

Survey of elephant movement and corridor issues in western Ghana and eastern Cote D' Ivoire.

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Summary

The forests of western Ghana and eastern Cote d' Ivoire host a number of elephants and other important wildlife species. Forest elephants of West Africa have suffered a drastic decline in numbers. Their habitats have dwindled in size and have been fragmented, with subsequent isolation of populations, presenting a threat to the long term survival of the species in this part of Africa. The diminishing numbers of elephants has led to the adoption of a sub-regional and country specific elephant conservation strategy. The present study sought to determine the distribution and movement pattern of elephants, assess local attitude towards elephant conservation and corridor creation, and identify potential corridor areas in western Ghana and eastern Cote d'Ivoire. Two isolated populations of elephant exist in western Ghana; the Goaso and Bia population and there is no evidence of elephant movement between Ghana and Cote d' Ivoire, possibly because of the increased clearance of the forested areas for cash crop cultivation on the fringe of reserves inhabited by elephants in both countries. The vegetation along the Bia River through to the Songan Forestry Concession offers hope of an international corridor to link the Ghanaian and Ivorian population. In the planning and establishment of this corridor, however, there is a need to safeguard the livelihoods of human fringe communities who may feel that they are at the losing end of the bargain due to crop raiding incidences by elephants. Furthermore, there is a need to incorporate conservation plans into the regional development agenda and individual country national development plans to ensure their sustainability over time.

Introduction

Western Ghana has several important forest reserves and wildlife conservation areas, for example Mpameso, Bia, Asukese, Bia Tano, Goa Shelterbelt, Bia North, Bia National Park and Bia Resource Reserve. These extend towards the borders of Cote d'Ivoire with three reserves, Songan, Diamakrou and Bossematie, abutting the border at the Ivorian side. Surrounded by a dense farming population, it is increasingly susceptible to encroachment. As habitats dwindle in size, the species of plants and animals which they support become increasingly vulnerable to extinction. Land cultivation for food crops encroaches into forested areas, with forests shrinking in size and wildlife migration routes becoming blocked. As a consequence, species such as elephants are forced into smaller areas. The increasing conversion of forest areas into farmlands impacts negatively on the population of many species, in particular the forest elephant, which has a very extensive home range. The long-term viability of the elephant populations in Western Ghana and in Eastern Cote d'Ivoire will depend on the ability to broaden the genetic base that will foster exchange of genetic material among neighbouring populations

The urgency of conserving the rapidly diminishing habitats of forest elephants set in motion a series of dialogues between conservation authorities in Ghana and Cote d'Ivoire in an effort to review the possibility of establishing and protecting adequate corridors to ensure migration of elephants between western Ghana and eastern Cote d'Ivoire. National level elephant conservation strategies developed by both countries all stressed the need to synchronise regional efforts for the conservation of elephants.

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Major objectives recognised that small populations have a higher risk of extinction and so it is essential to maintain and where possible, increase large elephant populations. In addition, a need to invest in habitat management, rehabilitation and protection of parks and reserves in order to improve habitats for elephants was identified.

Several proposals have been made with regard to the feasibility of elephant movement corridors between western Ghana and eastern Cote D'Ivoire. Notable among these proposals are the works by De Leede (1994) in Ghana; Versteegen (1993) in Cote D'Ivoire and subsequently work by Parren *et al*, (1999) in both countries.

De Leede (1994) recommended the habitat between the Bia Conservation Area and Classified Forest Songan (Cote d'Ivoire) along the Bia River as the only viable option for corridor development. At the time of this study, the human population pressure was less and there were small patches of forest left along the riverside (especially in Cote d'Ivoire). A possible connection with Dadieso Forest Reserve and Boin River Forest Reserve, where a small elephant population is believed to live (about 3 individuals) was also proposed. De Leede (1994) also observed that the cost of the creation of a corridor will be very high and a lot of effort will be needed. Versteegen, (1993), observed that the elephant population situation encountered in Cote d'Ivoire was worse than expected; only in three out of eight reserves forest elephants were found. Their numbers proved to be much lower than was to be expected from previous estimates. Instead of more than 200 elephants divided over seven different Classified Forests, the number estimated was less than 100 individuals. Apart from the elephants in the Classified Forest Bossematie, which represent about half of the remaining population, elephants are found in the remnants of degraded forest areas, such as Classified Forest Beki and Classified Forest Songan. The lands between the remaining forest reserves where potential corridors are proposed have 50% coverage by cocoa and coffee plantations. Based on population size, condition of the remaining forest, local people's attitude and the distances, the most suitable elephant populations to be connected according to Parren *et al*, (1999) are: A. The populations of the Bia area with the Bettie area along the Bia River, including the Boin River Forest Reserve populations. B. The populations of the Bia area with the Bettie area via Classified Forest Diambarakrou. C. The populations in Classified Forest Songan of the Bettie area with suitable habitat in Classified Forest Mabi.

The current study which was sponsored by British Petroleum Conservation Program in 2003 in partnership with Wildlife Conservation Society (WCS), Fauna and Flora International (FFI) and Conservation International (CI), describes the current status of forest elephants in Western Ghana and Eastern Cote d'Ivoire, based on field surveys and interviews with members of fringe communities in the proposed area. Based upon the results, potential corridor areas in terms of ecological and social suitability were identified. The overall aim was the assessment of feasible Transfrontier Corridors, which will expand current elephant range and lead to the protection of viable populations of this vanishing West African heritage.

Study Area

The study was conducted in the Western Region of Ghana, specifically in Bia Conservation Area (BCA) and the Goaso complex of forest reserves namely; Mpameso, Bia shelterbelt, Bia Tano, Ayum, Subim, Bonsam Bepo, and Bonkoni (Fig 1). In eastern Cote d'Ivoire, efforts were concentrated in Classified Forest Songan and along the 25km long Bia River which flows into the Songan River in Songan.

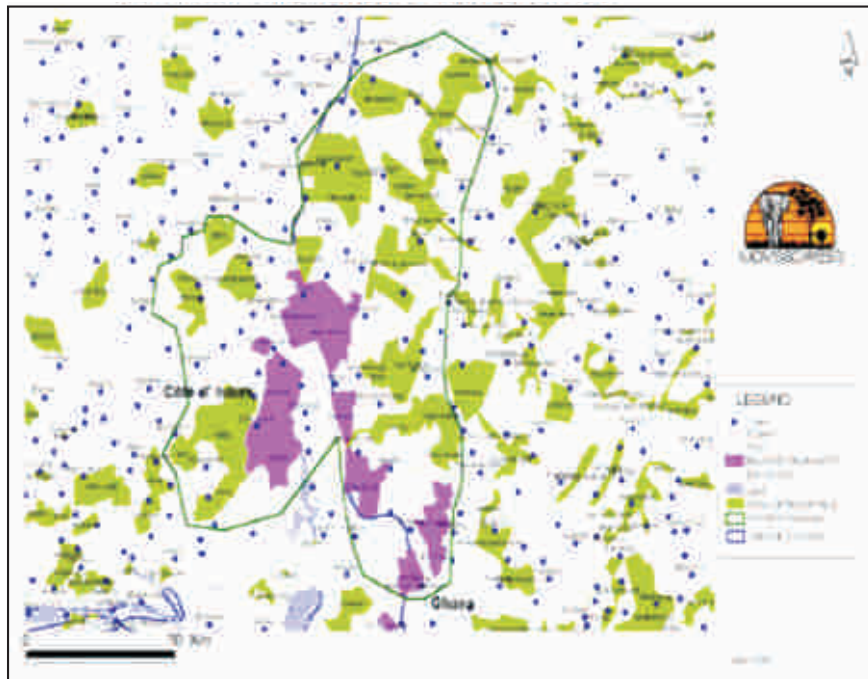


Fig 1 .Study areas in Ghana and Cote D' Ivoire. Green (lighter shade) for Ghana and Mauve (darker shade)for Cote D'Ivoire.
Source: IUCN/SSC/AFESG. Action Plan for Transnational Corridor Report (2003).

Climate

The mean annual temperature ranges between 24° 28°C, with the hottest period in March- April and August and December being the coolest months. The average annual rainfall ranges between 1400mm/annum in the northernmost forest reserves like Mpameso, Bia Shelterbelt and Asukese, and up to 1700mm/annum in the Bia Conservation Area (BCA) (Short, 1981). The maximum rainfall occurs from March to July and from October to November, separated by arid periods.

Vegetation

The forests in South-Western Ghana are remnants of the Guinea-Congolian forest vegetation which covered the whole south-western region in former days. The reserves in the research area belong to the Moist Semi-deciduous, North-West vegetation zone (MSNW). More south-west wards, the vegetation changes to the Moist Evergreen (ME) and Wet Evergreen (WE) vegetation type. Bia Conservation Area falls in the Moist Evergreen vegetation zone (Hall and Swaine, 1981). The whole research area corresponds with Taylor's (1960) Celtis-Triplochiton Association. The upper canopy is discontinuous and consists of a mixture of deciduous and evergreen species, whilst the under storey is composed of evergreen, often gregarious, species (Hall and Swaine, 1981). Most characteristic commercial species of these forests are *Triplochiton scleroxylon*; *Entandophragma spp*; *Pericopsis elata*, *Khaya sp*, and *Chlorophora excelsa*.

