the RCD-Goma (*Rassemblement Congolais pour la democratie*; Rally for Congolese Democracy). The report has been refuted by a range of role players, including the millionaire businessman Mr Bemba (Agence France Presse, April 17. 2001) who said the report was "biased" and claimed "the finances of the movement are an open book and have been subjected to accounting since the first day of the rebellion." This response was echoed by others who allege that the UN Report "concentrates only on the activities of the 'uninvited' combatants in the DRC (Rwanda and Uganda) whilst not interrogating sufficiently the role of the 'invited' participants such as Angola and Zimbabwe." (EDC News – 2001)

Regardless of the complex historical reasons for the conflict in the DRC there is no doubt that it is perpetuated for economic reasons. The DRC is a perfect example of "predator economics" centered on the struggle for the control of natural resources, one of them being coltan (Hayes, 2001).

### The Magic Dust – Coltan

Coltan, or Columbite Tantalite (also referred to as Columbo Tantalite by some), is a mineral that requires low-tech methods of extraction. It has been suggested (Pitman, 2000) that the substance has been mined in the DRC area since the 1980s, but the upswing in demand is a relatively recent phenomenon.

According to Essick (2001), coltan is possibly one of the world's most 'in demand' materials, this being a result of its heat resistance when processed – resulting in a substance then known as tantalum. Essick refers to this substance as a 'magic dust' because of its impressive qualities. It is a core component in high-tech items that are increasing in market demand. These items include cellular telephones and computer components (Essick, 2001; Pitman, 2000; Walker and Butembo, 2001; and others). The material is also used in "electronic circuitry... in light-bulb filaments, nuclear reactor parts, superconductivity research, and in corrosion-resistant metal alloys" (Pitman, 2000).

The impact of globalisation has not ignored the DRC. Harden (2001) suggested that "globalisation was causing havoc" in the DRC. An

example related to the fact that during 2000, a world wide shortage of tantalum was experienced (United Nations, 2001). This, as Hayes (2001) noted, had a profound effect on the DRC, when miners moved from gold to coltan mining and many farmers abandoned their land to mine. Hayes (2001) also noted that youth and Rwandan prisoners were forced into mining, often under military supervision. Harden (2001) concurred, noting that "local people were getting paid next to nothing to ruin their country's environment."

Essick (2001) noted that "the first wake up call" to the hi-tech industry with regards the problems related to coltan extraction in the DRC came a year later, in April 2001 when a UN report was published. Attention then began to focus on just exactly what was happening in the DRC.

The levels of extraction of coltan are high in the DRC. Although the DRC is not the prime source of the world's coltan needs (other countries such as Australia, Canada and Brazil produce it), it is the source of the highest level of illegal trade in the substance (Essick, 2001).

The coltan industry generates enormous revenues for a wide range of individuals and groups within the DRC. The Rwandan backed Congolese Rally for Democracy (RCD) is known to make substantial profits from this trade. Figures range from the estimated \$1 million<sup>3</sup> per month in coltan revenues which is supposedly received through

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<sup>&</sup>lt;sup>3</sup> The unit of currency for this review is United States Dollars, symbolised as \$

monopoly dealerships (United Nations 2001)<sup>4</sup> to the \$2 million which Ruberwa Azarias, the RCD Secretary General admits to earning in 2000 (Duval Smith, 2001). Over and above this, it is suggested that exporters pay the rebel regime approximately \$15000 per year for an export license and an additional approximate 11% in taxes (Pitman, 2000). In addition to this the Security Council Panel (United Nations, 2001) also estimate that the Rwandan army could have made \$20 million per month simply by selling coltan, that on average, intermediaries buy from small dealers at about \$10 per kilogram. Reports suggest that the substance, in its raw form, sells for between \$30 - 100 per kilogram, and most medium sized dealers trade in about 500 kg per day. Local, economically marginalised people who are paid small amounts for their manual labour conduct the extraction process.

While a recent fall in the price of coltan, coupled with an international market surplus, has resulted in a slowdown in the extraction rate of coltan, mining continues to provide one of the few sources of regular income available to individuals in the area.

