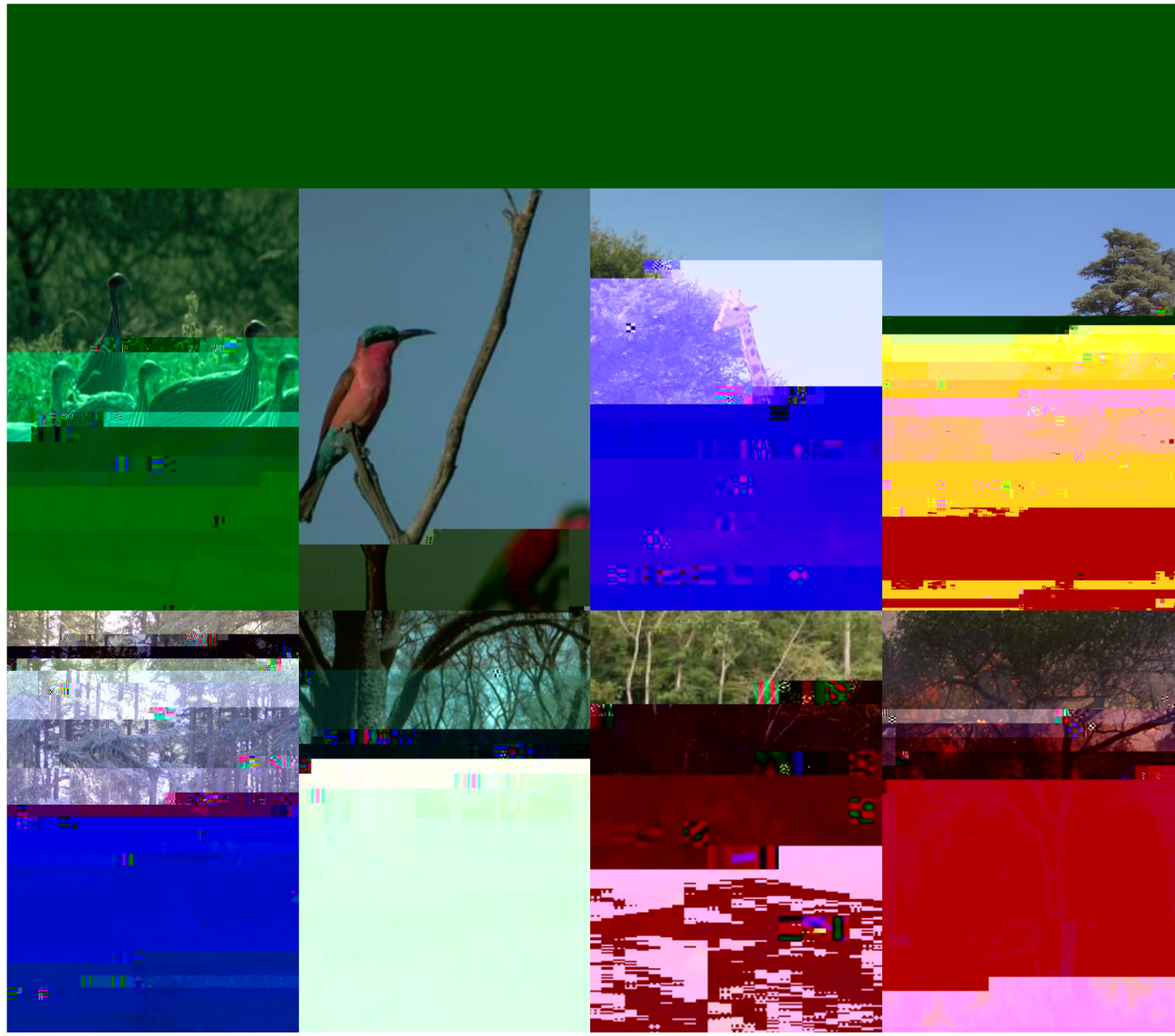


Front Cover Photos, From Left:
Top: FAO/ FO-0964, Guinea fowl, Somalia, Susan Braatz; FAO/ CFU000393, Bee eaters (*Merops nubicus*), Zambia, Roberto Faidutti; FAO/ FO-5569, Giraffe in West Africa, Niger, Marguerite France -Lanord; FAO/ FO-6256, *Cedrus atlantica* forest, Morocco, Gillian Allard

Bottom: FAO/ FO-6274, Bales of lichen, collected in cedar/oak forest, ready for shipment, for use in the perfume industry, Morocco, Gillian Allard; FAO/ FO -0380, *Acacia nilotica* on the banks of the river Nile, Sudan, Christel Palmberg Lerche; FAO/ FO -6339, Riverine vegetation, Tanzania, Gillian Allard; FAO/CFU000204, Peul shepherds set fire to a forest to create pasture, Central African Republic, Roberto Faidutti

Back Cover Photos, From Left:
Top: FAO/ CFU000280, View of a primary forest, Uganda, Roberto Faidutti; FAO/ CFU000384, Forester

Nature & *Faune* is an international publication dedicated to the exchange of information and practical experience in the field of wildlife and protected areas management and conservation of natural resources o n the African continent. *Nature* & *Faune* has been in wide circulation since 1985.

Nature & *Faune* is dependent upon your free and voluntary contribution in the form of articles and announcements in the field of wildlife, forestry and nature conservation in the Region.

Nature & Faune

Vol. 23, Issue 1

Forest Management in Africa:
Is wildlife taken into account?

Editor: Foday Bojang
Assistant Editor: Ada Ndeso-Atanga
FAO Regional Office for Africa

nature-faune@fao.org
http://www.fao.org/world/regional/raf/workprog/forestry/magazine_en.htm

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Accra, Ghana
2008

Table of Content

F

Wildlife in forest management in Africa

Robert Nasi[1]

Importance of wildlife for the maintenance of functional forest ecosystems

Human activities in tropical forests are disruptive processes and can trigger numerous, yet not completely understood, mechanisms or effects which will in turn alter, in a more or less significant way, the overall function, structure and composition of the ecosystem. Plant regeneration (loss of pollinators, seed dispersers and seed predators), food webs (loss of top predators or of their prey), and plant diversity (change in herbivory patterns, increased pests) are amongst the various processes dependent upon the presence of wild fauna. Some species or functional groups matter more than others in maintaining ecosystem processes and integrity. “Keystone species”, “ecosystem engineers” or organisms with high “community importance values” refer to species whose loss has a disproportionate impact on the ecosystem when compared to the loss of other species. Conventional wisdom predicts that the reduction or extirpation of these animals will result in dramatic changes to the ecosystems.

The importance of considering these keystone species in forest management is illustrated by the many examples. Large cats' extirpation triggers an uncontrolled growth of the prey population which in turn dramatically increases browsing or grazing intensity to the point where forest regeneration can be totally prevented. Elephants have a tremendous role in modifying vegetation structure and composition through their feeding habits (differential herbivory, seed dispersal) and movements in the forest (killing a large number of small trees). Wild pigs (*Sus spp*., *Potamochoerus sp*, etc.) and some antelopes are among the most active seed predators. A significant change in their population densities will have a major effect on seedling survival and forest regeneration. Many key forest tree species such as *Milicia excelsa* (Iroko) are disappearing or are not

(logging, mining, and oil-drilling, primarily) because in the course of their activities, companies directly destroy critical habitat, disturb movement patterns and alter behaviour of local wildlife; as well as indirectly facilitate hunting by building roads and/or providing hunters with transportation. The establishment of camps with better living standards than surrounding villages creates an immigration flux and increases demand for protein, while as industrial activities stimulate the local economy, increased income allows hunters

Biological Diversity, Montreal, and Center for International Forestry Research (CIFOR), Bogor. Technical Series no. 33, 50 p.

Stoner, K. E., K. Vulinec, S. J. Wright, and C. A. Peres. Hunting and Plant Community Dynamics in Tropical Forests: A Synthesis and Future Directions. Biotropica 39(3): 385–392 2007

Taylor, D.A.R., Kankam, B.O. and Wagner, M.R. 2000 The role of the fruit bat, *Eidolon* helvum, in seed dispersal, survival, and germination in Milicia excelsa, a threatened West African hardwood *In* Research Advances in Restoration of Iroko as a commercial species in West Africa. Edited by J.R. Cobbinah and M.R. Wagner 2000

Announcements

New Leadership

Mr. Foday Bojang takes reins of office

We are digBT57.2848 74geadership

Thematic News

FAO creates a website for wildlife and protected areas activities
Source: FAO Forestry Department, Viale delle Terme di Caracalla
00153 Rome, Italy
A website for wildlife and protected areas activities is now up and running in the FAO Forestry Department.
For more information, please see: http://www.fao.org/forestry/44517/en/

Over 125,000 endangered western lowland gorillas discovered in the forests of the Republic of

The Sustainable and Thriving Environments for West Africa Regional Development Program (STEWARD) is a joint effort spearheaded by the US Agency for International Development

- Increased biodiversity conservation
- Improvement of ecosystem function and integrity
- Development and modeling of viable incentives for sustainable natural resource management that takes account of wildlife populations
- Increased awareness and codification of community rights and responsibilities in regard to engaged and sustainable management of natural resources in the region.