Methods

Field Survey

Line transects techniques were used employing the dung-count method (Barnes, 1993). Dung-pile densities were considered a good measure of the occupancy of an area by elephants (Sam, 2000). Jachmann (1991) indicated that the elephant dung-piles seen on the ground reflects the accumulated occupancy over the preceding one or two months, while elephant counts are an instantaneous measure of occupancy. A reconnaissance survey which included trail walks and farmer interviews was carried out to have a fair idea of the distribution of elephants in the range. The communities were selected based on their proximity to the forest (2km radius), pre-existing information about elephant distribution, and probable elephant presence based upon information given by the Biodiversity Monitoring Unit (BMU) in Goaso and trail survey. After the reconnaissance, each reserve was stratified into blocks with low,

medium and high densities of elephants. Depending on the size of the reserve between 40-50 transects were systematically distributed (Buckland *et al.* 2001) in grids in the various proportional blocks.

Social Survey

A standard questionnaire with open and close-ended questions was designed to:

- uncover the history of elephant occupation in the study sites: trend in numbers, movement patterns for pre and post independence times (1957-1981-2000),
- ascertain whether elephants were permanently resident or seasonal migrants, and if migrants: the seasons they appeared, and issues on human-elephant conflict;
- whether elephants damaged crops, which crops, how human-elephant conflict was controlled, as well as utilisation of elephants by humans.

Interviewing the communities also provided an opportunity to inform and educate local people about the concept of corridors for elephants. Interviewees in each fringe community were selected based on proximity of their farms to the study area and the incidence of crop raiding activities.

Land Use Assessment

LandSat 7 TM images for 1990 and 2000 for the elephant range in Ghana were acquired and intensively analysed to identify landscape modifications and to assess critical areas for feasible wildlife corridors and areas of human encroachment or disturbances. During the field survey, GPS co-ordinates of some land-use forms were taken and these served as Ground Control Points (GCPs) during the processing of the images. Changes in forest cover over the 10 year period (1990-2000) for the individual forest reserves as well as 5km buffer of each reserve were determined. The team could not acquire similar images of study areas in neighbouring Cote D'Ivoire, hence field survey in these areas were very comprehensive and extensive. The survey trail extended from an area around the confluence of Bia and the Songan River, approximately 5km from Bianouanon, right up to the border on the Ghanaian side.

Results and Discussions

Elephant Distribution and Movement Pattern

Elephants in the region were found to live in fragmented habitats; three separate elephant populations were identified: the Goaso, Bia and the Ivorian population. In the Goaso cluster of forests, elephants were found to be confined to the south western part of the Mpameso forest reserve (see Fig. 2). Elephant activity was traced from the Bia Shelterbelt to the Bia Tano forest, an indication of occasional movement of elephants in these areas. Scientists have suggested a large elephant population for the Goaso complex (Dickson 1991; Parren *et al.*, 1999, Sam 2000; African Elephant Database 2000). The current study observed that elephant numbers are far less than suggested. An attempt to determine the numbers of elephants using dung counts in the Goaso Cluster of forests proved unsuccessful as the team could only come up with less than forty (40) dung counts, far below the minimum needed to give an estimate of numbers. In all the other forest reserves in the range surveyed, there was no sign of elephant presence except for old elephant bones in Ayum forest reserve, believed to be a relic of the Wildlife Elephant Control Programme in the range, some years back. In the Bia range, elephants were found to be confined to the southern part of the conservation area. A relatively high density of elephant indices were found in the BCA, compared to that found in the Goaso range of forest reserves, On the Ivorian side of the study area, elephants were found to be distributed in the north eastern portion of the Classified Forest Songan, the Classified Forest Bossematie and the eastern part of Classified Forest Beki.

The team did not find evidence of elephants in Bonkoni Forest Reserve, Ayum Forest Reserve, and Subin Forest Reserve as reported by Parren (2002). However, some local people in Asumura reported seeing an elephant about 4 years ago. At the time of the survey, heavy felling activity was ongoing in the Ayum Forest Reserve. Surveys conducted in Krokosua Forest Reserve showed that elephants had not been seen in the area for more than 10 years. On the Ivorian side, the elephant population was not as promising, agreeing with the observations expressed by Versteegen (1994). Reports from a 10 years monitoring programme implemented by SODEFOR, recorded only two groups of elephants in the Songan Classified Forest; one group had 10 individuals and the other just two elephants. The team

observed evidence of elephants at the confluence where the Bia River joins the Songan river close to Bianouanon, a fringe community of Songan Classified Forest. Following the 25km long river from the confluence right up to the point where it enters into Ghanaian territory (Fig. 2), the team did not find any signs of elephants which might have used this riparian area for migration. Ground surveys and interviews with farmers and households close to the reserves on the Ivorian side, showed that, elephants had never used the proposed 25km long riparian vegetation from the confluence of the Songan river as passage into Ghana, at least not over the past decade.

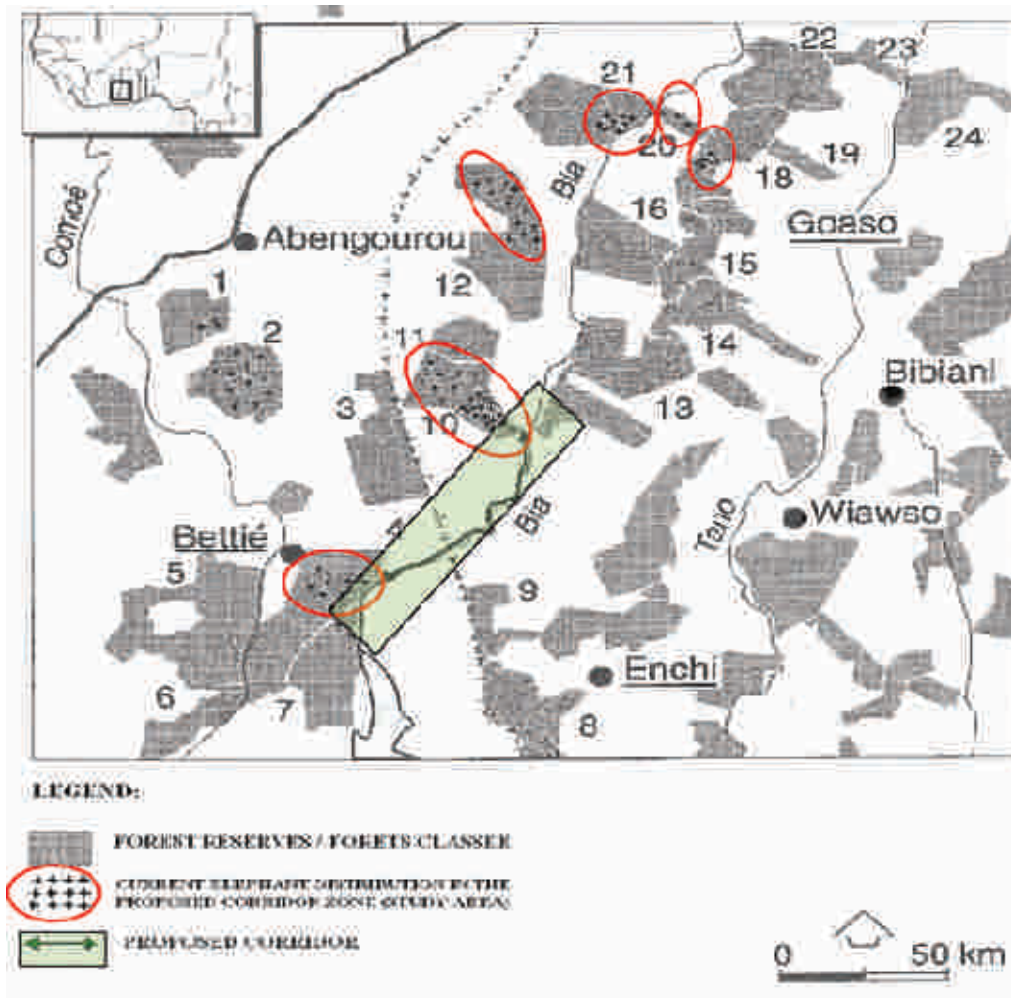


Fig 2. Current elephant distribution and potential international corridor

From the interviews with local community members it became apparent that there has been a decrease in the extent of the forest cover, especially during the past few decades (80% of respondents). About 87.5% of respondents were farmers, giving an indication that farming is the major land use activity in the area. Most respondents (93.9%) were not aware of what an elephant movement corridor is. A large proportion of respondents (84%) of people living in the fringes of forest reserves in Goaso as well as fringe communities of BCA, complained about problems living in close contact with the elephants, with crop raiding being the most prevalent complaint; 79.2% of interviewees complained of elephants raiding their farms more than once. Although local community members unanimously (95.6%) declared experiencing difficulties living in these areas, because of the absence of basic social amenities, a majority of them (61.2%) said they would not relocate, even if compensated.

Assessment of Vegetation Cover Over a Decade (1990- 2000)

For the Goaso complex, between 1990 and 2000, the forest cover within the forest blocks had decreased by 4.53%. Forest loss was estimated to be 326.23 ha per annum. The size of degraded or open areas saw an increase of 18.95% (Fig 3 & 4).

