

I. Introduction

1.1. Background

One of the central tragedies in the history of African Sub-Saharan land and natural resource management is that local communities and institutions have been undermined and their role has been largely disregarded in the past policy formulation. Dominant paradigms, underpinned by modernism, saw humans as discrete from nature and thus focused on creating protected areas. This approach reflected an isolationist and protectionist ideology based on the concept of preserving wilderness for aesthetic, moral and conservation reasons. Furthermore, the "tragedy of the commons" cultivated a misconception among scholars that common property leads to "inevitable" resource degradation. This prevented meaningful understanding of resource management regimes.

The conference of the United Nations on Environment and Development in Rio de Janeiro in June 1992 stressed the need for decentralisation and devolving more decision-making power and responsibility to local communities, village organisations, and primary users of natural resources. With growing pressures to use resources more efficiently, equitably, and sustainably, there was an increased optimism that local communities could be able to manage resources more effectively than government agencies (Barrow and Murphree, 1988). As a result, many programs attempted to create or recreate local common property management regimes (World Bank, 1996; Meinzen-Dick and Knox, 1999; Ngaido and Kirk, 1999; Knox and Meinzen-Dick, 2000). Emerton (1998) noted that community-oriented approaches to wildlife conservation usually have a strong economic rationale. They are typically based on the premise that if local people participate in wildlife management and economically benefit from this participation, then a "win-win" situation will arise whereby wildlife is conserved at the same time as community welfare improves. A famous and successful example based on participatory approaches to wildlife management is the "Communal Areas Management Programme for Indigenous Resources" CAMPFIRE in Zimbabwe (Murphree, 1993; 1997).

The concept of "Community-based conservation and natural resource management" seeks to empower local people to sustainably manage their own resources, create the enabling legal and policy instruments, establish mechanisms for local ownership and responsibility for the process, and ensure that benefits accrue responsibly and equitably (Barrow and Murphree,

1998). In Cameroon, since the colonial period and until recently, the state had formal control over all natural resources inclusive of wildlife. With the democratisation and liberalisation process in 1990s and mainly in response to donors (e.g. World Bank) conditionality on Structural Adjustment Loans, Cameroon adopted in 1994 a new law granting local communities the possibility of greater control over forests and wildlife.

1.2. Problem statement

Habitat loss and overexploitation seem to be the major threatening process to populations of large mammals in tropical rain forests. World wide, already 94 mammal species are extinct or extinct in the wild and a quarter of all mammal species are facing extinction within the next 30 years (Stuart *et al.*, 1990; IUCN, 1996; Entwistle and Dunstone, 2000). One in eight bird species are considered being threatened by extinction. The debate on tenure regime has been largely restricted to a discussion of the relative merit of state or private property regimes, ignoring the additional option of a communal property regime (Murphree, 1991). Agrawal and Ostrom, (1999) noted that management by the central state has demonstrably been ineffective in both the colonial and post-colonial eras. Past experiences in West Africa showed that many development and conservation projects failed because they did not include appropriately local people in natural resource management (Barrow and Murphree, 1998).

In the support zone of the Korup national park, the unsustainable management of wildlife resources is the result of the lack of property rights regime definitions leading to open access; insufficient enforcement of existing rules; and undermining of indigenous knowledge and traditional institutions.

It exists substantial doubts, for example whether the area of the Korup national park is alone sufficient enough to preserve a viable populations of the endemic species. It has been observed that endangered or vulnerable species such as elephants seasonally use corridors outside protected areas and also other species (e.g. some primate species) have seasonal movement outside protected areas (Powell, 1997, Nchanji and Plumptre, 2001).

1.3 Research questions

The devolution debate has centred on how to 1) correct environmental externalities and institutional inefficiencies of resource-use, 2) promote sustainable management of common resources, and transform local communities and institutions into stewards of their natural resource base (Barrow and Murphree, 1988; Ngaido and Kirk, 1999). This study deals with the sustainable use of wildlife in the Korup region through the involvement of local communities in wildlife management. The main research questions are:

1. What are the sustainability of hunting and trapping practices?
2. What could be the benefit of wildlife management in terms of bush meat production?
3. Which factors increase the likelihood of successful collective resource management?
4. How do traditional institutions affect successful wildlife management in Korup?
5. How can we identify the institutional reform needed for building local capacity of institutions and communities.

1.4. Objectives

The overall goals of this research are to look at the major opportunities for community-based wildlife management in Korup region and to develop a concrete and functional framework for its implementation. Specific objectives are:

1. to identify and describe wildlife resources users.
2. to describe the social structure of the community and local institutions dealing with wildlife management and their impact on wildlife sustainability
3. to understand the use of indigenous wildlife knowledge to develop locally based natural resources management systems.
4. to determine the sustainable hunting offtakes of common mammals
5. to outline policy recommendations which will contribute towards an effective, sustainable, and equitable devolution of natural resource management

2. National context for wildlife management and conservation

The following ecological, social, economical, cultural legal and political settings influence the performance of wildlife conservation and management.