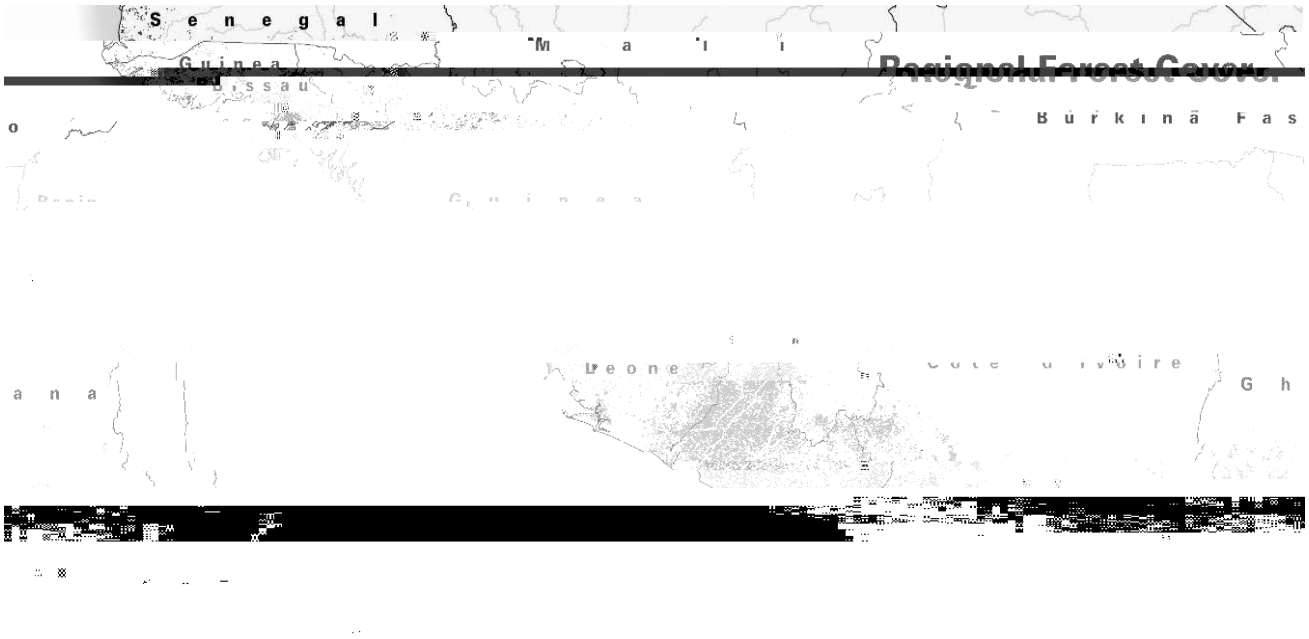


Figure 1: Upper Guinean Forest Ecosystem, Regional Forest cover

STEWARD has benefited and drawn from analyses of the region's biodiversity by Conservation International, Fauna and Flora International and other groups. The Upper Guinean Forest Ecosystem extends from southern Guinea into Sierra Leone, through Liberia and southern Côte d'Ivoire into Ghana. It encompasses 420,000 km2 and is a high global priority for biodiversity conservation. The region as a whole has historically been overlooked and under-resourced, and natural resource management practices and systems have, by and large, not kept pace with the evolution and improvements that have occurred in other regions. The region is also under threat from a range of unsustainable practices and land use pressures, extractive industries and as a source area for commodities such as rubber, cocoa and oil palm. Given the recent history of conflict in several of these countries, it is also of strategic importance in terms of peace building.

Due to a variety of factors, original forest cover in the area has been reduced to less than twenty five percent of the region. Critical biodiversity is threatened by extreme habitat fragmentation and land degradation. The complex, multi-sector forces at work necessitate an integrated, regional approach for balancing conservation needs with livelihood and development priorities, building on existing national initiatives in the Upper Guinea countries. It is in response to this need that STEWARD was created.

[4]US Forest Service FRAMEweb site: www.frameweb.org/ev_en.php?ID=7709_201&ID2=DO_TOPIC
STEWARD FRAMEweb site: www.frameweb.org/ev_en.php?ID=92332_201&ID2=DO_COMMUNITY

Articles

SUSTAINABLE MANAGEMENT OF MAMMALS IN MANAGED FOREST CONCESSIONS ON THE OUTSKIRTS OF PROTECTED AREAS IN THE CONGO BASIN

Project for the development of a practical evaluation and monitoring method for wildlife in ALPICAM forest concessions at the outskirts of the Lobéké national park, Southeast of Cameroon

Didier Bastin[1] and Corinne Maréchal[2]

Summary

The paper reports the on-going and future implementation of a project about the development of a practical evaluation and monitoring method of the status of mammals in ALPICAM forest concessions on the outskirts of the Lobéké national park (Southeast of Cameroon). The objective is to develop a management tool for large mammal fauna intended for forest managers and logging companies.

Background

Today it is an established fact that forests located outside

In practice, various specific objectives aim at:

1. the evaluation of different wildlife inventory methods implemented to

The potentials in wildlife resources in Kika FMUs is still substantial with the proven presence of various charismatic species: elephant, great apes, bongo, sitatunga,

Certification monitoring indicators

Based on bibliographic analysis, known experiences and primary results of our research-action, a list of all monitoring (and evaluation of monitoring performance) of wildlife in forest concessions will be prepared. Among them, key indicators, those that are the most relevant in the context of forest industry, will be selected. A summary table (or 'control panel') will be

proposed to present selected indicators usable by forest managers and other actors of sustainable forest and wildlife resources management. This table will aim at contributing to the practical implementation of the certification approach for a sustainable forest management (SFM) strategy as regards wildlife management in forest concessions.

Beneficiaries

In addition to their usefulness for wild species, actions carried out during the project as well as results obtained will be directly exploited by ALPICAM in the context of sustainable development of its forest concessions in the Southeast of Cameroon and of its SFM certification objective.of

References

Billand, A., Rieu L., Fargeot C., & Chiaverini M. 2005. Etude sur le plan pratique d'aménagement des forêts naturelles de production tropicales africaines. Application au cas de l'Afrique Centrale. Volet 3 « Aspects faunistiques ». ATIBT, Paris, France. 99 pp.

Bobo, K. S. 2007a. Statut des grands et moyens mammifères, des activités anthropiques et des oiseaux dans l'UFA 10-051. Rapport final, novembre 2006. JMN Consultant, Yaoundé, Cameroun. 51 pp.

Bobo, K. S., 2007b. Statut des grands et moyens mammifères, des activités anthropiques et des oiseaux dans l'UFA 10-053. Rapport final, novembre 2006. JMN Consultant, Yaoundé, Cameroun. 54 pp.

Bombome, K. K., Djoufack, S. D. & Epanda, M. A. 2003. Densité, abondance relative, distribution des grands mammifères et impact des activités humaines dans l'UFA 10 026. ONFi-SZRA-JMN. 34 pp.

Maréchal, C. & Bastin, D. 2008. Test de la marche de reconnaissance dans une unité forestière d'aménagement du sud-est du Cameroun. *Bois et Forêts des Tropiques*, 297 (3) : 85-89.

Marechal, C., 2006. La gestion de la faune en dehors des aires protégées du bassin du Congo. La question des inventaires de grands mammifères dans les forêts aménagées. Mémoire de fin d'études, université de Liège, Belgique, 60 pp.

Nzooh Dongmo, Z.L., Bassama, C. & Konje, P. 2004. Statut des grands et moyens mammifères et des activités humaines dans l'UFA 10-013. WWF-CFE, Yaoundé, Cameroun. 54 pp.

ONFi-HFC. 2003. Plan d'aménagement 10-063. 62 pp.

