Linking management and livelihood in environmental conservation: case of the Korup National Park Cameroon

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Abstract

Biodiversity conservation has emerged within the past two decades as one of the most important global challenges confronting national planners, world bodies, professionals and academics. Governments faced with increasing biodiversity loss as a result of human activities have resorted to the creation of protected areas as a strategy to both slow down habitat loss and/or degradation and eventually mitigate species extension and reduction rates. However, the creation of a protected area can have strong implications on the livelihoods of people inhabiting the forest and depending on it, especially those caught within its borders. The involvement of such inhabitants in the management process of the protected area can be profitable.

This paper discusses the case of the Korup National Park, Cameroon, considered in the late 1980s by some to be a flagship of conservation and development efforts, and later on in the late 1990s by others as a catastrophic failure as an example of integrated conservation and development. As a means of updating the program’s management information base, an in-depth participatory and socio-ecological survey was conducted by some of the program’s technical staff. This study aimed at appraising the extent to which the Park’s human community of 4200 inhabitants continued to relate to its resources and depend on them for their livelihood. The aim was to evaluate the potential links between the communities’ livelihood and the long-term management and survival of the Park as the important biodiversity conservation zone it had been found to be.

Results indicate that the successful management of a Park like Korup may well depend on the involvement of the local communities; and that successful management through approaches that minimize the potential contributions and aspirations of the local people is difficult to achieve.

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1. Introduction

The countries of the humid tropics of west and central Africa (Cameroon, Nigeria, Central Africa Republic, Gabon and Equatorial Guinea) show an average population growth rate of between 2.2 and 2.5%. (World Bank Group, 2002).

Agriculture constitutes the main income and livelihood activity of these growing populations. Faure (1989) had estimated that approximately 200,000 ha of forests are being lost to agriculture each year in Cameroon alone. A study by the FAO (Food and Agriculture Organisation) corroborating that previously done by Faure (1989) estimates that, between 1990 and 2000, Cameroon alone lost approximately 221,763 ha of forests each year to the combined effects of agriculture, poorly managed logging and desertification (Njib N, 1999).

Forests are important sites of terrestrial biodiversity. Thus their conversion to agricultural lands or into other less diverse forms of land use in the region can potentially have a direct effect on the habitats of valuable and/or rare
organisms. Habitat loss, which leads to forest fragmentation, is an important cause of reduction in species populations and increased species extinction rates, including that of tropical forest species (Wilcoe, et al., 1986; Hudson, 1991; Forman and Godron, 1989).

It is thus not surprising that the Government of Cameroon and her counterparts in Nigeria, and others in the region, consider the creation of protected areas as part of an overall environmental management strategy. As a result, today there are 2,098,000 ha of protected areas in Cameroon, 3,021,000 ha in Nigeria and 73,000 ha in Gabon (EarthTrends, 2001).

Such an environmental management strategy is not unique to the region. Protected areas cover approximately seven percent of the terrestrial surface (IUCN, 1994a). They span an immense variety of ecological habitats and social contexts, from some of the most densely populated territories, highly affected by human presence to some of the least explored areas in the world.

The Korup National Park (KNP) in Cameroon is one such protected area and one that has an estimated 4200 people living inside, and within 3 km of its borders.

With the successful completion and approval of the Management Plan of the KNP on the 20th of November 2002, it seems an appropriate moment to reflect on its implementation and perhaps begin preparing a framework for its review. This article aims to contribute to that process by examining findings of the livelihood survey completed in 1998/99, which largely provided the basis for the plan’s Community Conservation Strategy (KNP Management Plan, 2002 p 99–106). The current Plan expires in 2007. This gives some time for a critical appraisal of its Community Conservation Strategy in light of the realities of the livelihood situation of its communities and potential effectiveness of the strategy in its present context.

2. The context of the korup forest conservation site

Since 1937, the Korup forest had existed as a Native Administration Forest Reserve established by Order No. 25 on the 14th of October 1937, until it was later modified in January 1962 by the Kumba Western Council Forest Order. The Korup forest was made a National Park by Presidential Decree No. 86/1283 of 30/10/1986, which simultaneously extended the previous forest reserve limits to cover a current surface area of 1260 km².

The Korup forest is located between latitudes 4° 54' and 5° 28' North; and longitudes 8° 42' and 9° 16' East. Located in the southwest corner of the southwest province of Cameroon, it is contiguous with the Oban National Park in neighbouring Nigeria.

The topography is mainly low lying (50–300 m above sea level) with the highest point reaching 1079 m- Mt Yuhan, a horst (Gartlan, 1986). Three main river systems drain Korup: the Bake-Munaya (north), the Ndian (SE) and the Akpasang-Korup (SW).

Knowledge of the geology of the Korup forest area is largely incomplete and fragmentary (Geze, 1943; Hawkins and Brunt, 1965). Soils are generally strongly acidic, sandy textured and relatively poor in nutrient and organic matter (Hawkins and Brunt, 1965).