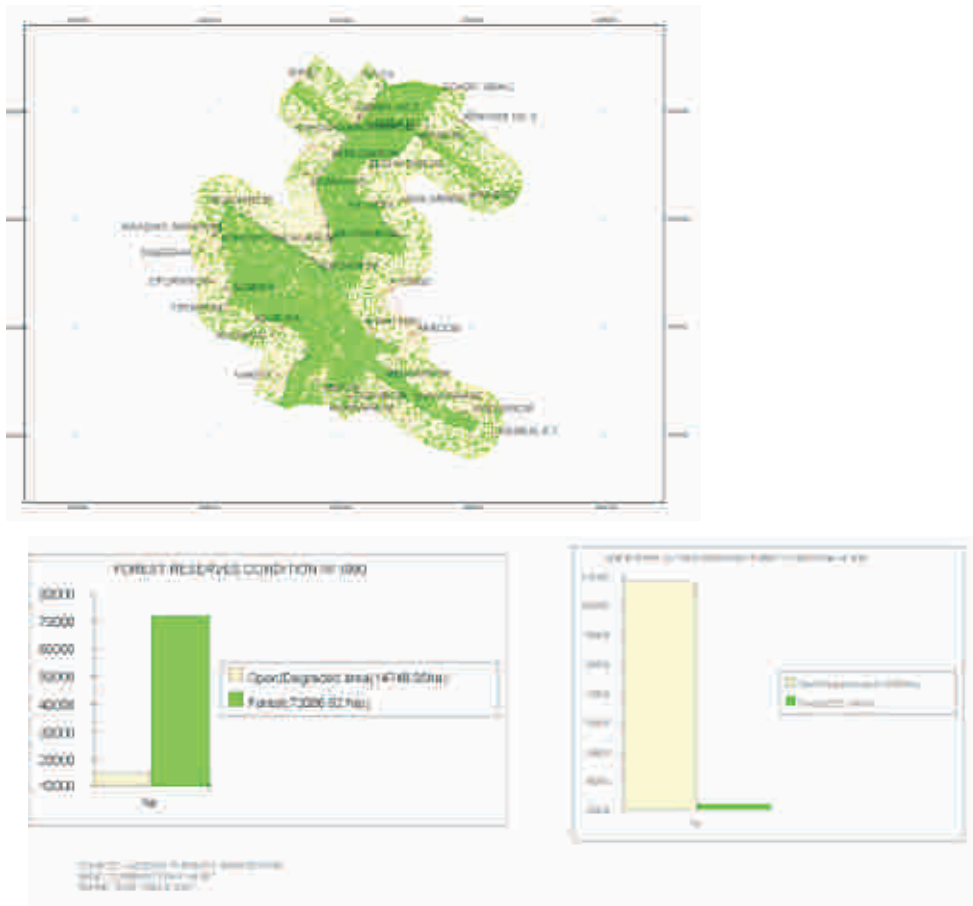


Fig 3. Condition of Goaso range of Forest Reserves analysed for 1990

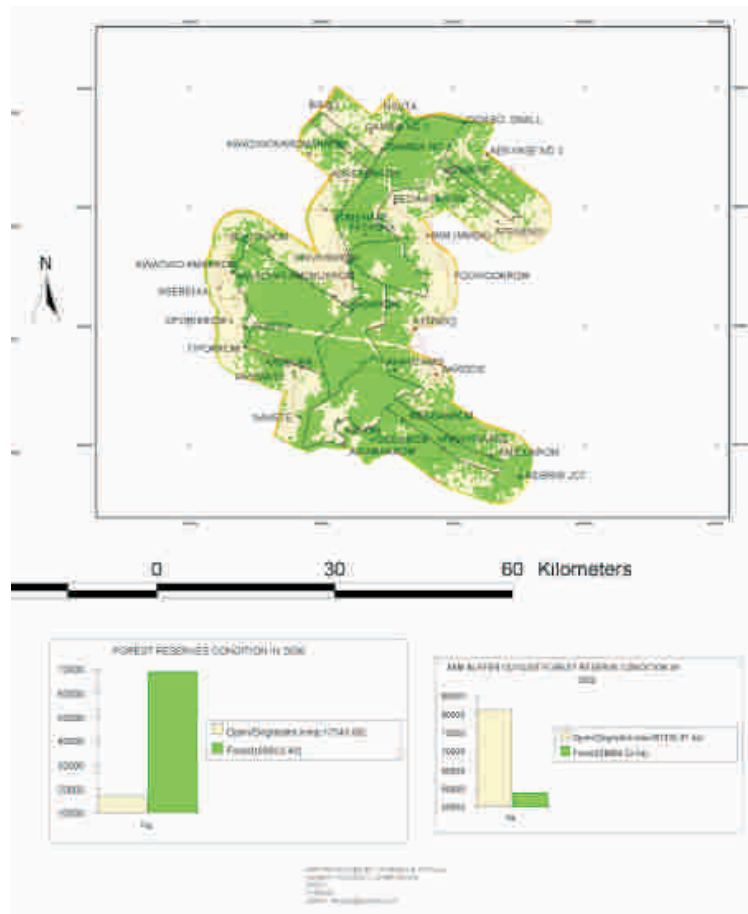


Fig 4. Condition of Goaso range of forest reserves analysed for 2000

The increase in open area in the reserve is due to small scale (illegal) logging and encroachment by farmers in the forest reserve. In a 5 km radius of the forest reserves, there was an 82.96% increase in the non-forest vegetation cover, mainly large scale cocoa and coffee plantations, and mainly in the southern parts of the Goaso forest complex. The situation for the Bia Conservation Area was no different from that in the Goaso Cluster of Forests (Fig 5). Although only data for vegetation cover within the forest reserve was available for analysis, what was observed was not different from the condition described by Sam (2000): an ecological island surrounded by a sea of cocoa farms. It was observed that between 1990 and 2000, the forest area decreased by 15.11% with annual loss of forests estimated at 275 ha per annum. Large scale logging in the southern portion of the BCA, which was then a Resource Reserve, saw the area of closed forest converted to open forest increase from 14008 ha in 1990 to 17286 ha in 2000, an increment of by 23.41%.

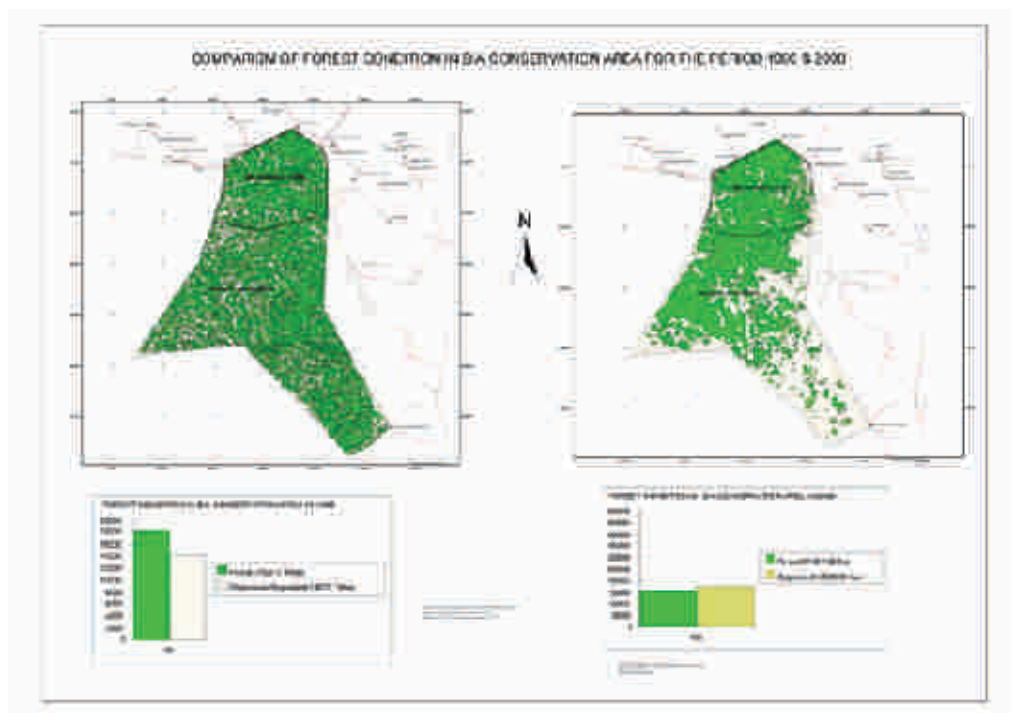


Figure 5: Condition of Bia Conservation Area analysed for 1990 and 2000

Feasibility of Proposed Transboundary Corridors

In line with the findings of the present study, the only corridor that would be viable, having a large impact on elephant populations and little negative impacts on human fringe communities, is the Bia River Corridor (Fig 2). Present estimates of settlements along the Bia River on both sides of the border shows an increase in human population, with increased developmental activities. Bianouanon (in Côte d'Ivoire), which lies approximately 10 km from the Bia Songan Confluence, will pose a challenge to the whole corridor project. Several development projects along the proposed corridor path, such as bridges and access roads, show that although plans were far advanced for the establishment of an elephant corridor, neither of the two governments took the proposed corridor into account in regional infrastructure planning. According to information gathered in the two countries, the corridor project will be unsuccessful and technical and donor financial support wasted, if governments of both countries do not incorporate the intended plans for the corridor into their regional planning policies. With regard to the Diambarakrou Corridor, the present declassified status and drastic degradation of the Forest Reserve and surrounding lands does not provide a good opportunity for corridor establishment between Classified Forest Songan and Bia GPR.

Conclusions

Continuous land conversion from forest to cocoa and coffee plantations and illegal logging and hunting activities in elephant ranges in both Ghana and Cote D'Ivoire have led to a drastic decline in the number of elephants. The decline in numbers, destruction of the habitat and the consequent isolation of elephant populations, does not provide a promising scenario for the survival of the species in these countries. Local community members clearly acknowledge the decline in elephant numbers in the area and embrace the idea of elephant conservation. To most settlers, land is a precious legacy which would be difficult to sacrifice for the sake of conservation. People further expressed fears that they might not be compensated after they have been evicted from the land if a reserve is established, as has occurred in other areas. Although there has been an increase in human and development activities in the area between Western Ghana and eastern Cote D'Ivoire, the present study indicates that the area around the BCA still offers a possibility for the establishment of an international corridor to facilitate the movement of elephants.