Tutin, C.E.G., Porteous, I.S., Wilkie, D.S. & Nasi, R. 2001. Comment minimiser l'impact de l'exploitation forestière sur la faune dans le Bassin du Congo. ADIE, Libreville. 36 pp.

Using landscape approaches to improve the integration of wildlife in forest management plans

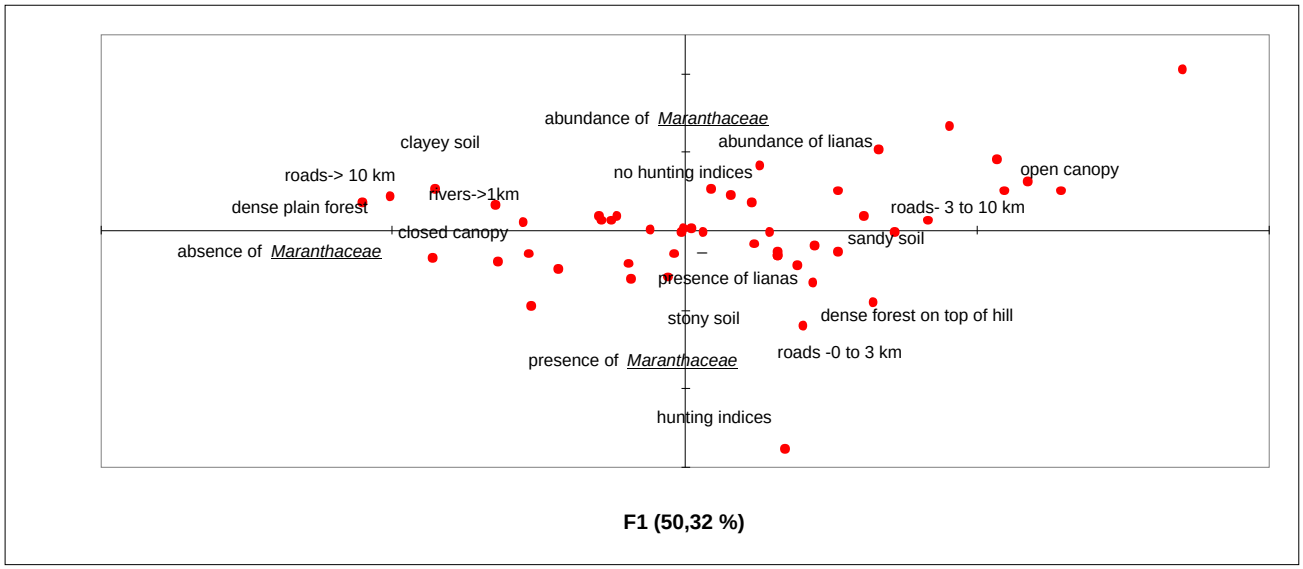
Nathalie Van Vliet[1] and Robert Nasi[2]

SUMMARY

Logging concessions can affect wildlife populations through indirect or direct effects. However, if wildlife is appropriately taken into account in the forest management plans, then logging concessions can become an opportunity for conservation, as they can play a crucial role as buffers around protected areas. In the last

Table 1 : Common and scientific names of the mammal species selected for our analysis

Scientific names	Common names
Atherurus africanus	b



0 0 6.4650 T04BT0.0000a00 0700 1.0000 -BT00 07BT4357.BTC2133.T9824.42400 0.90 0 6.4650 T04BT0.0000a00 0700 1.0000 -BT00 07BT4357.BTC2133.70386.7240

Nasi, R, Cassagne B, Billand A (2006) Forest management in Central Africa: where are we? *International Forestry Review* 8(1):14-20

Struhsaker TT (1998) Ecology of an African Rain Forest: Logging in Kibale and the Conflict between Conservation and Exploitation. Gainesville: University Press of Florida

Van Vliet N, Nasi R, Batsielili A, Moussavou I (2004) Les données Biodiversité et les Inventaires: quelle utilité pour l'aménagement des forêts en Afrique. Rapport CIRAD pour le Fonds Français pour l'Environnement Mondial, Montpellier, Paris

White L (1998) Exploitation forestière et gestion de la faune au Gabon. Canopée, 11

Table 1

Draft guidelines

The result of the work was the drafting of a set of Guidelines that are to be debated by the ITTO Council in November of 2008 (ITTO/IUCN *in press*). They propose the following as a set of best practice Guidelines which, if followed, would ensure that tropical production forests become a major resource for tropical biodiversity.

Table 2. Summary of the draft ITTO-IUCN Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests.

Principles	Guidelines
1: Sovereignty and societal choice	**1:** National, regional and local biodiversity strategies, plans and regulations that are based on national and local priorities should be reflected in the management of tropical production forests.
	2: Biodiversity goals and targets for tropical production forests should be developed with the involvement of all relevant stakeholders with particular attention to the needs and priorities of local communities.
2: International commitments	**3:** International commitments for the conservation of genes, populations, species and assemblages of species or habitats should be reflected in the legal and regulatory frameworks guiding the allocation and use of land for production forestry.
	4: Special measures will often be required when species and populations that are internationally recognized as rare, threatened or endangered occur in or adjacent to forest management areas.
3: Political commitment, policies and laws	**5:** The values of biodiversity as a global resource, a vital component of ecosystems, and a key element of local livelihoods should be demonstrated and communicated to all stakeholders, including decision-makers.
	6: Appropriate policies, laws and regulations should be developed and implemented to ensure that global and local biodiversity interests are adequately addressed in the management of tropical production forests.
4: Land use and spatial planning	**7:** National land-use planning processes and forest and environmental laws should explicitly address issues of biodiversity conservation in forests at all spatial scales.
	8: Inconsistent or contradictory land-use policies and laws at national and sub-national levels that conflict with biodiversity conservation or do not support SFM in general should be identified, reviewed and modified.
5: Decentralization, forest tenure and natural resource access rights	**9:** Local communities should have the right to use biodiversity to meet their economic and cultural needs and should be involved in its management and protection. Clearly demarcated and defined tenure and resource use rights might benefit biodiversity by providing local people with incentives for conservation.
	10: Arrangements regarding forest ownership and use at the landscape scale should be favourable for the conservation of forest biodiversity.
6: Incentives	**11:** Managers of tropical production forests should be compensated for the incremental costs of biodiversity conservation measures.
	12: Independent voluntary forest certification should encourage forest managers to conserve forest biodiversity, including by providing incentives that are
	13: Subsidies and credits should be made available to offset the costs of biodiversity conservation in tropical production forests. Subsidies and credits that favour deforestation or forest degradation should be identified and progressively eliminated.
	14: Governments should make use of International payment/financial mechanisms to support and offset the incremental costs of conserving global biodiversity values and use these as an incentive to encourage biodiversity conservation in tropical production forests.

488.1941 cm re11461.9375 mrg06 584.0127 m156.5555 583.5402 l1..93675 in5800

encon.mr7251 l61.5830 44.9351 l rgKTD9.0399 l152.7755 489.0399 l152.00 rgBTk99 l152.00 rgBTk99 l152.00 rgBTk99 l152.00 rgBTk99 g535.5006 340.674cg53

8: Managing tropical production forests at

and the provision of incentives to loggers. A separate section of Guidelines addresses the issue of the costs and benefits of adopting more biodiversity- friendly logging practices. IUCN and ITTO will now collaborate to help timber companies and governments in the tropics to apply the Guidelines on the ground. Training will be provided and these organizations hope to sponsor pilot projects to help motivated companies to improve biodiversity conserv29.44i

[1]Directeur, Radio Communautaire Tayna, Nord Kivu, République Démocratique du Congo

The strategy used in creating and managing that reserve advocates for the coexistence in the same ecosystem of wild animals, plants and humans. The human-forest relationships are the target of all procedures of nature conservation in TNR. This ideal concept is promoted in TNR instead of attempting to suppress it, as is the case in national park systems where forceful methods are used to keep neighboring communities from enjoying certain rights of the area protected by the public service.

This method could contribute in avoiding human-protected area conflicts in most of the National parks in the DRC. Thus, there is a need to recommend it to those desiring to contribute to the global efforts being made to save the web of life.

This article aims to enrich the debate on forest and wildlife protection, and to express support

original name 'Tayna Gorilla Reserve'. Apart from the gorilla, other primates found include the chimpanzee (*Pan troglodytes*), the *Cercopithecus hamlyni,* the *Cercopithecus ascanius*, etc. The TNR is home to a significant quantity of halieutic resources. Its watercourses, like the Tayna, host many fish species yet to be identified (UGADEC, 2006).