The region where the Korup forest is located is characterised by a distinct dry season, from December–February, and rainy season, which peaks between June–October. The mean annual rainfall is in excess of 5000 mm (Zimmermann, 2000).

Korup is located in the middle of the Guinea Congolian forest refugium (Maley, 1996; Maley and Brenac, 1998). The National Park is reputed to be richer than any other African forest for which comparable data exists (Richards, 1952). Despite the stress on the ecosystem, the forest has a biomass and production equivalent to other African forests (Newbery et al., 1998). Korup is unique in that it displays a high degree of endemism amongst its indigenous species (Ruitenbeek, 1990; Thomas, 1986).

Despite the presence of five villages with a population of 1500 people inside the National Park and 23 others with an approximate population of 2700 just within three kilometres of its borders, available evidence suggests that very little human disturbance has occurred in the past (Gartlan, 1986), probably explaining the park’s species richness.

At the time of its creation as a forest reserve in 1937, three legal enclaves existed within its boundaries, to allow the inhabitants of three reserve villages Bera, Esukutan and Bakumba (since abandoned), to have right of way, fish, hunt and collect fruits, food and construction materials (KNP Management Plan, 2002). With reunification after the 1961 plebicite in then West Cameroon, Nigeria became a foreign country and after negotiations between Erat (another reserve village) and the Forestry Department a legal enclave was established for them in the southern section of the Korup Forest.

Twenty-five years later, precisely in October of 1986, the livelihood situations of the three villages above (Bera, Esukutan and Erat), and for three others, Ikenge, Bareka Batanga and Ikondo kondo I, (technically outside the Korup forest reserve) were to change, as the Presidential Decree No. 86/1283 established the Korup National Park, extending its boundaries to include these latter three villages.

With this new status, the integrity of the boundaries of the National Park became a crucial issue and with it, the awareness of a potential threat from 23 villages occurring within three kilometres of its new limits.

From the date of the lifting of the legal status of the Korup forest from a Reserve to a National Park, the pre-occupation of the State and its non-governmental partners became clear - that, since all the communities inside the park had become illegal residents they should be resettled outright, as it was understood that their close links to the park’s resources were no longer compatible with
the conservation and management objectives of the National Park. Nevertheless, the park authorities on the ground had to face a different reality, and thus, have always recognized the need to integrate the communities’ perspectives, capacities and wishes in Park management. This strategy, within the framework of the overall Park Management program, has come to be referred to as the Community Conservation Strategy (CCS).

The Korup National Park is not unique in having people resident in it. Unlike elsewhere, the main difference here could perhaps be the non-recognition of both the legitimacy and the contribution that such inhabitants can make towards the management of the Park.

This paper will thus argue for a management approach built partly on local knowledge, their development vision, their technical and organisational capacities as well as on the contributions of collaborators in science, development and conservation, sharing those aspirations. This management approach will be referred to variously in this paper as co-management, participatory management, adaptive or even adaptive-co-management. They will all basically refer to the same concept.

3. Study methods

The entire study was carried out over a four-month period in the dry season of 1998/99 by two teams of researchers working simultaneously. Table 1 shows the study team composition, themes covered and tools used in study. The study sites are shown in Fig. 1.

3.1. Sampling design

A relatively high number of villages were sampled from within the Park as it was assumed that they are major users of the Park’s resources, make the greatest claims to its resources and are most affected by its creation (Table 2). All households were sampled within the villages as the total number of households were not large, ranging from 11 households to just under 60. A sampling intensity of 22% of the villages outside of the Park was considered sufficient as all the ethnic groups were represented in the survey by at least one village community. In addition, the study was concentrated in the northern sector of the Park as according to a previous study by Infield (1988), there is a greater concentration of animal wildlife activity as well as human activity in that part of the Park.

Only 1 out of 4 Ethnic Korup villages were sampled because firstly, one was in the process of being resettled out of the Park and the sampled village was by far the largest and most populous villages of all the study villages (see Table 3). Although 7 ethnic Oroko_Bima villages occur within the study zone only three claimed territory inside the Park and two out of the three were sampled. The Upper Balong Ethnic group was not sampled because they neither claimed any territory in the Park nor was there evidence that unique sets of data were possible within that community. In addition, the village population of the Balong village closest to the Park contained considerable mixtures of people originating from the other ethnic groups sampled in the study.

3.1.1. Geographic Information Systems-assisted participatory mapping

An important objective of the study was to provide sufficient graphic information relevant to community claims of effective occupation of the Park and thereafter to argue for collaborative management. Therefore, a method was required which could as accurately as possible represent participatorily collected information in a graphic form; as maps. This process consisted of integrating village participatory maps, GPS readings of resource use and farms