Recommendations

There is an urgent need for intensification of elephant conservation activities in Western Ghana and Eastern Cote D'Ivoire. However, the option of resettlement and compensation need to be critically looked all, with a comprehensive environmental impact assessment does not seem an agreeable option to the local populations in the proposed corridor zone. Establishing the corridor would give rise to socio-economic problems which could impact negatively on the lives of people in the area. Any effort to resettle the people should involve a comprehensive negotiation program and collaborative strategy so as to ensure its success. There is a need for Ghana and Cote D'Ivoire to harmonise new infrastructure development and land use plans in order to avoid a situation where one or both of the countries undertake activities that disrupt plans to create an elephant migratory corridor. The lack of awareness about the corridor project, suggests that a sensitization program should be the first line of action to ensure collaboration from local populations. Success of the program can only be assured if local people understand its importance and are convinced that they will be compensated for loss of access to the areas concerned and possible damage from elephant populations to their crops. As the area presents high agrarian economies, both governments need to be prepared for the negative impact, the loss of agricultural areas, may pose. Clearly, these areas are major cocoa and coffee production areas, important cash crops to the economies of both countries.

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Fisheries cooperation in the West Central Gulf of Guinea (Liberia, Cote D'Ivoire, Ghana, Togo, Benin and Nigeria)

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Summary

Marine fish stocks are transboundary by nature and their management requires multinational cooperation. The countries in the West Central Gulf of Guinea area are conscious of the need for cooperation in the management of their fisheries resources and recently established a committee; Fishery Committee for the West Central Gulf of Guinea (FCWC), to facilitate cooperation in fisheries management. The FCWC is the third committee within the zone covered by the Fishery Committee for the Eastern Central Atlantic (CECAF), after the Regional Fishery Committee for the Gulf of Guinea (COREP) in the south and the Subregional Fisheries Commission (SRFC) in the north. The Committee collaborates with FAO through CECAF, which provides technical as well as financial support. The World Bank initially provided financial support to the Committee and the Swedish International Development cooperation Agency (SIDA) intends to offer additional financial assistance for the Committee's effort in managing fisheries resources in its zone. The Committee aims at contributing to the improvement of governance through increased cooperation between the member countries. This includes, among others, improving sub-regional cooperation and ensuring sustainable fisheries management. Some of the expected synergistic benefits are exchange of knowledge and information, capacity building, collaboration in monitoring, control and surveillance (MCS) and combating illegal, unregulated and unreported (IUU) fishing.

1. Introduction

Marine fish stocks are transboundary by nature and their management requires multinational cooperation. Multilateral fisheries management bodies are in place in many parts of the world to facilitate management of shared fish stocks and this is also true for West Africa. The Food and Agriculture Organization of the United Nations (FAO) established the Fishery Committee for the Eastern Central Atlantic (CECAF)³ in 1967 for the African coastal countries from Morocco to Congo. Three sub-regional bodies were subsequently established in the region: Sub-regional Fisheries Commission (SRFC)⁴; Fishery Committee for the West Central Gulf of Guinea (FCWC)⁵ (see figure 1); Regional Fishery Committee for the Gulf of Guinea (COREP)⁶.

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⁴ Mauritania, Senegal, Gambia, Cap Verde, Guinea, Guinea Bissau and Sierra Leone.

⁵ Liberia, Ivory Coast, Ghana, Togo, Benin and Nigeria.

⁶ Cameroon, Congo (Democratic Republic of), Congo (Republic of) Gabon, Sao Tome and Principe.

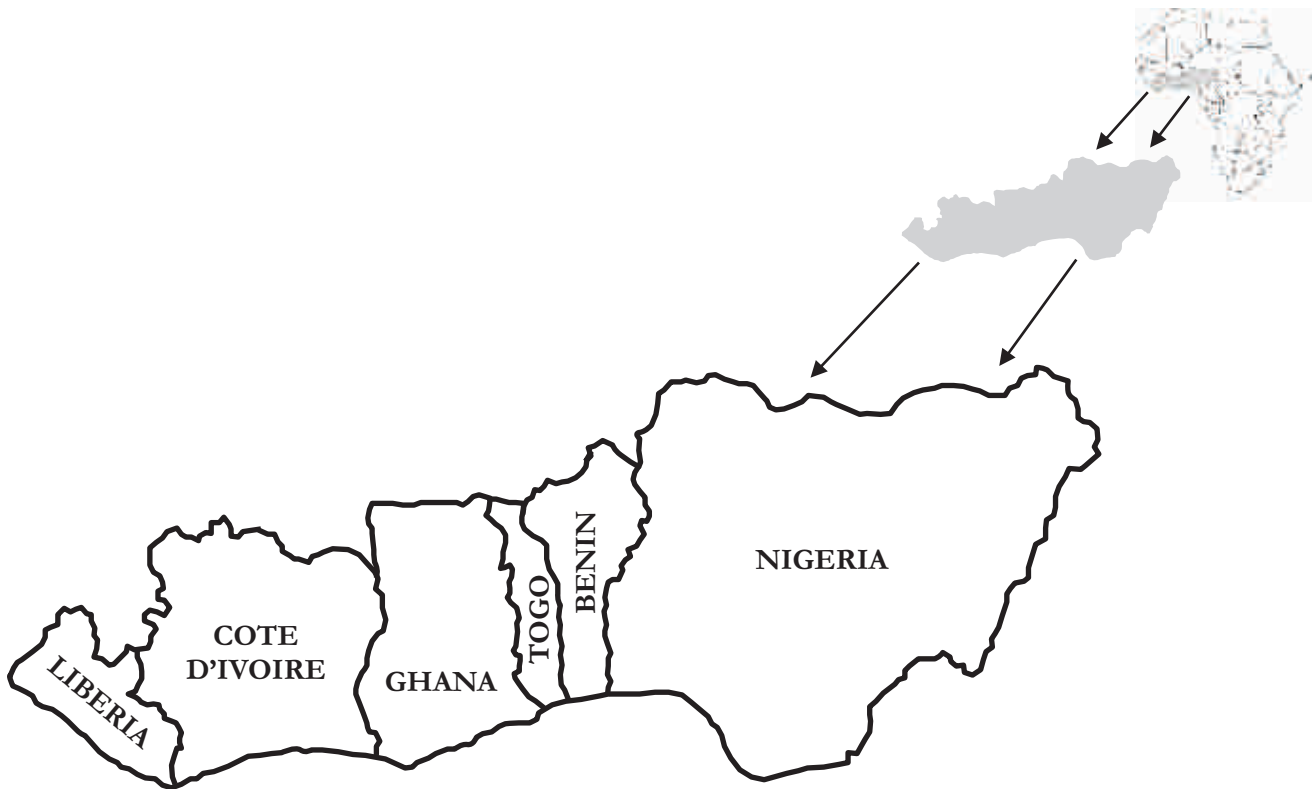


Figure 1: Map of Africa showing member countries of the Fishery Committee for the West Central Gulf of Guinea (FCWC).

The over-exploitation of fisheries resources and lack of national administrative capacity to manage the resources in a sustainable way are major problems in the Central Gulf of Guinea sub-region. The shared fisheries resources and catches are influenced by insufficiently harmonized national policies. Sub-regional cooperation is therefore a precondition for sound fisheries management and essential to avoid conflicts stemming from limited and migrating fish resources as well as from illegal, unregulated and unreported (IUU) fishing.

2. The state of the natural resource

The waters of the Eastern Central Atlantic, in particular the northern shelf areas from Morocco to Guinea are among the richest in the world with very high annual catches. Apart from substantial local fisheries, these resources have attracted large fleets of fishing vessels from Europe and Asia, often fishing for tuna species. The waters of the West Central Gulf of Guinea are not as productive as its neighbouring waters but in contrast these countries have the highest human population densities in the region. Hence these countries are net importers of fish and fish products and rely on catches from their neighbours.

The fisheries resources mainly exploited are large pelagic species as tuna, small pelagics such as sardinellas, anchovy, chub mackerel and bonga and demersals as for example *Pagellus spp.*, snapper, seabream, grouper, cassava fish, sole, shrimp and cuttlefish. Several of the species (for example sardinella, anchovy, seabream and shrimp) are fully- or overexploited, which makes the sustainability of livelihoods critical in the sub-region. Many of the important stocks, especially those of the highly productive pelagic species migrate up and down the coast, and therefore are shared by several countries in the region. Over the last decade, however, fish resources have been declining due to direct or underlying factors such as fishing by foreign fleets, domestic overcapacity, weak management of the fish stocks, lack of technical and scientific capacity, poor stakeholder participation and IUU fishing. In addition, there is a degradation of habitats and water quality in some areas. The socio-economic consequences of reduced fish catches due to these factors are severe and include increased poverty, food insecurity, health problems, less government revenue and increased conflicts within the fisheries sector.

3. Socio-economic aspects

Marine and freshwater fisheries are the primary sources of livelihoods for more than 5 million people in West- and Central Africa and provide for between 30 and 60% of the protein intake in the region. Various national studies carried out within the FAO executed Sustainable Fisheries Livelihoods Programme (SFLP), show that the fisheries sector typically contributes between 3 and 5% of the national GDP, and up to 23% of the primary sector GDP in some countries (SFLP.2007). The large scale or industrial sector is a significant contributor to national revenue in some countries. It is, however, not the most important employer or the most important supplier of fish to national and regional markets. Instead it is the artisanal (traditional & small-scale, often with wooden canoes) fisheries which fulfils these needs. However, investments in fishing equipment are expensive and at a high risk, often leaving many people in debt.