The surface area to be protected includes the following biotopes:

- 15% of primary forest at low altitude
- 32 % of primary forest at medium altitude
- 41% of high primary forest
- 12% of surface cleared by farmers
  (Kakule, 2004).

Ongoing research activities on the reserve's biodiversity will keep revealing its richness through the ecological initiatives implemented by the Tayna Center for Conservation Biology/University for the Conservation of Nature and Development in Kasugho (TCCB/UCNDK).

The Impact of the TNR in DRC
In 2002, in the wake of the TNR, many nature conservation associations were created. They are: Punia Gorilla Reserve (RGPU), Primates and Lowa Forest Community Reserve (RECOPRIFOL), Community conservation for Bakano Forest Reserve (COCREFOBA), Usala Gorilla Reserve (RGU), Bakumbule Primates Community Reserve (RECOPRIBA), Utunda and Wassa Gorilla Reserve (REGOUWA), Lubutu Gorilla Reserve (REGOLU).

All these associations have agreed to cooperate under the leadership of the TNR. They formed the Union of Associations for Gorilla Conservation and Community Development in Eastern DRC (UGADEC). The surface area preserved by this platform constitutes an important ecologic corridor between the Maiko national park and the Kahuzi Biega park. UGADEC is operational in the North Kivu, South Kivu and Maniema provinces, however its philosophy is gradually spreading to the Equator and Kasaï provinces and elsewhere. (UGADEC, 2007).

The effectiveness of Participatory Forest Management method
The example of the TNR in sustainable forest management using a system that safeguards wildlife is based on dialogue between local populations and the direct managers of the reserve. While national parks are facing conflicts with populations, the TNR is establishing itself, gaining the trust of local residents who willingly accepted to give away their lands and support the project psychologically and physically. Ten years after its creation, researchers who show interest in this reserve unfailingly acknowledge its success against all odds. In 2006, a student named Kikere assessed, as part of his final project work, the 'effectiveness of the community-based conservation strategy: Case of the Tayna gorilla reserve' (Kikere, 2006). Using a questionnaire-based methodology, he concluded that the sustainability of the initiative was dependent on its ability to cooperate with local populations during the creation of the TNR and at the different stages of its development. He also noted that the success of the reserve depends on the sustained dialogue between stakeholders (populations and TNR managers) and the transparent management of the benefits of the project. This would enable the project to avoid the mistake made by national parks where forceful conservation methods are used.

The author and the TNR management have made attempts to understand this situation in detail. Interviews conducted with the reserve manager, Pierre Kakule, on the one hand and the per44sed to

The local population enjoy benefits generated by the managed forest

When creating the TNR, emphasis was put on the difference between the concepts of nature protection and nature conservation. While the first concept implies maintenance with no human intervention, the second considers that nature should be managed by and for man.

Through the community participatory management strategy, the TNR has opted

PNUE, 2000 made the following remark in *L'avenir de l'environnement mondial* (the future of world environment): 'When populations are allowed to participate in the analysis of resources issues and possibilities, they are better informed and aware of factors affecting their daily life.' Tanya

ESTIMATED MIMINUM AND MAXIMUM SUSTAINABLE EXPLIOTATION VALUES FOR DERBY ELAND AND OTHER BIG GAME IN BENOUE NATIONAL PARK CAMEROON

Tsi Evaristus Angwafo[1], Ajaga Nji[2], Mpoame Mbida[3] [4]

This park is situated in the plains of Benoué river at the foot of the Adamaoua plateau. The dry season when grasses have dried up, the vegetation is more open. BNP experiences 5 months of rain and 7 months of dry season. Mean annual temperature is 24°C and annual precipitation is around 1000 mm. December is the coldest month (min: 13°C-max: 32°C) and April the hottest (min: 23°C-max: 36°C). Soils are granites in the south west of Adamawa. Benoué lies on sedimentary soils as plains in the South/East are littered by inselbergs and small hills. The vegetation is composed of Isoberlinia doka, Burkea africana, Anogeissus leiocarpus, Terminalia macroptera, Isoberlinia daljelii. Dominant trees include: Afzelia africana, Borrasus aethiopum, Butyrospermum parkii, Daniella oliveri, Monotes spp., Uapaca detarium, Vitex doniana, Lophira lanceolata, Parkia biglobosa, Boswellia spp., Prosopis africana, Sterculia setigera, Cassia sieberana, Kigelia africana, Ziziphus spp., Piliostigma thoningii, Pterocarpus erinaceus with 260 species of superior vegetation species identified. Benoué National Park is situated just off the Ngaoundere-Garoua main road, with rich fauna, including populations of buffalo, hippopotamus, crocodiles, hyenas, giraffes, panthers, lions and a variety of primates. The park can be visited all year round. Of the 28 hunting zones in the north of Cameroon 8, belong to the Benoué National Park, 2 of which have been given to private operators.

METHOD

Inventory of Derby Elands and other big games was done during the dry season in the months of January to April 2005. The method used was that of walk (counting while walking on foot the species dung along a line transect) and direct observation of the animal (Hochachka, 2000). Line transects were marked out using prepared geographical information system map.

RESULTS

The density of Derby Eland was found as 0.85 animals/ km^2 in Benoué National Park. Below is the GIS map of BNP showing the distribution of Derby Eland as Figure 1; while Table 1, shows the encounter rate of Derby Eland and other big games observed directly in Benoué National Park. IKA is a bio-indicator index to characterize the abundance of animal population.

Species	**Number of animals Observations**	**Distance of transect walked (Km)**	**IKA (km^2)**
Taurotragus derbi anus	45	69	0.65
Alcelaphus buselaphus	00	69	-
Kobus kob	01	69	0.01
Syncerus cafer	00	69	-
Loxodonta africana	60	69	0.87
Ourebia ourebi	04	69	0.06
Panthera leo	00	69	-
Panthera pardis	00	69	-
Crocuta crocuta	00	69	-
Giraffa camelopardalis	02	69	0.03
Potamochoerus africanus	11	69	0.1

The total animal biomass, percentage contribution and biomass per hectare for Derby Eland and other big game in Benoué National Park was calculated (see Table 2).

Species	**Average weight (AW)**	**Observ. (O)**	**Total Biomass AW * O**	**Contribution to Total Biomass (%)**	**Biomass (kg/ha)**
Taurotragus derbianus	800	45	22860	6.65	12.7
Alcelaphus buselaphus	160	00	-	-	
Kobus kob	70	01	70	0.02	0.04
Ourebia ourebi	20	04	80	0.02	0.04
Loxodonta africana	5300	60	318000	92.58	176.67
Potamochoerus africanus	80	11	880	0.26	0.49
Giraffa camelopardalis	800	02	1600	0.47	0.89
Total	**7,250**	**123**	**343,490**	**100**	**190.83**

AW = weight sns04.4233 TD/F78 11.7990 Tf(Loxodonta africanasle plusnta africanfeasle divided b570 26.anfea

ab33P0.35F78 6(BNP6)Tf22.96.749.8201.1402 5.00 26can'*0.00 0.07 0.60.9/F75 11.7990 Tf(Specie, CET0.00 0valuesble 2 rgb5

An estimate of the population and the worth in monetary terms of Derby Eland and other Big Game in BNP was calculated. The Derby Eland population in Benoué National Park is 45 animals which are estimated at a unit value of US $ 2,390.91 (cost of harvesting or shooting one Derby Eland species by a sport hunter according to the stipulations in the text (Delegation MINEF Garoua, (2005) gives a value of US $ 784,253.34. Table 3 below shows the estimated economic value for some big game in Benoue Natioanl Park.

Table 3: Estimated economic value from Big Game in Benoue National Park from January - May 2005

Animal Species	Estimated Number	Unit Value (US $)	Estimated Value (US $)
Taurotragus derbianus	45	2,390.91	107590.95
Alcelaphus buselaphus	00	636.36	00
Kobus kob	01	366.64	
Ourebia ourebi	04	181.82	
Loxodonta africana	60	2,390.91	
Potamochoerus africanus	11	409.09	
Giraffa camelopardalis	02	2,390.91	

2,390.91

higher chance of coming in contact with Derby Elands in Benoué walking a short distance. When the chances of finding a Derby Eland in the Park become continuously slimmer, it distresses Derby Eland lovers, making it imperative for the management to find innovative ways to conserve and expand the species. There is urgent need for sustainable management practices to ensure availability of the big games for future generations.