<table>
<thead>
<tr>
<th>Team members</th>
<th>Themes covered in the survey process by different team members</th>
<th>Participatory survey tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agronomist</td>
<td>Farming systems analyses, Marketing channels for forest products</td>
<td>Historical timelines, agriculture, calendar, pie-charts, semi-structured interviews (ssi), mapping</td>
</tr>
<tr>
<td>2. Forester/botanist</td>
<td>Forest user groups analysis, participatory mapping</td>
<td>Historical timelines, pair-wise ranking of *NTFPs, mapping, ssi</td>
</tr>
<tr>
<td>3. Agro-economist/social scientist</td>
<td>household income and expenditure pattern analyses, institutions analyses, household demography</td>
<td>Arcview-GIS, GPS, Ssi, pair-wise ranking of income source</td>
</tr>
<tr>
<td>4. Wildlife technician</td>
<td>hunting, trapping, wildlife availability</td>
<td>Venn diagrams, ssi</td>
</tr>
<tr>
<td>5. Guide</td>
<td>ethnobiology</td>
<td>SSI, informants</td>
</tr>
</tbody>
</table>

*NTFP, Non-timber forest products; SSI, semi structured interviews.
occurring in the park into one geo-referenced map in Arcview GIS. The full methodology (Mbile et al., 2003) also available at http://www.is.cityu.edu.hk/research/ejisdv vol14/v14r2.pdf consists of taking geographic coordinates as well as descriptive information of locations of farms, hunting sites, products collection sites, hunters huts, marketing routes (inside and outside the park) using a global positioning system (GPS). During the highly animated natural resources mapping process the researchers identified the key informants most knowledgeable on the different sub-themes being studied. These informants were interviewed later on using semi-structured interviewing techniques and where necessary probing was used in focussed group discussions on the other issues of interest.

3.1.2. Data analyses procedures

Due to the participatory and community livelihood-based nature of the study, data collected were largely qualitative in type and therefore, analyses and interpretations were based largely on inferences. However, some quantitative data collected comprised of spatially and temporally based data types and the inferences would refer to extent of use of space and how this has evolved over time. Temporal data (mostly historical timelines) were also analysed inferentially, while the spatial data such as areas and distances to farms in the Park and market channels, respectively, were analysed and interpreted using GIS. The analyses of quantitative population and household size data were done using EXCEL and interpreted inferentially in terms of their likely influence on resource use within the Park.

Table 2
Sampling by geographic location of village

<table>
<thead>
<tr>
<th>Sampling Area</th>
<th>Inside the KNP</th>
<th>Outside the KNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of villages</td>
<td>5 villages</td>
<td>23</td>
</tr>
<tr>
<td>Number of villages sampled</td>
<td>4 villages</td>
<td>5</td>
</tr>
<tr>
<td>Proportion of households sampled per village selected</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Representativity of villages in study</td>
<td>80%</td>
<td>22%</td>
</tr>
</tbody>
</table>
The assumptions were that a greater resident population (or in-migration) would mean increasing potential impact on natural resources. Comparative analyses of sources of income were done using a pair-wise approach with the aim of identifying the most important sources and linking that to Park management requirements. High importance of Park-bound resources meant strong dependence on the Park’s resources for livelihood, and therefore, greater motivation to be involved in Park management. Finally, ethno-biology, user group and institutional analyses were carried out through focussed group discussions with resource persons with the aim of assessing local knowledge and organisational capacity as indicators of management capacity. Profound knowledge and sufficient internal organisation of local communities would be indicative of both knowledge base and organisational capacity to contribute significantly towards Park management, should that be the model of management preferred by the Park’s authorities.

4. Main results

As Table 4 shows, all the villages sampled, irrespective of location (outside and inside) use the Park’s resources extensively. Although most of the activities are basic hunting and gathering in nature more than 50% of the villages had farms within the Park with some of the farms as old as 25 years.

Although actual quantities of wildlife harvested could not be acquired due to reluctance by locals to provide the relevant data, off-takes were considered important. However, for the most part ‘outside’ professional hunters were most involved in this respect. Local perception nevertheless was that despite the hunting and trapping activities five out of six animal populations were perceived as increasing. Hunting zones did not strictly respect perceived village territorial limits, as both the Park’s interior and periphery were considered hunting areas (see Table 5). Hunting using light weapons is mainly done in the rainy season when animals are out looking for food. The dry season is considered difficult as animals are either swooning or easily alerted by approaching hunters due to lots of dry leaves. Hunters frequently use dogs. The hunters furthermore are men and boys with women preferring to be involved in non-wood forest products harvesting.

The situation with the harvest of non-wood forest products is very similar to that for animals except that, here women are the main actors, with boys providing support (Table 6). Except for the low intensity collection of *Garcinia manii* (chewing stick) by some Nigerians the incidence of ‘outside collectors’ is much lower in comparison to animal off-takes. A large part of these products are consumed at home as due to the lack of roads it is much more cost effective in terms of the weight-price ratio to headload smoked meat to nearby markets. Furthermore, two products were perceived as decreasing: (1): *Baillonella toxisperma* was considered as decreasing outside of the Park as a result of previous and ongoing timber exploitation. Greater emphasis was thus being made on stocks within the Park. (2) In the case of *Piper guinensis*, the harvesting method, which involves the stem being cut, was the main reason for the decreasing productivity of this resource species.