Fish products are an important source of affordable animal protein and micronutrients. The seasonality of the fisheries in this region makes different types of preservation very important, such as drying and smoking, which are conducted by women (figure 2). Women often play a key part in industries and economies and that is also the case in fisheries. Despite this role, women are the poorest group in the region alongside children.



Photo: Courtesy of Jessica Hjerpe Olausson

Figure 2: Woman salting fish

The major problem for marine small scale fishermen, traders, processors and fishery dependant communities in the region is the over-exploitation of fisheries resources and the lack of national administrative capacity to manage the resources in a sustainable way. In addition, fisher communities constitute one of the highest risk groups for HIV/AIDS due to their high degree of mobility. This is a severe threat to the communities, the profession and thus to food security.

4. The management situation today

The fisheries administrations in the countries of the West Central Gulf of Guinea lack adequate financial, material and human resources to undertake their fisheries resources management task efficiently and effectively. Shortage of staff and regulatory structures weaken law enforcement in some of the countries, especially those coming out of conflict as for example the situation in Liberia with the civil war.

In all the FCWC member countries, except Ghana where there is a Ministry of Fisheries, fisheries administration is within the Ministry of Agriculture. The legislation and fisheries management situation is similar in these countries, but many of them are yet to establish regulatory frameworks to enforce fisheries laws and implement the principles of the FAO Code of Conduct for Responsible Fisheries (FAO1995).

The fisheries in the sub-region are characterized by open access. Management is limited to mesh size regulations (which are not always complied with), licensing of industrial vessels only, zonation of fishing grounds for industrial and artisanal units (often violated) and surveillance, the latter generally limited to port inspection due to lack of suitable vessels to carry out inspections at sea. Thus, in practice, there is no limitation to the quantity of fish caught or landed. In addition, there is no licensing system in place for the artisanal fisheries. The adverse effects are further compounded by IUU fishing activities in the sub-region.

Governance of fisheries includes several aspects such as socio-economic, natural and human (Table 1). Many of the problems are common to all the member countries, so solving them requires a joint effort in exchanging knowledge and information, improving management tools, improving MCS and combating IUU fishing. The results of the recently initiated subregional cooperation will hopefully improve the state of the fisheries resources in all the six countries.

Assets	Definition	Example of problems
Financial	The capital base; cash, credit/debt, savings, access to micro credit.	Debts, no access to micro credit.
Natural	Natural resources, e.g. fish stocks, oceans/beaches and freshwater.	Dwindling fish stocks, pollution.
Social	Networks, social claims, relations, affiliations, associations.	Absent parents (migration), no formal cooperation between fisher folks.
Human	Skills, knowledge, labour, good health, physical capability.	HIV/AIDS and other health related issues, illiteracy, etc.
Physical	Access to landing sites, cold rooms and other infrastructure.	No access to infrastructure such as cold storage, transport, market, etc.

Table 1: Table showing the assets of a fishing community in the sub-region (according to a livelihoods approach), a short definition of these assets and some examples of problems encountered. (Krantz, Lasse 2001)

5. Establishing a Fishery Committee

At the sixth meeting of The Ministerial Conference on Fisheries Cooperation among African States bordering the Atlantic Ocean (ATLAFCO) in 2005, a request was made to FAO for an assessment of the possibilities to establish a sub-regional fisheries committee in the West Central Gulf of Guinea. Pursuant to this request, FAO conducted a feasibility study in March 2006. The result was reviewed in April 2006

by Directors of Fisheries of the six countries concerned and they agreed to establish a sub-regional fisheries committee, which is known as the Fishery Committee for the West Central Gulf of Guinea (FCWC).

In July 2006, a Ministerial Meeting held in Abidjan, Côte d'Ivoire issued a declaration to endorse the establishment of the Committee and approve the hosting of the Secretariat in Tema, Ghana. It was agreed that the FCWC will be a fisheries management advisory body to the countries with no regulatory powers. The Committee will apply the principles of the FAO Code of Conduct for Responsible Fisheries.

A first Ministerial Conference held in Cotonou, Benin in November 2007 approved the Convention for the Establishment of the Fishery Committee and the Rules of Procedure. The 2007/2008 Work plan and budget was also adopted at the Conference. The budget includes expected contributions from the member countries, FAO, more specifically from the FishCode STF-project (Status and Trends of Capture Fisheries) as well as from the Swedish International Development co-operation Agency, SIDA.

6. Contribution of the FCWC in the conservation and management of fisheries resources

Initially, the FCWC will focus on the natural assets and on governance issues. The Committee would like to contribute to improved governance through increased cooperation between the member states in managing fisheries resources within national jurisdiction. This includes improving sub-regional cooperation and ensuring sustainable fisheries management. The close links with FAO through CECAF and funding from the FAO FishCode STF-project provide an opportunity to work on harmonizing fisheries data collection (CECAF report 2006). Assessments of sub-regional stocks will be useful in improving data quality and information required for resource management recommendations. The Committee, in collaboration with the Fish Code STF-project, consulted fisheries technicians in the sub-region and recommended the creation of a working group on improving fisheries information collection systems. This activity will be supported in the respective member countries by the FAO FishCode STF-project.

The Committee intends to work on harmonizing fisheries legislation in the sub-region and strengthening monitoring, control and surveillance (MCS). The latter will entail an agreement on minimum terms and conditions, establishing and exchanging a list of registered and authorized vessels in each country, establishing a sub-regional register for good standing vessels (i.e. vessels that are following laws and regulations), initiating studies on a sub-regional Vessel Monitoring System (VMS), and sharing knowledge through publicising reports on common issues.

Furthermore, the Committee will encourage exchange of experiences amongst the Fisheries Administrations in the sub-region and create a forum for scientists and managers to address fisheries management problems. Best practices will be catalogued as a basis for reviewing fisheries management policies and methods and proposing appropriate adjustments.

7. Linkages

To be able to obtain the objectives mentioned above and to have a sustainable, long term impact, it is imperative that the FCWC works closely with other organisations and projects in the area. Synergies are expected to be reached through complementary activities undertaken by FAO's TrainFish and FishCode projects, the UNIDO/GEF Guinea Current Large Marine Ecosystem Project in the region and other relevant programmes/projects. FAO has also recently started the implementation of the Ecosystems Approach to Management (EAF) in the region of West Africa, and this is something that should also be part of the Committee's work.

The World Bank was involved in the setting up of the legal basis for the establishment of the FCWC and the FCWC is hoping to benefit from the support of the World Bank (Profish program) also in the future. The New Partnership for Africa's Development (NEPAD), the Economic Community of West African States (ECOWAS) and the West African Economic and Monetary Union (UEMOA) have fisheries development programmes that would require FCWC collaboration and the Committee will work closely with them in implementing their fisheries programmes.

The Committee is open to developing partnerships with other sub-regional or regional organizations and will encourage universities and NGOs to participate in and contribute to its activities when appropriate.

8. Discussion and conclusion

After a long dialogue on fisheries cooperation framework in the West Central Gulf of Guinea, the establishment of the FCWC was warmly welcomed. The success of the Committee will, however, depend on the determination and willingness of the member countries to collaborate and the availability of financial and human resources. Working with other programmes and organizations in the sub-region, as well as in the West Africa region, will further enhance synergy and sustainability of efforts. Effective conservation and management of fisheries resources will require activities that are sustainable in the long term.

The Committee will have to avoid the common error of existing organizations which often offer one off and “last minute” support to fisheries administrations on improving governance, at the expense of socio-economic issues and knowledge of fisheries stocks. When such governance approaches give unsatisfactory results, the fisheries resources dwindle and poverty increases among the fisheries sector stakeholders.

In addition to avoiding such “last minute governance”, the challenge for the FCWC will be to integrate old and new initiatives at the level of the individual (researchers), specialized structures (universities and research institutes), and development programmes and organizations to its activities in the sub-region, all to ensure comprehensive and sustainable solutions for the fisheries sector.

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COUNTRY FOCUS: Sudan

Salwa Mansour Abdel Hameed gives an interview to Nature & Faune

Sudan is the largest country on the African continent with a land area of about 2,376,001 sq km and a total area of 2,505,810 sq km. This enormous country has the largest freshwater wetland in Africa, located in the south. The Red Sea also washes about 800 km of its eastern coast. The country is crossed from north to south by the Nile, with all its huge tributaries partly or completely within its boundaries. These attributes are a great foundation for a teeming wildlife. Nature and wildlife seem to have met in Sudan.

In order to better understand this country's rich rangelands and wildlife, Nature & Faune interviewed Dr Salwa Mansour Abdel Hameed, Associate Professor, Director, Wildlife Research Centre, Ministry of Science & Technology, Omdurman, Sudan.



Salwa Mansour Abdel Hameed, PhD

Nature & Faune: The world greeted with much joy the fantastic news from Wildlife Conservation Society (WCS) in their June 12, 2007 press conference on the animal migrations in Sudan. Dr. J. Michael Fay of WCS expressed his feelings as “I have never seen wildlife in such numbers...” and “This could represent the biggest migration of large mammals on Earth.” Tell us more about this rather striking phenomenon! Is it the result of a deliberate national policy or a random occurrence?

Salwa Mansour Abdel Hameed: We in Sudan think that the huge animal migration observed by WCS officials is a return back home movement from safe havens where these animals took refuge from mines and fire arms during the 21 years of armed conflict experienced by the country.