The value of big games in monetary terms is a measure of the importance that ought to be attached to their conservation. This is consistent with the concept that the higher the value of a resource, the more attention will be given to its conservation. Considering that the ultimate goal of conservation is to improve environmental health as well as the welfare of human and wildlife communities, hence determining the socioeconomic benefits accruing from big games is important. Sustainable big game tourism industry can be big national income earner where appropriate institutions and policies exist (Ajaga Nji 1989). Coupled with efficient management, the wildlife sector can boost tourism to a second position after petroleum as a source of foreign earning in most countries. It must be recalled that the estimated annual worth of the monetary value of big game in Benoué National Park stands at US $ 933,572.01 with the Derby Eland contributing 14.09% in 2006. This suggests that the sector has the potential to contribute significantly to national revenue if appropriate conservation and promotion measures are put in place. The results obtained by this study point to tourism in Benoue National Park as one of the avenues that Cameroon could take to extricate itself from the club of Heavily Indebted Poor Countries.

CONCLUSIONS

This study reveals that big games, such as the Derby Eland, which are species of major interest to tourists, are still present in Benoue National Park (BNP). It also shows that big games have great financial potential as an income earner and could serve as a sustainable basis upon which to build anti poverty programs linked to tourism. The Derby Eland populations in Benoue National Park over the years to the present indicate that the ecological systems prevailing therein are still capable of permitting big games to thrive.

REFERENCES

Ajaga Nji (1989). Understanding rural life and institutions. Limbe, Cameroon: Imprimerie Papeterie Amicale.

Assan, G. & Mahop, J. P. (2000). Denombrement de grands mammiferes dans le parc national de la Benoue et les zones de chasse No 1 & 4.Park report Garoua.

Hochachka, W.M, Kathy, M., Doyle, F & Krebs, C. (2000). Monitoring vertebrates populations using observational data. Can. J. Zool. 78 (4): 521-529.

IUCN (2000). The IUCN Policy Statement on Sustainable Use of Wild Living Resources. Adopted at the IUCN World Conservation Congress Amman, Jordan October 2000.

Mid-Atlantic Fishery Management Council. Tilefish Fishery Mangement Plan http://www.mafmc.org/mid-atlantic/fmp/tilefish-org.htm last date of access 20/12/2005.

Stark, M. A. (1986). The numbers, seasonal distribution patterns, density and biomass of large herbivores, Benoue National Park, Cameroon. Mammalia, 50 (3): 341-350.

Tsague, L. (1994). La reserve de la Biosphere de la Benoue. Inventaire des resources fauniques et evaluation des conflits agriculteurs-faune sauvage. Allocation de recherches du MAB pour jeunes scientifiques
ref: SC/ECO/565?19.06.01. Letter d'accord No SC/RP 242.209.4. Rapport Final.

UNESCO (1989). Report of the international co-ordinating council of the programme on Man and the Biosphere. General conference Twenty-fifth session 25C/86 Paris
http:unesdoc.unesco.org/images/0008/000834/08348/eo.pdf Last date of access 06/06/2005.

Vincent, J. P. Gaillard, J.M. & Bideau, E. (1991). Kilometric index as biological indicator for monitory forest reo Deer populations- Acta theriol 36: 315-328.

WWF, (1998). Abundance, distribution et biomass de quelques grands mammiferes dans le parc national de la Bonoue. WWF/FAC/MINEF, Garoua, 48p.

Conservation and sustainable use of wildlife -based resources through the

Indeed, recent data suggests that the use of wildlife is important to local livelihoods and serves multiple roles. Estimates of the national value of the bushmeat trade range from US$ 42 to 205 million across countries in West and Central Africa (Davies, 2002). Wildlife products are often major items of consumption or display and have high medicinal and spiritual values in many cultures (Scoones et al., 1992). Bushmeat, in particular, offers a number of benefits to forest-dwelling populations. It is an easily traded resource as it is transportable, has a high value/weight ratio and is easily and cheaply preserved. It often represents both the primary source of animal protein and the main cash-earning commodity for the inhabitants of the humid forest regions of the tropics. Throughout tropical forest countries, many people benefit from wild meat: from those who eat it as part of a forest-dependent subsistence lifestyle, to those who trade and transport it at all points along different supply chains, to those who consume it in restaurants and homes, often far from the forest.

The bushmeat crisis

The increase in population density in many forested areas, as well as persistent problems with the af

The sustainability of bushmeat harvesting is, in many cases, influenced by external factors, such as inappropriate policies and governance; demography; increased commercialization of the wildlife harvest; fragmentation and land-use changes; logging and other resource extraction activities; and developments in the agricultural sector (Nasi et al., 2008). There appears to be no easy solution to this complex problem. However, some policy recommendations for the consideration of decision-makers at the appropriate levels are outlined below.

Recommendations for improving the sustainability of bushmeat hunting

The bushmeat crisis is first and foremost a problem resulting from an unmanaged common resource being unsustainably harvested because of inadequate governance and policy frameworks. Many of the underlying causes of the unsustainable use of wildlife are the same as those underlying poverty and sustainable livelihoods. As such, the problem should be addressed in the broader framework of sustainable natural resource management, and build on lessons learnt in the framework of sustainable forest management (SFM), and other relevant policies and management regimes. Approaches to address the bushmeat crisis should be nation-, site- and context-specific, based on a detailed knowledge of hunting patterns and the ecology of the hunted species, and tailored to local cultural, socio-economic and political conditions.

Specific recommendations for the national level in bushmeat-range States

1. National policy linkages: The bushmeat economy is largely invisible in most countries. Acknowledging the contribution of bushmeat and other animal products to the local economy will be a first essential step towards sustainable management of this resource. Inclusion of information on bushmeat and animal products in official national statistics may be a next step in order to better understand its role in the country's economy, and as a contributor to local livelihoods and food security.

   Forest exploitation has a major impact on bushmeat hunting in several ways: it provides increased access to hunters, attracts more temporary or permanent settlements and, last but not least, it affects wildlife habitat. Therefore wildlife management should be an integral part of National Forest Programmes and (mandatory) forest management plans, as well as National Biodiversity Strategies and Action Plans.

   Another key policy linkage should be established with development planning. Policies aimed at poverty reduction can be as important as developing a legislative framework for hunting. Such policies should include the establishment of clear land tenure and land-use rights, promoting the production of alternative sources of proteins, and the involvement of indigenous and local communities in land use planning and natural resource management.

2. Enhancing ownership and links to tenurial and rights reform: In significant measure the bushmeat problem is often a problem of rights. Rural dwellers lack rights to the use of wildlife and other resources they need to secure their livelihoods, hence they are unwilling to invest in wildlife management. Measures to reform the tenurial systems pertaining to all pert(order837Tj16.6

Opportunities exist, for example within the Poverty Reduction Strategy Papers and Forest Law Enforcement and Governance (FLEG) processes, to advance the rights and tenurial changes needed to ensure sound management of rural resources, bushmeat included.

3. Legitimizing the bushmeat debate: Policy is unlikely to be advanced as long as bushmeat is not present in the public discourse. The aura of illegality that surrounds all aspects of the trade is unhelpful to the policy process and is preventing a sound assessment of management requirements. Moves to legalize a portion of the trade would increase the reliability of information on the bushmeat commodity chain, and information about possibilities for adding value to the commodity chain in a way that is sound in terms both of biodiversity (conservation effects) and development (poverty reduction).

4. Legislative review: National legislation on wildlife and hunting often suffers from incoherence and impracticality. Well-established and widely accepted practices may be de jure (according to law) illegal, thus increasing the opportunities for corruption, and the steps required to achieve legality may be so impractical as to encourage illegality on the part of otherwise law-abiding citizens. Range States are therefore encouraged to review their existing legislation for policy coherence and cross-linkages (see above); practicality and feasibility; the potential for incentive measures; and law enforcement capacities; and rationalization of the law to reflect actual practice, without surrendering key conservation concerns.

5. Protected areas: Protected areas are an essential component of any strategy for sustainable use of wildlife at the landscape level, and large protected areas will be essential for conserving the larger animals. In addition, landscape level planning for habitat connectivity and resilience is rapidly gaining importance in view of the need to adapt to climate change. At the same time, a balanced approach to protection policy is required, giving greater attention to the designation and management of protected areas, with due regard to all aspects of sustainability, including poverty reduction needs. The fact that biodiversity hotspots are often associated with human settlement and impact renders this a challenging issue.