The population structure presented in Fig. 2 is typical for adjacent villages related by tribal affiliation. The resident population within the park village tended to be larger as men and boys settled mainly to hunt. Whereas, just outside

<table>
<thead>
<tr>
<th>Study villages</th>
<th>Location of village</th>
<th>Activities and main sources of income</th>
<th>Extent of customary village territory included in the KNP (%)</th>
<th>Presence of farms in the Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erat</td>
<td>Inside Park</td>
<td>Hunting, trapping, NTFPs, food crops</td>
<td>100</td>
<td>YES</td>
</tr>
<tr>
<td>Mufako</td>
<td>Outside Park</td>
<td>Hunting, trapping, NTFPs</td>
<td>&gt;70</td>
<td>No</td>
</tr>
<tr>
<td>Nguye</td>
<td>Outside Park</td>
<td>Hunting, trapping, NTFPs</td>
<td>&gt;50</td>
<td>No</td>
</tr>
<tr>
<td>Bera</td>
<td>Inside Park</td>
<td>Hunting, trapping, NTFPs</td>
<td>100</td>
<td>YES</td>
</tr>
<tr>
<td>Esukutan</td>
<td>Inside Park</td>
<td>Hunting, trapping, NTFPs</td>
<td>100</td>
<td>YES</td>
</tr>
<tr>
<td>Banyu</td>
<td>Outside Park</td>
<td>Hunting, trapping, NTFPs</td>
<td>&lt;30</td>
<td>YES</td>
</tr>
<tr>
<td>Tombe</td>
<td>Outside Park</td>
<td>Hunting, trapping, NTFPs, cocoa</td>
<td>&gt;40</td>
<td>YES</td>
</tr>
<tr>
<td>Bareka II</td>
<td>Inside Park</td>
<td>Hunting, trapping, NTFPs</td>
<td>100</td>
<td>YES</td>
</tr>
<tr>
<td>Ekoneman-ojong-arrey</td>
<td>Outside Park</td>
<td>Hunting, trapping, NTFPs, cocoa (cocoa sold in Nigeria)</td>
<td>&gt;60</td>
<td>YES</td>
</tr>
</tbody>
</table>

Table 3
Sampling by Ethnic group of village

<table>
<thead>
<tr>
<th>Ethnic groups inside or within 3 km of the KNP belonging to ethnic group</th>
<th>Total number sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oroko_Bima</td>
<td>7</td>
</tr>
<tr>
<td>Oroko_bakoko</td>
<td>4</td>
</tr>
<tr>
<td>Ethnic Korup</td>
<td>4</td>
</tr>
<tr>
<td>Oroko_batanga</td>
<td>5</td>
</tr>
<tr>
<td>Ejagham</td>
<td>6</td>
</tr>
<tr>
<td>Upper Balong</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>28</td>
</tr>
</tbody>
</table>
the Park, the same men and boys are more likely to emigrate to larger towns in search of work. The disproportionate number of men and boys in the Park village was largely due to hunting and trapping activities we were told. In the case of Tombe outside of the Park farming was becoming increasingly important with women being the main actors. This situation was found to be common around the Park where ever there was an ethnic group stretching from within the Park outwards to its periphery.

Fig. 3 presents a historical perspective of the Korup National Park in terms of the change in resident status of five Park communities. Three of these previously existed in legal enclaves prior to the creation of the Park in 1986. The other two previously existed out of the Park and were included upon its creation. Such historical information partly explains the difficulties with which these communities are adjusting to the current dispensation of zero-utilisation of the Park's resources for their livelihoods. The figure also indicates traditional marketing channels for both wildlife and other products. Recently however, a greater proportion of products go to Nigeria and northwards due to increasing policing activities to the south and south east.

Fig. 4 depicts the traditional organisational structure of the Batanga who constitute one ethnic grouping extending from the periphery into the Korup National Park and how it links up with the nation’s administrative structure. Level A in the figure partly presents the officially recognized administrative level and the umbrella ethnic group, the latter being a somewhat artificially created entity grouping a wide range of culturally similar groups including the Batanga. Strong Ethnic identity and development vision begins to develop from level B to C. Level C is the internal arrangement of a typical Batanga village. Though complex, levels B and C were distinctly organized providing various options and opportunities for local organisation in decision-making. It is thus possible to sample opinions of women and men both separately and together. The Batanga like most forest societies does not have a hierarchical decision-making structure but a complex one built on egalitarian principles, checks and balances. Nevertheless, being largely undeveloped it may not be obvious from the outside.