### Coltan and the Gorillas

The link between the extraction of coltan and the ELG population is not as simple as it may initially seem. Indeed, multiple processes result in coltan's impingement on the gorillas, the most obvious being the decimation of gorilla habitat for mining uses (with the plunder of the forests for hardwoods also contributing to this).

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<sup>&</sup>lt;sup>4</sup> RCD- Goma had given a monopoly of coltan trade to SOMIGL in exchange for which it received \$1 million monthly (pg 32, UN Security Council Report s/2001/357) This monopoly was lifted in April 2001 following the Security Council

It is well documented that uncontrolled or poorly planned human influx into an area impacts negatively on most other elements of the environment (IUCN, 2000; Kohl, 2001; and others). previously, the influx of at least 10 000 people as individuals or in family groups into the area (Amnesty International, 2001; Kohl, 2001; Pitman, 2000) will have an obvious impact on the natural life of the environment. Although generally surface mined, the coltan mining process does require some extent of vegetation clearing. Trees (or at times their bark) are used in the process of separation of light and heavy minerals. Channels are carved from the logs and water thrown into the channel to separate the minerals. This method is not only environmentally problematic at the most basic level (reduction of forested areas) but also inefficient in trapping fine coltan. Trees harvested for this purpose, or in cases were bark is striped from trees and used for similar purposes and causes death of the tree, are not replaced and their resources not maximised for benefit (personal communication Cummins/Cymorek, 7 September 2001 per e-mail).

The area within which coltan is being mined has not had a strong economic and commodity supply infrastructure - this was noted earlier when 1996 reports indicated that only 15 villages existed in the area (WCMC, 1998). There is limited food production and no livestock farming which could support the high influx of people into the area. Gorillas have, in this way, become a targeted food source along with other wildlife in the area. Kohl (2001) noted that the problem is less one of conflict between mining *per se'* and the natural

habitat, but rather that miners kill gorillas as a food source. Hayes (2001), in a comprehensive report on the situation, noted that while miners themselves did not necessarily kill the gorillas, neither did they bring with them any form of livestock to provide a sustainable source of food. With wildlife supplying an estimated 80% of the protein consumed in the DRC the need for alternative viable protein supplements is of paramount importance.

Hayes (2001) suggested that a group of approximately 300 'professional hunters' provided the miners with wildlife, using firearms that were provided by the rebel armies who held ultimate control over the mining process. Hunting is a lucrative profession for people with few options and Congolese bushmeat hunters can earn between \$300 and \$1000 a year in an area where an average family lives on \$100 (Hayes 2001, citing Harman, 2001).

### The Gorillas and the broader context: Bushmeat

A further issue that facilitates the use of gorillas as a food source is the lack of cultural taboos towards ape meat in the DRC area, although taboos of this nature are said to exist in Uganda (Hayes, 2001).

Bushmeat has also begun to develop a following in cities such as Brussels and Paris where it is considered a delicacy by some. In fact, Hayes (2001) has reported a potential increase in the use of 'bushmeat' in countries outside of Africa with most consignments coming from Africa and Asia. Hayes (2001) noted that almost 200

seizures of illegal meat take place each month at Heathrow airport alone and in 2000, eight headless gorillas were confiscated at Heathrow.

"Illegally imported meat was identified by Nick Brown, the UK Minister for Agriculture, as the probable cause of the 2001 outbreak of foot and mouth disease in Britain" (Hayes citing Brown 2001).

The Bushmeat Crisis Task Force estimated that up to 1 million metric tones of wildlife is killed for meat each year, the equivalent of roughly four million cattle. The Congo Basin is one of the hardest hit areas with the highest *per capita* consumption of bushmeat and where gorillas are considered 'fair game' (Filmakers 2001).

Meder (2001) noted that the local population around and within KBNP hunted and consumed bushmeat as a result of the situation they found themselves in. Specific causes that arose from the research conducted by Meder and colleagues (2001) included;

- Poverty with its related hunger, malnutrition and consequent hunting. Poor education and corruption were also raised in relation to poverty.
- Ignorance; poachers and members of the surrounding communities tend to be illiterate and this results in an inability to discern which animals may be endangered or not. Environmental education is not understood when provided.
- Marginalisation; the Pygmy people have lost land by forced removal and without compensation. This creates the classic resistance to conservation. In addition, their culture creates an

identity of a 'forest people' and activities such as bushmeat hunting have a strong cultural significance.