6. The role of science in wildlife policy: heavy investments have been made in many bushmeat range states in relation to in the scientific study of wildlife populations and the impacts of their use. However, the value of this research has been limited by its frequent lhose designation

status quo (e.g., captive breeding of game species; livestock breeding schemes intended to replace existing sources of animal protein; integrated conservation and development projects – ICDPs), towards more radical measures to improve integrated management and governance of wildlife resources. At present, the low purchasing power of local populations severely restricts the development of alternatives for the use of wildlife.

Specific recommendations for the international level

1. The need for national ownership: The international community is called on to give much greater support to range States to bring the bushmeat problem under effective national ownership in ways that provide broad local and national benefits. One area where this process is underway is with the CITES Great Ape Enforcement Task Force Country Profiles, which may help develop the sense of ownership by assisting countries in determining or identifying some of the key issues associated with the bushmeat trade.

2. Democratic process: Host governments need to be supported to open up the national

References

Bailey, N. 2000. Global and Historical Perspectives on Market Hunting: Implications for the African Bushmeat Crisis. Sustainable Development and Conservation Biology, University of Maryland and Bushmeat Crisis Task Force, Silver Spring, Maryland.

Bennett, E.L. and Robinson, J.G. 2000. Hunting of Wildlife in Tropical Forests. Implications for Biodiversity and Forest Peoples. Biodiversity Series, Impact Studies, Paper no 76, The World Bank Environment Department, Washington D.C.

Bodmer, R.E., Fang, T.G. and Moya, L. 1994. Managing wildlife to conserve Amazonian forests: population biology and economic considerations of game hunting. Biological Conservation 67: 29-35.

Bowen-Jones, E., Brown, D. Robinson E. 2002. Assessment of the solution-orientated research needed to promote a more sustainable Bushmeat Trade in Central and West Africa. Report for the DEFRA (ex-DETR) Wildlife & Countryside Directorate. Fauna & Flora International, National Resource Institute, ODI, DEFRA.

Cowlishaw, G., Mendelson S., and Rowcliffe, J.M. 2004. The Bushmeat Commodity Chain: patterns of trade and sustainability in a mature urban market in West Africa. Wildlife Policy Briefing no 7, ODI, London.

Davies, G. 2002. Bushmeat and international development. Conservation Biology 16: 587-589.

De Merode, E., Homewood, K. and Cowlishaw, G. 2003. Wild resources and livelihoods of poor households in Democratic Republic of Congo. Wildlife Policy Briefing no.1. ODI.

Delvingt, W., Dethier, M., Auzel P. and Jeanmart, P. 2001. La chasse villageoise Badjoué, gestion coutumière durable ou pillage de la ressource gibier ? Pp. 65-92 in Delvingt W. (Ed.) La forêt des hommes : Terroirs villageois en forêt tropicale africaine. Les Presses Agronomiques de Gembloux, Gembloux.

Fa, J.E. 2000. Hunted Animals in Bioko, West Africa: Sustainability and Future. In J.G. Robinson and E.L. Bennett, eds. Hunting for Sustainability in Tropical Forests, pp. 168-198. New York: Columbia University Press.

Fa, J.E., Juste, J., Perez del Val, J. and Castroviejo J. 1995. Impact of Market Hunting on Mammal Species in Equatorial Guinea. Conservation Biology 9: 1107-1115.

Fa, J.E. and Garcia Yuste, J.E. 2001. "Commercial bushmeat hunting in the Monte Mitra forest, Equatorial Guinea: extent and impact." Animal Biodiversity and Conservation 24(1): 31-52.

Fimbel, C., Curran B. and Usongo L. 2000. Enhancing the Sustainability of Duiker Hunting Through Community Participation and Controlled Access in the Lobéké Region of South-eastern Cameroon. In J.G. Robinson and E.L. Bennett, eds. Hunting for Sustainability in Tropical Forests, pp. 356-374. New York: Columbia University Press.

FitzGibbon, C.D., Mogaka H. and Fanshawe J.H. 2000. Threatened Mammals, Subsistence Harvesting and High Human Population Densities: a Recipe for Disaster? In J.G. Robinson and E.L. Bennett, eds.

Hunting for Sustainability in Tropical Forests, pp. 154-167. New York: Columbia University Press.

Scoones, I., Melnyk, M. and Pretty, J. 1992. The hidden harvest: wild foods and agricultural systems: a literature review and annotated bibliography. IIED, SIDA and WWF, London, UK and Gland, Switzerland.

Townsend, W. 2000. The Sustainability of Subsistence Hunting by the Sirionó Indians of Bolivia. In J.G. Robinson and E.L. Bennett, eds. Hunting for Sustainability in Tropical Forests, pp. 267-281. New York: Columbia University Press.

(Brummett et al. in press) and the upper Cross River watersheds (Mdaihli et al. 2003). To the extent that these estimates are reliable, the vast majority of the biomass in these systems

carrying out survey in the far North

Figure 2. Itombwe Massif Conservation Landscape and Tanganyika Escarpment Forest

Signs of gorillas were seen in some of the key reproductive sites referred to as maternities which appeared to be geographically discrete areas. Gorilla nests and other signs of presence were found at elevations of less than 1,100 m in the transitional forest zone, to over 2,094.8 m near the Lungye gorilla maternity. Although most of the signs of gorilla were in secondary vegetation, signs of this species were also present in agricultural fields, at the savanna border of human settlement. We also found signs of presence of gorillas in the bamboo zone, but at low densities, suggesting that this habitat, which in Itombwe covers more area than in any other area in Africa, may have been used by the gorillas only on a seasonal basis. In contrast to gorilla, chimpanzees were widely distributed, occurring in primary forest as well as in secondary vegetation. Although, we cannot yet provide estimates of chimpanzee numbers for the Itombwe massif, they were clearly more abundant than gorillas and appeared to occur in larger groups than gorillas.

Encounter rates for gorilla nests in 2003 (0.19 per km) was higher than the rates of encounters of other wildlife species during the same period. The gorilla nest encounter rate was followed by signs of bush pigs (0.11 per km), then by chimpanzee nests (0.08 per km) and, last, by rodent encounters (0.07 per km). Rodents remain so far the preferred species for hunting. In some parts of the Itombwe Massif, hunters were setting traps to catch muroid rodents, and pouched *Cricetomys eminii*, squirrels and brush-tailed porcupines *Atherurus africanus.* Few larger game catches were documented during the survey, implying that the ungulates have been hunted out (Mubalama, pers. comm.). Rates of encounters with all key large mammal species observed are presented in **Fig. 3** below.

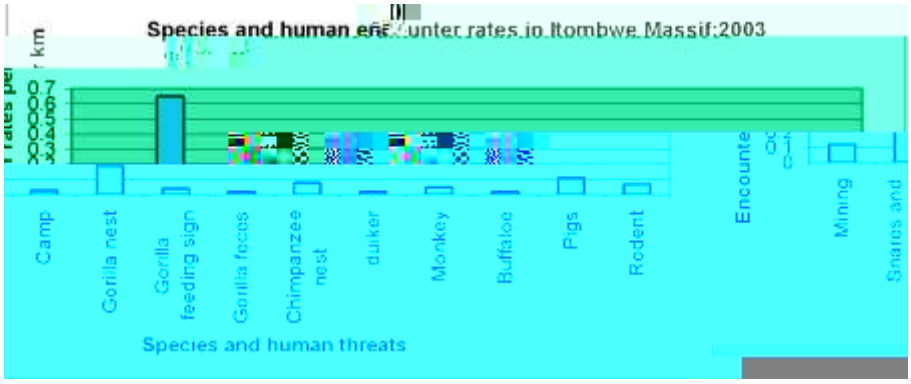


Fig 3. Species and human encounter rates in Itombwe Massif, 2003

3.2 Relationship between signs of human and mammal presence

Spearman rank correlations generated with Statview 5.0 programme were used to investigate the relationship between signs of human disturbance and signs of large mammals. There was no significant correlation between mining and tree cutting and signs of gorilla; or between mining, agricultural activity and chimpanzee nests; or between chimpanzees other signs and gun shooting (**Table 1**). Snares were the most frequently used hunting tools and there was a significant correlation between snares and bushmeat signs. Data to assess hunting intensity were collected over a total distance of 502.17 km (straight line) of reconnaissance paths. One hundred and ninety six km^2, out of 832 km^2, were found to have records or signs of hunting; this amounts to 0.25 per km^2. This rate is very high considering that only actual sighting and fresh tracks on reconnaissance paths were considered. Hunting methods employed by local people fall into two categories: hunters using dogs to capture live animals; and the shooting or snaring of large mammals, depending on the size and species involved. Mining was yet another serious problem (Bisidi et al. 2008). There was ample evidence that gold mining along the rivers was common in the recent past as there was much damage to the riverbeds, riverbanks and the bordering forest. At present, many former mines and their associated settlements and roads are covered by secondary forest and dense herbaceous undergrowth. A number of former mining camps served as a base for hunters.