These decision-making centres in the villages, as found in this study, start from the household head. Then there are the youth groups, more able to speedily arrest situations involving external hunters, organised in various forms. Regular activities animate these youth groups and they generally respond to the authority of the traditional council headed by the Chief or the regent. Chiefs, considered as auxiliaries of the administration are generally recognized by the local government authorities and represent the village in

Table 5
Wildlife harvesting and local monitoring by user group: *case of top six animal species*

<table>
<thead>
<tr>
<th>Wildlife species</th>
<th>Rank in order of importance as income source</th>
<th>Perceived availability trends.</th>
<th>Hunting zone.</th>
<th>Main hunting period</th>
<th>Main user group</th>
<th>Main hunting approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cephalophus ogilgy ogilbyi</td>
<td>1</td>
<td>Abundant</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Men/boys</td>
<td>Guns</td>
</tr>
<tr>
<td>Cephalophus monticolor</td>
<td>2</td>
<td>Abundant</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Men/boys</td>
<td>Guns</td>
</tr>
<tr>
<td>Atherurus africana</td>
<td>3</td>
<td>Abundant</td>
<td>Park, periphery</td>
<td>All seasons</td>
<td>Men/boys/elderly</td>
<td>trapping, Guns</td>
</tr>
<tr>
<td>Cephalophus dorsalis</td>
<td>4</td>
<td>Abundant</td>
<td>Park, periphery</td>
<td>All seasons</td>
<td>Men/boys</td>
<td>Guns</td>
</tr>
<tr>
<td>Hymoecus aquaticus</td>
<td>5</td>
<td>Decreasing</td>
<td>Park, periphery</td>
<td>All seasons</td>
<td>Man/boys</td>
<td>Guns</td>
</tr>
<tr>
<td>Monkeys</td>
<td>6</td>
<td>Abundant</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Men/boys</td>
<td>Guns</td>
</tr>
</tbody>
</table>

Table 6
Wildlife harvesting and local monitoring by user group: *case of top six non-wood forest products*

<table>
<thead>
<tr>
<th>NTFP species</th>
<th>Income, in order of importance as income source</th>
<th>Access, Control and availability</th>
<th>Main collection sites</th>
<th>Main collection period</th>
<th>Main user group</th>
<th>Main collection approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ricinodendron Heudeletti</td>
<td>1</td>
<td>Open, controlled (when in farms)</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Women/girls/boys</td>
<td>Gathering</td>
</tr>
<tr>
<td>Baillonella toxicoperma</td>
<td>2</td>
<td>Open, Decreasing outside the Park</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Women/Men/boys</td>
<td>Gathering</td>
</tr>
<tr>
<td>Irvingia gabonensis</td>
<td>3</td>
<td>Open</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Women/Men/boys</td>
<td>Gathering</td>
</tr>
<tr>
<td>Afroystyx lepidophyllus</td>
<td>4</td>
<td>Open</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Women/boys</td>
<td>Gathering</td>
</tr>
<tr>
<td>Garcia kola</td>
<td>5</td>
<td>Open and decreasing</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Women/Men/boys</td>
<td>Plucking/gathering</td>
</tr>
<tr>
<td>Piper guineensis</td>
<td>6</td>
<td>Open and decreasing</td>
<td>Park, periphery</td>
<td>Rainy season</td>
<td>Women/Men/boys</td>
<td>Stem cutting/gathering</td>
</tr>
</tbody>
</table>
negotiations and important decision-making situations. Regents or traditional chiefs assist the chiefs. The regents are often representatives of a council of elders who are the custodians of the customs and traditions of the village. The chief is thus directly linked to the hard-core of what constitutes the village in its complete sense, through the regent. Decisions are bounced-off the regent to get the feel of the community. The ‘government’ chiefs are often literate and can interact with the educated external ‘elite’ easily.

Within the communities themselves, there exist power centres in the form of social groups. Within the Korup area, the Ekpe or Nyamkpe for the men and the Diyala for women are the most important and powerful. These societies are powerful decision and disciplinary entities and sometimes shrouded in mysticism. It is perhaps as a result of this latter attribute that these societies (Ekpe, Diyala), though cutting-across the entire KNP area, and even into Nigeria, remain for the moment ineffectively connected to the rest of the decision-making system in the villages in particular and in the communities as a whole. By probing during the survey, findings indicate that, these societies, though not strictly hierarchical in structure, maintain an authority system based on personal achievement or titles gained. The authority system succeeds in instilling discipline and order where the administrative system may not be working efficiently. The different groups operate as a sort of check and balance in

![Chart](image.png)

Fig. 2. Population characteristics in 1 Park village (Bareka) and 2 peripheral villages (Banyu, Tombe).

![Map](image.png)

Fig. 3. KNP, evolution of tenure and use by communities.
the community, also providing back-up authority in the village. It does not require emphasis that these structures provide both horizontal and vertical means of either carrying-out consultations, or transmitting decisions or information. Legitimate authority always stays with the village Chief. Nevertheless consultation with other structures often helps qualify that authority.

5. Discussion of results

5.1. What is the potential for a Participatory Management Strategy?

Essentially, the concept of Protected Areas in its current international context is an unfamiliar concept to most rural communities in sub-saharan Africa. Though widely recognized and accepted today in many developing countries as a means of sustainable biodiversity management, the concept finds its roots in strategic models that emerged in the 1960s and 1970s in Europe and America (West and Brechin, 1991). The first, the ‘exclusive’ management model largely developed in the United States, consisted of decoupling the interest of local communities from the protected areas, with options ranging from open anti-participatory attitudes to the outright resettlement of the resident communities. The second, the ‘inclusive’ model largely promoted by European states tended to function on the premise that ‘the well-being of those who live and work in the National Park must always be a first concern’ (Harmon, 1991). Logically therefore, while the ‘exclusive’ approach is ideal for preserving areas of wilderness and scenic beauty, the ‘inclusive’ approach is the obvious model of choice for PAs that include human settlements. Nevertheless, consistent with post colonial trends and with or without the explicit intention of copying the US experience, it is the exclusive model which has spread the most in Africa, including in Cameroon.