Southern Sudan is home to a teeming number and variety of plants and animals, including endemic ungulates, birds and reptiles, distributed in its seven ecological zones (bush land, woodland, shrub land, bush grass land, wooded grass

land, dwarf shrubs grass land and swamps)(Hillman 1985). Moreover, Southern Sudan has an extensive system of National Parks and Game Reserves dating back to the 1930s.

During the long period of the armed conflict in the country, wildlife disappeared and it was impossible to keep track of them in the country as the civil war raged on in Southern Sudan. The huge return of the animals to their natural habitat is a happy phenomenon which gives us great joy!

However, the current poor state of the region after the armed conflict poses a real challenge for future progress in wildlife management. Protected Areas are unguarded, a great number of unlawful people are still carrying fire arms around in the region, and administrative and national parks infrastructure have collapsed, creating an unfavourable situation for sustainable wildlife management (Wani, 2007)..

Nature & Faune: What is the importance of wildlife resources in the economy of Sudan?

Salwa Mansour Abdel Hameed: In assessing the economic value of Wildlife in Sudan, we deal only with money directly collected from the Administration's activities, such as selling of hunting licenses, sale of wild animals, export fees of live wild animals and wild animal products, fees for raising wildlife in captivity and income from entry fees to Natural Parks. There are about 31 Game Farms and investment in these attractions started in 1992. It is, however, an unsuccessful practice.

Such monetary values fail to account for benefits derived from tribal hunting and tourist expenditures are not also accounted for. For many centuries, ivory, ostrich feather and reptilian skins (pythons, snakes, crocodiles, monitor lizards, turtles, wild cats) have been the most important items in Sudan exports. Also the trade activities on live animals such as dorcas gazelles (*Gazella dorcas*), monkeys, ostrich, parrot, love birds, tufted guinea fowl, eagles and other birds had increased during the 1980s and 1990s. Trade is almost attributed to dorcas gazelle, it contributes 50% of the wild animals export.

A total of 36 countries in three continents (Europe, Asia and North America) imported wild animals and their products from Sudan. The percentage of the economy that is derived directly from wildlife is very minimal, but revenue accruing indirectly from ecotourism and sport hunting is around 14% (Ministry of Tourism and Wildlife).

Eco-tourism as economic investment is not of great economic benefit, e.g. the number of tourists in 2001 was 5000, and it increased to 117,743 in 2005. The revenue increased from USD 60,400,000 in 2001 to USD 146, 234, 200 in 2005. The revenue from tourists that visited Dinder National Park in 2006 increased from previous years to US.D 472, 450 (excluding secondary economic returns from hotels, food, equipment and transportation, meat, trophies etc). Many tourists from Europe and Asia came for Hunting Sports; they hunt in particular dorcas gazelles, ducks, goose and bustards. The number of licences had increased throughout the years since 1995 and the revenue increased from US.D 76,456 in 1995 to US.D 124,343 in 1998. Organized hunting is flourishing once more, after the 3 year (1995-1998) ban on hunting was lifted.

Nature & Faune: What are the current Wildlife initiatives in the country? Is Sudan planning any groundbreaking programme?

Salwa Mansour Abdel Hameed: After the establishment of the Ministry of Wildlife and Tourism, there has been many initiatives for investment in the area of eco-tourism. There is also an IFAD Project, initiated in 2007, for Land Use Planning and Development of Natural Resources, which is assessing wildlife and other natural resources in Kordofan State/ Western Sudan

The policy and legal framework within which the Wildlife Administration is currently operating are: The Wild Animal Ordinance and Regulations (1935) and the National Parks, Sanctuaries and Reserves Regulation (1939). These were great legal instruments at the time, but have become ineffective in recent times.. Although they were amended in 1982, they are still not very relevant to present wildlife issues in Sudan.

A new wildlife law is being drafted and decision makers and wildlife practitioners alike are hopeful that it will be innovative and pragmatic in addressing current and emerging issues in the sector. The drafting of this prospective law under the auspices of the Federal Government began after the Peace Agreement, the adoption of which is the first priority in wildlife conservation efforts in Sudan. Furthermore, the "Strategies for Management of Natural Resources and the Environment" is undergoing review for imminent adoption. This is certainly a novelty in the Wildlife sector and it is generating much fervour in the sector.

It is pertinent to mention that the overarching National Environmental Management Policy provides the framework that guides environmental and natural resource management and reflects the country's commitment to social and economic development that are environmentally sustainable, bringing longterm benefits to all Sudanese citizens.

Nature & Faune: What are Sudan's experiences on Conservation of wildlife across national territorial boundaries? Does Sudan have Cross-Border Parks? What is Sudan planning in this sector?

Salwa Mansour Abdel Hameed: Sudan has bilateral wildlife protection agreement with Ethiopia, Republic of Central Africa, Chad, Kenya and Uganda. Specifically, Nimule National Park shares boundary with Uganda, while the proposed Imatong Mountain National Park is at the Sudan/Kenya border. Several initiatives are being developed, such as Wadi Allalagi Protected Area along Sudan/Egypt frontier, which is a proposed Biosphere Reserve. The UNESCO Man and Biosphere programme is starting preliminary surveys under the auspices of its Cairo Office.

Nature & Faune: Your country will be hosting the African Forestry and Wildlife Commission (AFWC) and the Near East Forestry Commission (NEFC) simultaneously in February 2008. This joint meeting is the very first in the history of the two statutory bodies of the Food and Agriculture Organisation of the United Nations! Why is Sudan the right choice for this unique gathering of forestry and wildlife practitioners from Africa and the Near East?

Salwa Mansour Abdel Hameed: You may recall that Sudan is widely regarded as a bridge between the African and Near East civilizations. Moreover, Sudan had once successfully hosted a meeting of the Near East Forestry Commission, even though this is the first time it is hosting the African Forestry and Wildlife Commission. Sudan has a unique status of being a member of both Commissions and that qualifies it as the appropriate venue for the maiden joint meeting. We are cognizant of the social and economic dividends the joint meeting will yield to our nation. Besides, it is desirable and laudable that the two Commissions have the rare opportunity of coming together to share knowledge and experiences and jointly seek the way forward in enhancing the sustainable management of their respective region's renewable natural resources.

Nature & Faune: It is our understanding that the Working Party on Wildlife and Protected Areas will be in session at the same period and venue. What is the mandate of the Working Party on Wildlife and Protected Areas? What do you think are the key wildlife issues in Africa that should merit the attention of this meeting?

Salwa Mansour Abdel Hameed: The Working Party on Wildlife and Protected Areas (WPWPA) is one of those 'subsidiary bodies', which evolved out of the ad hoc Working Party on Wildlife Management established in early 1960s and subsequent Working Party on Wildlife Management and National Parks. Initially the Working Party was established to draft the African Convention on Wildlife Conservation, nowadays its mandate is to address emerging issues and respond to the continuous internal reflection, monitoring and strategic evaluation of its role in wildlife management in Africa.

As developing nations, Sudan and many other countries in Africa with fragile economies face the challenge of balancing the desire to invest funds and efforts directly in wildlife resources management and the need to spend our funds in food security, livelihood improvement and poverty alleviation for our citizens. Fortunately, the objective of conservation of wildlife and that of achieving food security are not an either/or situation - we do not have to choose between developing protected areas and feeding our citizens. Both are linked! For example food security is linked to key wildlife issues such as bushmeat, Human-Wildlife Conflicts, wildlife rearing and ranching/farming, valuation through sustainable use and proper distribution of benefits from wildlife industries such as ecotourism, trophy hunting, etc.

Nature & Faune: As the Head of the Wildlife Research Centre within the Ministry of Science & Technology, what aspect of Sudan's forest ecosystem and wildlife resources would you want to particularly highlight in this edition of Nature & Faune? What in particular would you want to show-case to your guests during the joint AFWC/NEFC meeting in February 2008?

Salwa Mansour Abdel Hameed: Sudan's National Comprehensive Strategy devotes considerable attention to biodiversity conservation and encourages the private sector to invest in the conservation of natural resources. Under the strategy additional protected areas have been established, efforts are being made to increase level of local community awareness in conservation matters, as well as strengthening cooperation with neighboring countries in the field of wildlife conservation. Sudan takes pride in the fact that we have at present 10 national parks, 14 games reserves and 3 sanctuaries representing the major habitat types. I will also want to draw attention to the current strategy for management of Dinder National Park (DNP). The implementation of the strategy in the running of DNP effective 2002 has resulted into significant accomplishment.

Generally speaking management of most African Protected Areas, whether Biosphere Reserves or not, need to address the issue of involving the local communities in development of natural resources. Moreover it must encourage the use of research findings in augmenting the development of overall strategy for sustainable use of natural resources, biodiversity conservation and land use, depending on the situation of the specific Protected Area.



Wildbeest Migration

Photo: Wolfgang Braustein. Courtesy of Bushbuck Adventures, Website: www.bushbuckadventures.com

Central African World Heritage Forest Initiative (CAWHFI)

The Central African World Heritage Forest Initiative (CAWHFI) offers an innovative alliance between national authorities of Cameroon, Central African Republic, Congo and Gabon and a group of partners including the World Heritage Center of the United Nations Educational, Scientific and Cultural Organization (WHC-UNESCO), Food and Agriculture Organization of the United Nations (FAO), the World Wide Fund for Nature (WWF), the Wildlife Conservation Society (WCS), Conservation International (CI), Fonds Français pour l'Environnement Mondial (FFEM-French Global Environmental Fund), the United Nations Foundation (UNF) and the United Nations Fund for International Partnerships (UNFIP), CyberTracker Conservation and Réseau des Aires Protégées d'Afrique Centrale.