Shifting cultivation was recorded in all surveyed areas, including secondary forests and small patches of *Pennisetum mauricianum* savanna.There was a significant correlation between tree cutting and

Table 3.Itombwe Massif Sector Threats Results

	2 km x 2 km grid coverage				
Sector	**survey zone**	**Ape presence**	**Area in which hunting was observed**	**Area in which mining was observed**	**Area in which pastoral agriculture was observed**

3.4 Does alternative protein sources matter?

The twin imperative of addressing people's needs and aspirations on the one hand, and conserving the Itombwe wildlife species on the other, has suggested to many a 'silver bullet': solve the bushmeat crisis by alleviating poverty. At the local level, one option is to encourage intensive breeding of cane rats (*Tryonomys* sp) and Giant pouched rats (*Cricetomys emini*), which are already being consumed in large quantities. In addition, many people living in or close to tropical forests today still use wild meat as a major source of protein (Bennett & Robinson, 2000). In Central Africa about 645 kg of wild meat is extracted from each square kilometre of forest every year (Wilkie & Carpenter, 1999). Therefore, it is only in conjunction with awareness and education programme that changes in local, consumer attitudes and buying habits might be achieved. The transition to the use of domesticated sources of animal protein must be made before wildlife populations become irreparably depleted (Bennett & Robinson, 2000).

4. Conclusions and Recommendations

Protection of representative areas of natural habitats of wildlife species, in which priority is given to conservation, is an essential 'backbone' in an integrated conservation strategy. Such areas act as reservoirs for plant and animal populations and help maintain the ecological processes within the ecosystem. Key areas of habitat should be as large as possible, preferably the largest, most intact blocks of habitat remaining within the presently investigated planning zone. Systematic conservation planning remains widely considered the most effective approach for designing protected area and other ecological networks. However, many conservation practitioners still ignore these methods and we suggest that GIS and remote sensing applications be widely used for this purpose in the near future. Whether or not people are merely using the resource or truly depend on it, we must act now to accelerate the transition to domestic sources of animal protein before all the wildlife is gone.

5. Acknowledgements

We are grateful for

Mubalama, L. 2005. Itombwe Technical Survey report. WCS.

Muchaal, P. K. & Ngandjui, G. 1995. Secteur Ouest de la réserve de faune du Dja (Cameroun) : Evaluation de l'impact de la Chasse villageoise sur les Populations Animales et Propositions d'Aménagement en Vue d'une Exploitation rationnelle. Programme de Conservation et d'Utilisation Rationnelle des Ecosystèmes Forestiers en Afrique Centrale (ECOFAC)/Ministry of Environment and Forests, Yaounde, Cameroun.

Noss, A. J. 1998. The impacts of cable snare hunting on wildlife populations in the forests of the Central African Republic. Conservation Biology, 12 (2), 390-397.

Omari, I., Hart, J. A., Butynski, T, M., Birhashirwa, N. R., Upoki, A., M'keyo,Y., M., Bengana, F., Bashonga, M. and Bagurubumwe, N.1999. The Itombwe Massif, Democratic Republic of Congo: biological surveys and conservation with an emphasis on Grauer's gorilla and birds endemic to the Albertine Rift. Oryx 33:301-322.

Plumptre, A. J., Behangana, M., Devenport, T. R. B., Kahindo, C., Kityo, R., Ndomba, E., Owiunji, I., Ssegawa, P and Eilu, G. 2003. The Biodiversity of the Albertine Rift. Albertine Rift Technical Reports No. 3, 105 pp.

Plumptre, A. J., Masozera, M., Fashing, P. J., McNeilage, A., Ewango, C., Kaplin, B. A and Liengola, I. 2002. Biodiversity Surveys of the Nyungwe Forest Reserve in SW Rwanda. WCS Working papers No. 19.

Statview. 5.0. Statview software package.

Wilkie, D. S. & Carpenter. 1999. Bushmeat hunting in the Congo Basin: an assessment of impacts and options for mitigation. Biodiversity and Conservation 8: 927-955.

White, L. and Edwards, A. eds. 2000. Conservation research in the African rainforests: a technical handbook. Wildlife Conservation Society. New York.

1996 gorilla zone	**2003 – 2004** Surveyed	**2004 Proposed Core Conservation Zones**	**Gorilla presence**	**Note**
Mutambala – Sanje	Yes	Confirmed	None	Tanganyika Escarpment Forest Zone
Ibachilo – Ngomiano West Mwana	Yes	Confirmed	H,K	
Kabelukwa – Kitibingi- Mt Kasondjo	Yes	Confirmed	H,I	Apparent reduction in population 1996 to 2004
Mts Lungye, Ibenga	Yes	Confirmed	J	Gorilla area larger than estimated in 1996
Kapanga – Kiandjo - Miki	Yes			

Conservation Area		Apes	Threats	Groupements	Community Engagement
		Gorilla,chimpanzee			Local traditional chiefs, traditional agreement, proposed limits, village monitors.
Nzombe-Kakanga	A	gorilla	No Data		
Muhuzi Buzinda	B	Gorilla, chimpanzee	H		Refer to local traditional chief agreement in USFW proposal
Kikuzi	C	gorilla			
Miki Complex	D	gorilla chimpanzee	H	Basimukindji1	
Kiandjo-Kitopo	L	Gorillachimpanzee	H	Basimukindji1	
Kipapa	F	chimpanzee	H		
Nyongya	G	chimpanzee	H	Basikamakulu	
Ilambo	H	gorilla	H	Basimunyaka	
Namasalakoma	I	Gorilla,chimpanzee	H	Basimwenda	

H

Ibenga Lungye

Ongoing study on the integration of biodiversity concerns in management of forest concessions in Central Africa

Oudara Souvannavong

management plan for natural production forests in tropical Africa. In Part I of this study, 'ITTTA Forest production' was edited in 2001 and revised in 2006. Part II was focused on social aspects and a third on *the integration of faunal aspects in concessions* was later added. These technical documents integrate environmental and biodiversity issues at the level of the study, analysis, decision making and formulation of management standards and procedures.

The challenge of this study is to identify the different methods currently used by enterprises, during the different phases of study and analysis that led to the environmental orientations until their application in the logging concessions. The primary objective of this study is to assess the current situation on biodiversity integration in the logging companies (with or without management plans) in central Africa, by recording problems encountered by logging operators in the field. The second objective is related to the identification of needs for better management of biodiversity.

Method and programme

Information is collected (through documentary studies and surveys, and when necessary through field visits taking advantage of synergies with other FAO and CIRAD-led projects) in order to assess the integration of biodiversity into forest concessions in Central Africa, especially concerning the following points:

Achievements in collecting biodiversity data : concessions involved, methodologies, typology of existing data, with issues of rights to access data (public/private) for science and for biodiversity managers and decision makers ;
Biodiversity management practices in concessions: measures taken in management plans, operational measures for low-impact timber harvesting, control measures and internal system for sanctions against staff, etc.;
State of the art for the periodic monitoring of biodiversity in concessions. The establishment of monitoring is a must in the case of a certification procedure as certification is a pressing issue for companies exporting to other countries. However this procedure is based on systems of criteria and indicators that are imprecise, subject to various interpretations among auditors due to a poor state of the art;
Emerging interactions between concessions and protected areas; need to search for long-term partnerships;
Institutional arrangements and capacities for the integration and monitoring of biodiversity in concessions;
A more global integration of biodiversity, for example in tracks of forests, according to a coherent territorial approach, taking into account groups of concessions in homogenous or complementary blocks.

Various types of documents were consulted, such as international reports, national regulations and guidelines, texts to facilitate application of decrees, inventory reports and available forest management plans.