The case of Korup presents an excellent case study because its management was not only bedevilled by many of the elements of a ‘quasi-exclusive’ management approach, but it is one in which, despite the human capabilities, resources and goodwill, the ‘exclusive’ approach to management has left much to be desired. For instance, in 17 years (1986–2003) of a quasi-exclusive management style, though few estimates have been made in terms of the extent to which this approach has succeeded, Llewellyn-Smith (1998) estimated that only 20% of the Park is adequately protected. As our results revealed, hunting in the Park remains quite extensive with hunters increasingly using high calibre...
weapons (against large mammals) smuggled-in from Nigeria. And as corroborated by the current management plan, commercial hunters remain highly skilled, organized and highly motivated (KNP, Management Plan, 2002). These ‘outside’ hunters, drawn from other parts of the Country and even from Nigeria, come into the Park area as protégés of Park communities. They pay fees to the host village or individuals after a successful campaign. For this reason there exists in the Park villages ‘no-go’ areas for guards where villagers are openly hostile to them.

The Park authorities are increasingly aware that policing methods by themselves are unsuccessful, and that there is collusion in the community, but like is so common in PAs around the developing world (De Marconi, 1995), the prevailing sentiment within Korup management is to regard the local community instead as a main threat to the Park. Therefore, the current Management Plan implicitly suggests that increasing the level of policing by increasing the number of guards may be an advised course of action. This is simple fallacy, for going by current community perception, the guards by themselves cannot ‘protect’ the KNP like they could with their help. As our survey revealed, the bulk of the knowledge, moral authority and historical/cultural links regarding the Park’s resources are in favour of the communities.

In terms of livelihood analyses results, the natural resources in the Park are vastly more important and central to the village livelihood than to the guard. The villager is also more culturally and historically attached to the resources than most guards (guards drawn from the community are viewed with great suspicion). This combination of closeness of dependence on the resources, customary proprietorship and indigenous knowledge, gives to the villager greater intrinsic moral and de facto authority over the resources of the Park. This de facto use of the Park is demonstrated by the extent to which the communities not only collect products and continue to hunt in the Park, but farm crops and even permanent crops like oil palm and cocoa.

Almost as crucial regarding the communities’ quasi-legitimate claim over the KNP’s resources is the historical relationship they have had with the Park. Prior to the creation of the KNP, four villages had existed geographically within the reserve as legal enclaves making farms, fishing, hunting and trapping unhindered. Another three had existed outside the reserve, within their village territories, carrying-out the same activities. The Park was created without any form of prior negotiations with any of these villagers. While use and access remains a de facto reality with the communities, nothing but the de jure proprietorship of the Park was redefined with the decree creating the KNP.

On the other hand, the de jure authority possessed by the often mildly literate and poorly paid guards comes by induction from their superiors and only possessed as an abstraction of government policy. In the remoteness of the KNP, theirs (the guards) is a prevailing responsibility for which they lack comparable moral, technical or traditional authority. Very similar scenarios and their effects on guard behaviour in other PAs are discussed in Thapar (1992), and in Callister (1999). And they tell a common story; that such responsibility for which there is insufficient psychological and material authority can create an ideal atmosphere for corruption in the form of collusion, collaboration and even bribery involving guards. Though such corruption may be petty and perceived as insignificant, because it can be rampant, argues Callister (1999) the cumulative effect on a protected area and the effect on the management effectiveness can be devastating.

The management process of Korup, even by its own Management Plan standards (comprising Protection, Community involvement, Research, Monitoring, Ecotourism and Administration aspects) must essentially be viewed as a ‘development’ process. And like development (Schumacher, 1975), it is a whole; it is an integral, value-loaded, cultural process which encompasses the natural environment, social relations, education, production, consumption and well-being. It should be endogenous springing from the core needs of each community, relying first on its own strengths and resources and defining with some degree of sovereignty, the vision of its future co-operation with individuals or groups sharing in its aspirations and problems. Endogenous strengths, faculties and behaviour tend to vary geographically, from context to context, in the way they relate to the natural resource domain, and it is to this uniqueness that management should adapt. Adapting management systems to local realities and capacities is to present the management process as a tool to frame the philosophical, methodological and practical challenges associated with on-going use and ‘management’ of natural resources (Gunderson, 1999). On such a basis the management premise becomes very simple; policies, even by government are experiments within the local socio-cultural context; all stakeholders are expected to learn from them. Even where there are supposed incompatibilities between community approaches and scientific methods we realize increasingly that these are often due to the absence of a system of valorisation, integration of knowledge and their adaptation to solving common problems.