The initiative aims to improve the management of protected areas of the Congo Basin that could be recognized as of "outstanding universal value" and to improve their integration in the ecological landscape encompassing them. Its general objective is to "promote and support the building of management regimes for Central Africa forest protected areas that will satisfy standards befitting World Heritage status and effectively combat the principal threats of illegal hunting and unregulated bushmeat trade".

National Parks benefit from the UNF-cofinanced component of CAWHFI and in areas surrounding National Parks, the FFEM component of CAWHFI is being implemented. The initiative operates in tree transboundary landscapes including various sites :

- ⌘ The Tri-national Sangha Landscape
 - Lobeke National Park (S.-E. Cameroon)
 - Dzanga-Sangha National Park (Central Africa Republic)
 - Nouabale-Ndoki National Park (Congo)
 - Kabo and Loundougou forest concessions surrounding the Nouabale Ndoki NP (Congo)
 - Sangha river banks between Pikounda (Congo)
 - Salo (Central Africa Republic)
- ⌘ The Tri-National Dja-Odzala-Minkebe Landscape (TriDOM)
 - Minkebe National Park (Gabon)
 - Odzala-Kokoua National Park (Congo)
 - Dja, Boumba Bek and Nki National Parks in South-East Cameroon
 - Forest concessions surrounding Boumba Bek and Nki National Park
 - Forest Corridor connecting Minkebe NP with Ivindo NP
 - Ngombe forest concession and surroundings of the Odzala-Kokoua NP
- ⌘ The Gamba-Conkouati Landscape
 - Gamba complex of protected areas (Gabon)
 - Mayumba National Park (Gabon)
 - Conkouati-Douli National Park (Congo)
 - Mandji forest concession surrounding the Gamba Complex of PA
 - Surroundings of the Conkouati-Douli NP and adjacent oil concessions.

The first component of the initiative, cofinanced by UNF, was launched in 2004, with a specific objective to improve the protection of the 9 most important national parks of these 3 landscapes by combating illegal hunting and regulating bushmeat trade, strengthening law enforcement and using the World Heritage image to improve protected area management and long-term financing. Its main activities include capacity building of staff members of the national protected areas and wildlife services, providing technical and logistical support, and raising awareness, both at governmental and local level, on the outstanding value of these ecosystems.

The second component, cofinanced by FFEM, joined the initiative in late 2006 focusing on national park peripheral zones (e.g. logging & oil concessions). Seven pilot projects are carried out, characterized by an innovative approach. For example, the establishment of discussion platforms that gather all local stakeholders involved in forest exploitation and management to elaborate and implement sustainable wildlife management schemes. The component specifically aims to (1) build capacity in the surroundings of protected areas to allow community-based wildlife resource management; (2) elaborate wildlife management plans for these areas with all local stakeholders (including the private sector operating concessions located around protected areas); (3) implement and monitor wildlife management plans.

So far, CAWHFI has significantly contributed, through its capacity building and law enforcement efforts, to the conservation of critical populations of flagship species such as elephants, gorillas, hippos, etc. Strong working relations have been developed with local stakeholders, including private sector operators and local administrations to promote the sustainable management of natural resources at landscape level. CAWHFI partners also contributed to the creation of the Tri-National Sangha Trust Fund. This Fund is the first initiative of Central Africa that aims to provide sustainable financing for conservation activities. Joint efforts from Gabonese authorities and CAWHFI partners succeeded in obtaining the inscription of Lopé-Okanda, a mixed natural and cultural site, on the World Heritage List on 28 June 2007, during the World Heritage Committee meeting held in Christchurch (New Zealand).

For more information, please see: <http://whc.unesco.org/en/cawhfi>

Fouta Djallon Highlands Integrated Natural Resources Management Project

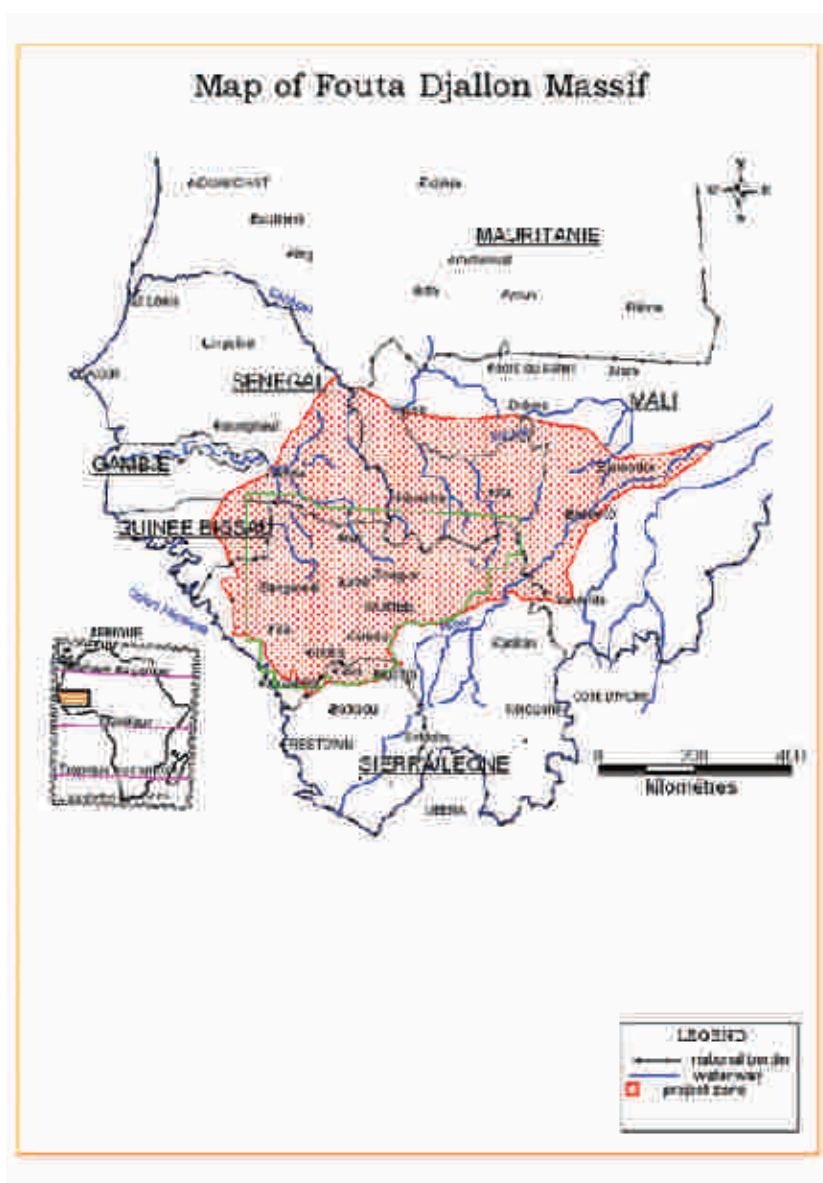
The Fouta Djallon Highlands (FDH) are a series of high plateaus concentrated in the central part of the Republic of Guinea but whose areal extent continues into Guinea-Bissau, Mali, Senegal and Sierra Leone. This highland area is the point of origin of a number of international rivers, notably the Gambia, Niger and Senegal Rivers, as well as a number of small water courses contributing to the characterization of the area as the “water tower” of West Africa. Due to their geographic and climatic diversity the Highlands and surrounding foothills also support a rich diversity of ecosystems that include savanna, dry forest, high forest, lentic, lotic, as well as agro-ecosystems.

Already in the 1970's the Fouta Djallon Highlands Regional Integrated Management Programme (FDH-MP), involving the eight countries that depend on waters from the Highlands (Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, Senegal and Sierra Leone) was established. Despite these efforts, a number of growing threats over the last four decades have combined to take their toll on the Highlands' natural resources and contributed to a decline in their value as a source of water, endemic biodiversity and bio-productive potential. While the underlying causes are numerous and diverse, the main sources are: population pressure, poor or ineffective policies, and weak institutions.

A GEF-funded project was developed, where UNEP will be responsible for overall project supervision, the International Bureau of Coordination of the African Union will host the Regional Project Coordination Unit and the FAO will provide the overall co-ordination and technical backstopping. The development objective of the ten-year Fouta Djallon Project is to ensure the sustainable management of the natural resources of the Fouta Djallon Highlands over the medium to long-term (2025) in order to improve livelihoods of the rural population who are directly or indirectly dependent on the FDH. The environmental objective of the Project is to mitigate the causes and negative impacts of land degradation on the structural and functional integrity of the ecosystems of the Highlands through the establishment of a regional legal and institutional framework and institutional capacity designed to: (i) facilitate collaboration in the management of the FDH; (ii) assess the status of natural resources in the FDH; and (iii) develop replicable, community-based sustainable land management models.

Expected project outcomes include:

- Enhanced Regional Collaboration in integrated natural resources management in the FDH
- Improved Natural Resources Management and Livelihoods in the FDH
- Increased Stakeholder Capacity in integrated natural resources management in the FDH
- Project Management, Monitoring and Evaluation, and Information Dissemination.