Following each interview, the completed questionnaire is edited by a member of the team and returned to the interviewee for verification and additional information. The study is based on discussions with practitioners and stakeholders in the sector. During a second phase, the initial results will be presented to participants to cross check sources and gather comments while verifying the initial hypothesis. The set of data processed and analyzed will be synthesized and presented during a sub-regional workshop to be held at the end of 2008. This TD(soarrand)Tj19.82n00 TD(to8b-regional)(of)Tj(concessions;)TjtTj-434

Schedule

Clarification of approach and methodology of the study	April 2008
Collection and verification of information	May-August 2008
Synthesis of information and report writing	July-September 2008
Organization of workshop by COMIFAC to present results	September-December 2008

Expected outputs

The report will be presented in two parts:

A summary of surveys administered to logging operators and other key actors in central Africa subregion. It should outline current practices for the integration of biodiversity in forest concessions as well as requirements to improve these practices and build capacity. This

WCS: Wildlife Conservation Society

WWF: World Wildlife Fund

REFERENCES

Billand A., 2005. *Etude sur le plan pratique d'aménagement des forêts naturelles de Production - Volet 3 "aspects faunistiques"*. ADIE/ATIBT ed. Paris, ATIBT, 91 p.

COMIFAC, 2007. *Rapport de la mission d'experts pour la réflexion sur la conception d'un système de suivi-évaluation du plan de convergence de la COMIFAC*. 52 p.

Esteve J., 2006. *Etude sur le plan pratique d'aménagement des forêts naturelles de production - Volet 1 "production forestière"*. ADIE/ATIBT ed. Paris, ATIBT, 136 p.

IUCN, 2007. *Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests - DRAFT*. DRAFT ed. Yokohama, ITTO, 103 p.

Nasi R., Cassagne B., Billand A., 2006. *Forest management in Central Africa : where we are ?* in International Forestry Review Vol.8(1), 6 p.

Pierre J.M., Cassagne B., 2005. *Etude sur le plan pratique d'aménagement des forêts naturelles de production - Volet 2 "aspects sociaux"*. ADIE/ATIBT ed. Paris, ATIBT, 96p.

Impact ofAllanblackia nut harvesting on wildlife: Is the ecosystem at risk?

Samuel Kofi Nyame[1]

[1] *Project Coordinator IUCN -Ghana; P. O. Box 527 Accra, GHANA. Tel. +233 24 6996552 and +233 20 8212486. Em*

What should be done pending the carrying out of a comprehensive research? There are two options :

A moratorium might be placed on commercial scale harvesting of the Allanblackia nuts before results of the research is known; or

Some forest ecosystems rich in Allanblackia might be set aside pending more knowledge through research.

It is urgent that a full research programme be conducted to generate the necessary knowledge on the

Country Focus: Morocco

Dr. Moulay Youssef Alaoui[1], Coordinator of the recently concluded wildlife project on wildlife in Morocco in a virtual conversation with Nature & Faune. Dr. Alaoui is also an avid reader of Nature & Faune.

Morocco has just concluded successfully, an interesting wildlife project supported by Czechoslovakia Republic and executed by Food and Agriculture Organization of the United Nations (FAO). As fallouts from the program, Morocco issued a number of technical reports and awareness raising documents. Nature & Faune carried out an email interview with Dr. Moulay Youssef Alaoui, forestry and wildlife practitioner in Morocco asking him about the country's experience in putting back wildlife into forestry.

Nature & Faune: Do you think wildlife is taken into account in forest management in Morocco? If yes, what practical steps has Morocco taken to realize this objective? To provide our readers insights of the situation in Morocco, please outline the way wildlife was integrated in forest management. Also address, among other factors, the institutional, legal and policy arrangements that were put in place to facilitate the integration of wildlife issues into forestry management in your country

Moulay Youssef Alaoui: For many years in Morocco, wildlife was never taken into account in the management of forests. The first Law on natural resources conservation (1917) dealt only with forest conservation. The achievements of the Forestry Administration have been remarkable throughout its history as far as forest management, reforestation and erosion control are concerned, on the contrary, wildlife management has been rather deficient. Thus, several wildlife species are either extinct or near extinction. The resources made available to the Wildlife and Nature protection Division (of which I was the Director from 1980 to 1990) have always been insufficient. It represented 10% of the budget allocated to the Forestry Department. More than 70% of the budget was allocated to the Reforestation and Erosion control Division – Service de la D.R.S (Service for soil protection and restoration).

On a positive note, a law on policing wildlife was promulgated in 1923 and its decrees place de

[1] *Moulay Youssef ALAOUI, B.P. 8154 Rabat Nations unies. Rabat, M OROCCO. Courrier électronique: myyoussefalaoui@yahoo.fr*

The decline in populations of protected species and the extinction of some of them demonstrate that it is not enough to just prohibit the hunting of a particular species to safeguard it since other factors should be taken into account, especially the degradation of habitats and poaching.

Wildlife conservation and in particular of rare and threatened species was included in legal texts but success on the ground was not up to expectations. One of the main difficulties originated from the utilization rights granted to local populations by the 1917 Law on Forests Conservation. This Law transformed all forests into national forests belonging to the State which took over its management. In compensation, forest managers have granted usufruct to local populations (deadwood collection and grazing). Thus, it became practically impossible for wildlife to enjoy some quietude because of the constant presence of herds of livestock even in protected areas. For the conservation of some remarkable species (gazelles, barbary sheep, etc.) the Forestry Administration had to resort to fenced Reserves.

Nevertheless, it is worth noting that wildlife is now taken into account in forest policies. This positive change has its roots in the beginning of the 1990s when the Ministry of Water and Forests replaced the former directorate for forestryt812.4132 0.00the

FAO Activities

16th African Forestry and Wildlife Commission and 18th Near East Forestry Commission Khartoum, Sudan, 18-21 February 2008

Summary report by Michel Laverdière[1]

Background

Created in 1959, the African Forestry and Wildlife Commission (AFWC) is one of six Regional Forestry Commissions established by FAO to provide a policy and technical forum for countries to discuss and address forest issues on a regional basis. All African countries are members of the AFWC which meets every two years.

The 16th Session of the Commission was held in Khartoum, Sudan. It was for the first time

The role of wildlife and protected areas in the sustainable development of Africa

The Commission took note of the outcome of the 17th Session of the Working Party on Wildlife Management and Protected Areas, endorsed its recommendations and agreed to the inclusion of wildlife in its mandate. It further recommended that the terms of reference and mandate of the Working Party be revised in order to be operationally simplified and increase its relevance for the Commission.

Strategies and approaches to address human-wildlife conflicts: The Commission was informed of different strategies and approaches for the management of human-wildlife conflicts (HWC) and discussed the severity of it and its impact on food security.

Wildlife resources, food security and poverty alleviation: The Commission acknowledged that wildlife is not adequately addressed in poverty reduction strategies and that the economic value of this sub-sector is not well documented. It requested FAO and partners to assist countries in their efforts to document the value which wildlife brings to the local, national and regional economies.

Multilateral environmental agr

Theme and deadlines for Next Issue

The theme for the next issue of Nature & Faune is “Success stories in management of wildlife and nature in Africa”. The theme will focus on projects, programmes and other initiatives in wildlife, forestry and related fields in Africa, from local to national or regional level. There are a variety of projects and schemes initiated in Africa that go un-noticed and quite a few of them have made a difference, and yet they are still relatively unknown. A succinct presentation of an overview of these projects and lessons learned thereof would encourage people interested in this field to connect with kindred efforts in the region.

The next edition will thus look more in-depth at innovative and lesser known initiatives. It will aim to rekindle interest in field projects and capacity-building initiatives or simply networking of informational projects. It is a strategy to keep alive ideas that could enhance conservation of wildlife and natural ecosystems and at the same time improve Africa's rural peoples' livelihoods. This edition of Nature & Faune would offer project managers and natural resources practitioners a platform to tell stories of their projects thus offering readers the opportunity to communicate with them and exchange information on areas of common interest.

In order to facilitate contributions from potential authors, we have created guidelines for the preparation of manuscripts for Nature & Faune. Please visit our website or send us an email to receive a copy of the 'Guidelines for Authors'.

Deadline for submission of articles, announcements and other contributions is 15th December 2008.

Guideline for authors, Subscription and Correspondence

In order to facilitate contributions from potential authors, we have created guidelines for the preparation of manuscripts for Nature & Faune. Please visit our website or send us an email to receive a copy of the 'Guidelines for Authors'.

To subscribe or unsubscribe from future mailings, please send an email, our contact details are below.

Please send us your articles, news and reports because your experiences are worth sharing and have the potential of inspiring others. Please contact us.

Contact Details:

Nature & Faune
FAO Regional Office for Africa
P.O. Box GP 1628 Accra
Ghana

Tel.: (+233-21) 675000 or (+233-21) 7010930
Fax: (+233-21) 7010943 or (+233-21) 668 427

E-mail : nature-faune@fao.org
Website: www.fao.org/world/regional/raf/workprog/forestry/magazine_en.htm