For instance, this study revealed that, even without significant modifications, current scientific approaches, would relate very positively with the endogenous knowledge systems in the community, within an adaptive management framework. For instance, our survey on natural resources use patterns in the Park, and the perceptions of hunters interviewed, revealed that the ‘encounter’ of wildlife by hunters has changed over the years, with sightings of live animals and of droppings getting rarer. ‘Encounter’ as an indicative measurement is widely used in inventory and biological monitoring activities (GTZ/UNILEVER, 2003; Lien, 1998). Hunters know that animals come out preferably during the rainy season, when food is more plentiful, and swoon in the dry season. The cracking
of dry leaves, which scare animals away during the dry season, makes dry-season hunting difficult, so trapping is more rampant during this season. This is knowledge not available to Park management in an interactive way. In adaptive management such knowledge can be gained, shared and adapted to the management context interactively. Innovation, being an inevitable outcome of adaptation of approaches (Berkes et al., 2000) will lead to ‘ownership’ of the process by all the users of the knowledge. To the local communities, this constitutes experiential knowledge, rather than knowledge gained through structured experimentation or top-down imposition of approaches (Olsson and Folke, 2001). As such, the process of achieving a win–win for the environment and for livelihood in PAs like Korup, then adopts a non-deterministic, and evolutionary character in response to system uncertainty (Moran, 1991; Berkes et al., 2000). In thus tailoring management approaches to the relevant indigenous knowledge context, scientific uncertainty is taken on-board and it supports the approach of encouraging continuous, frank and interactive learning (Grumbine, 1994). Finally, risk sharing is enhanced through both structured experimentation and management flexibility, especially as adaptive management is increasingly also presented as an integrative tool to help address the complexities and broader challenges of conservation (Agrawal, 2000; Salafsky et al., 2001) across regions.

The interactions between management and local communities can lead very rapidly to motivational benefits that will include fending off ‘outside hunters’, for instance, building trust, reduction in enforcement expenditure, and generally more awareness of the process and increased potential for sharing of benefits.

As a result of harnessing a community’s experiences, knowledge and skills so clearly established in this study, situations of comparative advantage (Inglis, 1993; Ruddle, 1994), often a basis for effective adaptive co-management, may arise. With the overall aim of the PA being that of increased effectiveness in natural resources management, there may be a need for sharing of management responsibilities and the corresponding need for development of capacities in resource management. Central to these two requirements is the existence of an adaptable organisational capacity and decision-making system. The existing organisation though complex can deal with decisions pertaining to gender-controlled activities. All sections of the community are linked and can thus respond to the various needs of participatory management. It would nevertheless require patience to understand how the decision and knowledge appropriation mechanism works.

These Park villages, being largely isolated by lack of roads, have experienced de-population over the years. Though literacy is low among permanent residents in the Park villages, community members who have settled out for extended periods and who continue to be linked to their villages by plots of land, new farms, ancestral burial grounds and relatives, exist. These relatives regularly send in money, kerosene, soap and other valuables not easily acquired in the village. When we include the ‘external elite’ community, the educational level of the Park villages would cover most levels, from primary to post university. Such make-up within and without, but linked to these small resident communities can be tapped-into, in human organisational capacity development for adaptive management of the PA.

Capacity in the community for responsibility sharing is also influenced by how the societies are organised to function.

The potential role of human organisational capacity in achieving successful natural resources management is highly important, and thus merits further mention here. During the study proper and in the course of exploiting secondary data, we found that existing, (often negative) perceptions, by ‘outside’ academics unfamiliar with the decision-making capacities of these forest societies appears to have been very strongly influenced by ongoing social constructionism. In a recent report for instance (Sikod et al., 2000), prepared for a managing agency of the KNP, the communities were described as ‘basically acephalous’. Expressions like this one perhaps used in a correct sociological context have tended to become colloquial in their interpretation and understanding by a generally ‘unschooled’ readership in which everyone is a sociologist. Thus, a discipline-based concept is then inaccurately interpreted and perpetuated to mean ‘societies lacking leadership’. Added to a dualism (Freire, 1972), which so characterises some development practitioners who then use the reports in the field, the result is disempowerment of the communities. Their reinterpretation of ‘acephalous societies’ is that these societies lack order.

Such a misinterpretation of non-hierarchical societies has its roots in the popular misconception that where a ‘Strong Man’ is absent at the top, this equals lack of organisation, dis-order, lack of capacity for progress and decision-making. Faced with such sociological challenges, Marsden et al. (2003) encourages deeper analyses of community understandings and practices to highlight more clearly aspects of community-owned construction and practice, evolving governance and local embeddedness. According to Marsden et al. (2003), these factors then become important conceptual bridges in the larger social science quest to relate human materialities much more effectively to natural materialities (and vice versa).

Full participation in Park Management, when it comes, will thus not be limited to the Korup National Park. For instance, around the world participation has been built

1 Whereby practicing professionals remain active and willing users of both popular misconceptions as well as sound scientific logic in their work.
around a vision for human empowerment, advancement and welfare with the fullest range of available natural resources as an integral part. There is no better way, therefore, to view this argument for participatory management in the Korup National Park than to cite the extent to which local people are integrated in Protected Area Management around the world.