Collaborative Partnership on Forests (CPF)

The Collaborative Partnership on Forests (CPF), established in April 2001, is an innovative partnership of 14 major forest-related international organizations, institutions and convention secretariats. The CPF is currently comprised of 14 member organizations: Center for International Forestry Research (CIFOR), Food and Agriculture Organization of the United Nations (FAO), International Tropical Timber Organization (ITTO), International Union of Forest Research Organizations (IUFRO), Secretariat of the Convention on Biological Diversity (CBD), Secretariat of the Global Environmental Facility (GEF), Secretariat of the United Nations Convention to Combat Desertification (UNCCD), Secretariat of the United Nations Forum on Forests (UNFF), Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), World Agroforestry Centre (ICRAF), World Bank (WB) and the World Conservation Union (IUCN). The CPF is chaired by Mr. Jan Heino, Assistant Director-General of the Forestry Department of FAO, and is serviced by the UNFF Secretariat.

The objectives of the Collaborative Partnership on Forests are to support the work of the United Nations Forum on Forests (UNFF) and member countries and enhance cooperation and coordination on forest issues, for the promotion of sustainable management of all types of forests.

Joint initiatives developed by the CPF are:

- CPF Sourcebook on Funding for Sustainable Forest Management : to make forestry funding information accessible through an online searchable database;
- CPF Task Force on Streamlining Forest-Related Reporting : to reduce the reporting burden on countries;
- CPF initiative on forest-related definitions : to foster a common understanding of terms and definitions;
- GFIS: an initiative which aims to provide easy access to forest information world-wide for all types of stakeholders;
- CPF Web site: to provide information on the partnership and its activities

For more information, please see: www.fao.org/forestry/cpf

Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases

In 1994 FAO established an Emergency Prevention System (EMPRES) for Transboundary Animal and Plant Pests and Diseases in order to minimize the risk of agricultural pests and diseases migrating or spreading across borders, and causing major losses. Initial priority was given to two transboundary pest and diseases problems: animal disease component and desert locust component.

FAO's EMPRES-Livestock programme mission is to promote the effective containment and control of the most serious epidemic livestock diseases/Transboundary Animal Diseases (TAD) as well as newly emerging diseases by progressive elimination on a regional and global basis through international co-operation involving Early Warning, Early Reaction, Enabling research and Coordination. The programme continues to play a major role in the fight against persisting and/or spreading transboundary animal diseases at a global level, with emphasis however on developing countries. Salient under EMPRES is the Global Rinderpest Eradication Programme (GREP) which has advanced to a stage that large tracts of Asia and Africa have now been free from Rinderpest (RP) for an extended period of time. In addition to Rinderpest, EMPRES runs normative and operational activities on the containment and progressive control of various other serious transboundary diseases.

EMPRES works specifically on the following Transboundary Animal Diseases:

- African Swine Fever (ASF)
- Avian Influenza
- Contagious bovine pleuropneumonia (CBPP)
- Foot-and-Mouth Disease (FMD)
- Haemorrhagic Septicaemia
- Rift Valley Fever (RVF)
- Rinderpest

For more information, please see: www.fao.org/ag/againfo/programmes/en/empres/home.asp

Marine Protected Areas as a Tool for Fisheries Management (MPAs)

Under the project 'Promotion of sustainable fisheries: support for the Plan of Implementation of the World Summit on Sustainable Development (WSSD)', FAO implements a programme on Marine Protected Areas (MPA's) for a better understanding of the contribution of MPAs to fisheries

management, and the identification and promotion of best practices and integrated approaches to MPAs. MPAs are recognised for their contribution to the conservation of marine resources and surrounding habitat, as well as for their potential contribution to fisheries management goals. Knowledge about the biological benefits outside the boundaries of MPAs is limited and is often a point of controversy.

An initial outline of guidelines for MPAs in the context of fisheries management was reviewed by the FAO workshop on MPAs and Fisheries Management (Rome, 2006). Currently, these guidelines are being developed, with the collaboration of international experts, and the support of a peer-review process.

For more information, please see:

www.fao.org/fi/website/FIRetrieveAction.do?dom=org&xml=mpas.xml&xp_nav=1

Links

FAO GeoNetwork

GeoNetwork open source is a standardized and decentralized spatial information management environment, designed to enable access to geo-referenced databases, cartographic products and related metadata from a variety of sources, enhancing the spatial information exchange and sharing between organizations and their audience, using the capacities of the internet.

<http://www.fao.org/geonetwork/srv/en/main.home>

FAO Global Forest Resources Assessment 2005

The Global Forest Resources Assessment 2005 (FRA 2005) is the latest and most comprehensive assessment of forests and forestry to date. It includes information on current status and recent trends for about 40 variables covering the extent, condition, uses and values of forests and other wooded land. The results are presented according to six thematic elements of sustainable forest management.

<http://www.fao.org/forestry/site/fra/en/>

FAO Global Terrestrial Observing System

GTOS is a programme for observations, modelling, and analysis of terrestrial ecosystems to support sustainable development. GTOS facilitates access to information on terrestrial ecosystems so that researchers and policy makers can detect and manage global and regional environmental change.

<http://www.fao.org/gtos/>

FAO Terrestrial Ecosystem Monitoring Sites database

Terrestrial Ecosystem Monitoring Sites database, is an international directory of sites (named T.Sites) and networks that carry out long-term, terrestrial *in-situ* monitoring and research activities. The system provides information on the "who, what and where" that can be useful to both the scientific community and policy-makers.

<http://www.fao.org/gtos/tems/>

FAO Globally Important Agricultural Heritage systems

In 2002 FAO initiated a wide programme on conservation and adaptive management of Globally Important Agricultural Heritage systems (GIAHS) aiming to establish the basis for the global recognition, conservation and sustainable management of such systems and their associated landscapes, biodiversity, knowledge systems and cultures.

<http://www.fao.org/sd/giahs/>

Elephants in turmoil, Central African Republic

P. Chardonnet, H. Boulet

Bois et Forêts des Tropiques, 2008, No. 295 (1^{er} trimestre)

<http://bft.cirad.fr/pdf/som295.pdf>

IUCN Conservation Commons

The **Conservation Commons** is the expression of a cooperative effort of non-governmental organizations, international and multi-lateral organizations, governments, academia, and the private sector, to improve open access to and unrestricted use of, data, information and knowledge related to the conservation of biodiversity with the belief that this will contribute to improving conservation outcomes.

<http://www.biodiversity.org/>

EcoPort

EcoPort is a public access portal where natural resources managers and ecologists share their information in an open-source service devoted to biodiversity. EcoPort is seen as a single, contiguous, communal, *wiki* and database on the Internet that enables individuals and institutions to pool their information and apply their separate expertise in a collective manner to give any one of us free access and permission to use the sum of what all of us know. The name "EcoPort" is a composite acronym derived from the words 'Ecology and Portal'

<http://ecoport.org/index.html>

WRI EarthTrends

EarthTrends is a comprehensive online database, maintained by the World Resources Institute, that focuses on the environmental, social, and economic trends that shape our world.

<http://earthtrends.wri.org/index.php>

European Commission - Assessing protected areas in Africa

This website is part of a first attempt at a large scale assessment of protected areas using objective continent-wide data sets and methodologies as opposed to case studies on individual parks or global assessments. The website contains information on 741 protected areas, across 50 countries, and includes information on 280 mammals, 381 bird species and 930 amphibian species, and a wide range of climatic, environmental and socioeconomic information.

<http://www-tem.jrc.it/PA/index.html>

UNEP WCMC

An internationally recognised Centre of Excellence for the synthesis, analysis and dissemination of global biodiversity knowledge, providing authoritative, strategic and timely information for conventions, countries, organizations and companies to use in the development and implementation of their policies and decisions.

<http://www.unep-wcmc.org/>

World Database on Protected Areas

The World Database on Protected Areas (WDPA) is compiled from multiple sources and is the most comprehensive global dataset on marine and terrestrial protected areas available. It is a joint venture of UNEP and IUCN, produced by UNEP-WCMC and the IUCN World Commission on Protected Areas (IUCN-WCPA) working with governments and collaborating NGOs.

<http://sea.unep-wcmc.org/wdbpa/>

WWF - Terrestrial Ecoregions of the World

A biogeographic regionalization of the Earth's terrestrial biodiversity; ecoregions. They are relatively large units of land or water containing a distinct assemblage of natural communities sharing a large majority of species, dynamics, and environmental conditions. Ecoregions represent the original distribution of distinct assemblages of species and communities.

<http://www.worldwildlife.org/science/ecoregions/terrestrial.cfm>

WCS - Cameroon-Nigeria Transboundary Conservation Program

<http://www.wcs.org/international/Africa/cameroonnigeriatransboundary>

AWF - Transboundary Strategic Plan in the Virunga Heartland

<http://www.awf.org/content/solution/detail/3590>

CMS - Memorandum of Understanding concerning Conservation Measures for the West African Populations of the African Elephant

<http://www.cms.int/species/elephants/index.htm>

IUCN - Central African Elephant Conservation Strategy

Http://www.iucn.org/themes/ssc/sgs/afesg/tools/pdfs/str_afc0512_en.pdf

SADC Regional Biodiversity Strategy

<Http://www.sabsp.org/strategy/SADC%20REGIONAL%20BIODIVERSITY%20STRATEGY.pdf>

Theme and deadlines for Next Issue

The theme for the next issue of Nature & Faune is “Forest Management in Africa: Is wildlife taken into account?” This theme embraces the role of wildlife in forest management and expands to include topics such as: collaborative efforts between wildlife and forestry practitioners; reviews on who is doing what in Wildlife and Protected Areas management in Africa and how this relates to forest management; as well as appraisal of the extent of involvement of rural people in conservation. In addition, aspects of regional and sub-regional environmental policies relative to wildlife in forest management would be covered. Articles related to concerns for financing the multipurpose management of natural resources are also welcome.

Deadline for submission of articles, announcements and other contributions is 30th June 2008.

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