In a comprehensive report on a participatory process held in the KBNP area, Meder (2001) arrived at recommendations to stem the use and market for bushmeat that evolved from local responses. This comprehensive process resulted in wide ranging suggestions, which included, *inter alia*, the following:

- War: Finding solutions to end the war in the general Great Lakes
   Region. A somewhat ambitious response that would require intricate and complex international interventions.
- The development of government regulations for mining the resources of the park. This again is a difficult potential solution given issues of questionable government legitimacy and complex power dynamics.
- The possible introduction of 'domestic' farm animals (such as rabbits, pigs and goats) as an alternative source of meat. To this effect a pilot has been initiated by the KBNP-GTZ (*Deutsche Gesellschaft für Technische Zusammenarbeit*).
- Urgent humanitarian strategies to address the needs of the disenfranchised and landless Pygmies.
- The deployment of police in the park to strengthen the work of the rangers.
- Attention must be paid to the role of women and the plight of children in the survival of the people in and around the park.
- Gorilla tourism must be promoted, along with international lobbying for solutions to the current situation.

#### Recommendations that evolve from the literature review.

Many recommendations can be found throughout the current literature and from these there appear to be some common themes:

- References to the roles of Zimbabwe, Angola and Uganda frequently recur and these countries activities appear to be central to the plunder of resources and the destruction of habitat in the DRC|, with the consequent peril this poses to the gorilla population. Given the sobering nature of the UN report and the willingness of their panel to be frank and honest perhaps this provides a window for a strategic lobbying process which with key international agencies.
- There is a need for ongoing education initiatives at grassroots level (in the DRC), and also at national level within the country. These could inform of the value of the natural environment, the worth of the "tourist dollar" and the impact of that income on job creation.
- A global campaign to inform consumers of the 'blood price' of both coltan and furniture made from African hardwoods could be part of this education drive. These initiatives should be carefully targeted, and could include advertisements/articles in magazines and computer trade publications to inform computer users about coltan. Also, lobbying and information to European furniture manufacturers and consumers might also be well placed, for furniture made from African hardwoods (culled from ancient forests) is in high demand in Europe.

- High profile companies such as 'Diesel Clothing', that currently has an "African theme" advertising campaign, could be encouraged to include issues such as these in a broader information campaign.
- There are constant references to the need to address the issue of hunger and lack of food sources within the KBNP environs. This is linked to recommendations for increased income generation projects and also projects which provide other sources of protein and alternate sources of employment for miners.
- The need to support and assist rangers in the Park through training programmes which increase their skills and use of technology, and their awareness of the critical and central role they play in gorilla conservation. It is also important to link that to the role that gorillas play in tourism and the benefit of income from tourism to the people in the DRC. While the rangers remain poorly paid, training in technology, better uniforms and efforts to increase their esteem and self worth might be well placed.

With the above issues as a foundation for future action, possibly the most salient recommendation could relate to the plight of the Pygmy peoples. These largely disenfranchised people are on a path towards extinction. As potentially the earliest inhabitants of the area their situation and the inextricable links that they have with the total ecosystem might be key to the survival of the gorillas, the forests and themselves. The interdependence of the three elements means that

any action taken by the Pygmies to secure their rights to land - to regain their foothold in the forest, and to take back their natural heritage, will impact positively on the rest of the ecosystem; gorillas included. Landrights are an issue with an international domain – international law recognises the landrights of disenfranchised peoples. The return of land to original inhabitants is a process gaining increasing international support and momentum. However, any moves towards socio-political mobilisation of the Pygmy groups must be sensitive to their culture of harmony and non-conflict.

What is apparent from all the literature is that while there are numerous concerned individuals and organisations, only a concerted multi agency approach has any chance of success. This would support the Dian Fossey Gorilla Fund (UK) proposal for a well designed and focused gathering of key stakeholders to define a coordinated response to the current crisis

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