For instance, eighty percent of Parks in Latin America (Amend and Amend, 1995) have people living in them. Throughout Europe, protected areas are commonly inhabited by legal residents. In India alone, the number of people living inside protected areas is estimated at between 3.5 and 4 million (Korathi et al., 1995). What the KNP needs to do as a first step is to define the status of these communities more comprehensively as legal residents.

Secondly, the Park management then needs to ‘link with these local communities’, such as providing information on policies and environmental problems, providing support to their decision-making institutions and instruments, and to small income generation problems. Coexistence should also mean mutual respect. The communities need not live to serve the interest of the Park management, but by living responsibly according to negotiated agreements, they are helping to protect the Park. As is the case with the Bwindi Impenetrable Forest in Uganda, for instance, a management agreement between the local communities and the authorities of the Park foresees that a number of certified local users can extract an agreed quantity of specific resources (e.g. vines, honey, medicinal plants, etc) from the National Park during specific periods of the year (Borrini-Feyerabend, 1995). This is where studies on minimum acceptable levels need to be carried-out, as sustainable harvest methods (though related) may be too business-sounding.

The government of Cameroon has a primordial role in managing National Parks and a legitimate right to derive revenue from research and tourism activities. However, questions are being raised whether in practice balance is being achieved between local and wider interests and objectives in terms of benefits sharing in protected area management in the country. The relationship between people, PAs, economic interests and governments is not unique to Cameroon. Shakleton et al. (2002) argues that the notion of conservation as a ‘public interest’ area, or the need to achieve national economic development objectives have very often been used to serve more narrow interests of the managing departments or agencies and to legitimise their actions, often to the detriment of those local livelihood systems and the real choices available to people. In any case, national development objectives and local interests need not be mutually exclusive. The great barrier rift national Park in Australia presents a final example. This National Park brings more than a billion US dollars annually to the Australian economy. Following a high court repeal of the concept of terra nullius (no man’s land), used at the time of the ‘conquest’ of Australia by the British, the right of the Aboriginal peoples as stakeholders in the National Park have been recognized (Hill and Press, 1994), and today Aboriginal people sit permanently on the Management Board of the Park Management Authority itself.

6. Conclusions

Environmental management at landscape level by adopting policy instruments in which protected areas like the Korup National Park play a central role are perfectly legitimate and are not unique to Cameroon. However, considering that Korup continues to attract worldwide interest, not just for its rich and rare biodiversity but for its conflict-ridden history and present, thanks to the human populations living inside it and within 3 km of its borders, certain factors need be taken on-board if it is to be managed successfully for posterity.

Ample recognition needs to be given to the extensive and continued use of its renewable resources by the more than 5000 residents within and just outside its borders. Trading-off destructive use with renewable use, and negotiating costs-benefits with alternative and additional resources with overall low-impact on the park’s bio-resources can be one way forward.

The dynamic local knowledge, both technical and spatial in terms of the park’s constituent resources, possessed by these residents should be considered as a human data base requiring mobilisation for the long-term management of the park.

The effective presence of these communities and their relationships with neighbouring communities have the capacity to contribute significantly towards mitigating the costly and risky business of park policing exclusively by ‘guards’ who themselves must respect and value such local contributions.

The population dynamics within the park itself do not for the moment present a carrying capacity problem and are unlikely to do so as a result of out-migration to the fast growing towns within the area.

The dynamic relationship between man and his ancestral grounds, man and his ‘home village’, simply needs to be considered within its correct socio-cultural context and managed accordingly, not as an inconvenience but as a necessary part of man’s co-existence with, attachment to and relationship with his natural, cultural and historical environment.

Finally, despite the deceptive simplicity of traditional decision-making structures within the Korup park communities, they need to be tapped into and made relevant to the different management exigencies of the park. This is a subtle process requiring empathy, and respect for local values and sensitivities. The existence of hierarchical societies within neighbouring communities is not mutually exclusive to the existence of ‘flat’ ones generally much less understood in a developing democracy. In fact these
proverbial ‘headless’ societies may well lend their trade to the budding democracy being experimented within Cameroon and indeed in neighbouring countries.

Overall, by capitalizing on local realities, capacities, experiences, knowledge and aspirations to build a long-term resource management vision, the Management of the Korup National Park will be building the framework for collaborative management with the local community and opting for an inclusive management model.

Nevertheless, after so many years of missed opportunities and disregard for local contributions, there cannot be today a quick fix for the Korup National Park. However, the management system for the Park should ensure balance; assume that limits to resource use exist, guarantee participation by local communities, evolve with the possibilities of science and the logic of the ecosystem, as well as fulfil the contextual meaning of Cameroon’s National Environmental management Plan (NEMP) of 1996, that ‘All Protected Areas are expected to fulfil an important role in the economic development of the country and especially, contribute to the economic and social well-being of surrounding communities’.

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