2.1. Socio-economic environment

2.1.1. Administration and political conditions

Cameroon acquired national sovereignty in 1960. The constitution of 2 June 1972, subsequently modified by legal and regulatory instruments (Laws Nos. 75/1 of 9 May 1975, 79/2 of 29 June 1979, 83/10 of 21 July 1983, 83/25 of 29 November 1984, and 84/1 of 4 February 1984), provides an administrative and political framework for a strong central government dominated by the executive. Cameroon is a laic and democratic unitary republic, with a semi-presidential regime, and was a de facto one-party State from 1966 to 1990, when law No. 90/56 of 19 December 1990 authorizing the formation of multiple political parties and easing restrictions on forming civil associations was adopted. The reform of the 1972 constitution by law No. 96/6 of 18 January 1996 promote a decentralized unitary State.

Three basic administrative models exist side by side: centralization, devolution and decentralization. Indeed, Cameroon is divided into 10 provinces administrated by governors appointed by the president. Other administrative subdivisions include departments or divisions (58), sub-prefectures or subdivisions (269) and districts (53). All local government officials are employees of the central government's Ministry of Territorial Administration, from which local governments also get most of their budget. There are 336 councils in Cameroon. Traditional rulers, courts, and councils also exercise functions of government. By Decree No. 77/245 of 15 July 1977, all traditional chiefs have been turned into auxiliaries of the administration, and are therefore accountable to the Senior Divisional Officer of their area of jurisdiction. Tribal laws and customs are honoured in the formal court system when not in conflict with national law. Traditional rulers receive stipends from the national government. With the decentralisation emphasis in the new constitution of 1996 (Article 55), the provinces will become regions run freely by elected councils with a certain administrative and financial autonomy in the management of regional and local affairs. However, as of January 2007, the

government had not established the Senate (as part of a bicameral legislature) or regional councils.

2.1.2. Population

The population of Cameroon (with a surface area of 475,442 km²) in 2004 was estimated at 16 millions, corresponding to a population density of 33.6 inhabitants per km². The natural population growth rate between 1990 and 2004 is about 2.3 % per year (World Bank, 2006). Globally, Cameroon's population is youthful (45 % aged under 15) and only approximately 3 % of the population are over 65 years of age. About 52 % of population live in rural areas. (MINEFI, 1998). There are about 250 ethnic groups divided into three cultural groups: the Bantu, in the South, Littoral, South-West, Centre and South-East provinces; the Bantoid or semi-Bantu, in the West and North-West provinces; and the Sudanese, in the Adamaoua, North and Far North provinces. The Pygmy population, which is not included in these large groups, lives in the South, East and Centre provinces. About 270 dialects (relating to 24 major African language groups) in addition to English and French (both official) are spoken (Breton and Fohtung, 1991; Boum Ndongo-Semengue and Sadembouo, 1999). The population consist of indigenous beliefs or traditional cults (40 %), Christian (40 %), and Muslim (20 %).

A significant proportion (about 21 %) of rural people live within forest areas relying on the use of natural resources harboured by forests surrounding them for their subsistence livelihood.

2.1.3. Economy

The economy of Cameroon is dependent on agriculture, which is the main occupation of about 70 % of Cameroon's population. In 2000, agriculture accounted for roughly 44 % of Gross Domestic Product (GDP) against 20 % for the industry branch and 36% for service sector (WRI, 2003). The contribution of the wildlife sector in the national economy remains low. The major export commodities are crude oil and petroleum products, timber, cocoa, coffee, aluminium, cotton and bananas.

In spite of the abundance of natural resources, about 40% of the population in 1984 lived below the poverty line. The average revenue is less than 225.62 Euro/adult/year. The unemployment rate is estimated at 30% (MINEFI, 1998).

Cameroon like other underdeveloped countries faces many serious problems such as a top-heavy civil service, corruption, inadequate bank system and a generally unfavourable climate for business enterprises. Indeed, the drop in commodity prices of the principal exports in the mid-1980s, combined with an overvalued currency and economic mismanagement, led to a decade-long economic recession.

Since 1990, the government has embarked on various International Monetary Fund and World Bank economic reform programs designed to spur business investment, increase efficiency in agriculture, improve trade, recapitalize the nation's banks, reduce poverty and improve social services. Consequently the government slashed civil service salaries by 65% in 1993 and released part of its personnel. The local currency (CFA Franc) was devalued by 50% in January 1993. After failing to meet the conditions of the first four IMF programs (Enhanced Structural Adjustment Facility), the government achieved in mid 2006 the completion point under the Heavily Indebted Poor Countries (HIPC) Initiative and within the framework of its Poverty Reduction Strategy Paper. The successful completion of the program qualify Cameroon for HIPC debt forgiveness (\$ 2 billion). However, government mismanagement and corruption remain problems.

2.2. Biological diversity and conservation status

Cameroon is endowed with very rich biological diversity due to its geographical location (virtually at the centre of Africa and near the Equator) and a variety of ecosystems including savannah, mountains forests, coastal and marine ecosystems (Letouzey, 1968; Gartlan, 1989; Stuart *et al.*, 1990). The country is one of the most ecological diverse countries. It ranks fifth in biodiversity in Africa with a high degree of endemism, after the Democratic Republic of Congo, South Africa, Madagascar and Tanzania (MINEF, 1995a; Fomete and Tchanou, 1998). Despite the fact that it covers only 1.6 % of the surface area of Africa, over half of Africa's bird and mammal species and up to three quarter of reptiles are reportedly found in the country (MINEF, 1995a, GFW, 2000). With 29 primate species, the country is the second richest in Africa in primate diversity (IUCN,1992; Usongo, 1998). Cameroon hosts about 45

% of the Afro tropical butterfly fauna and is probably the richest country for butterflies in Africa (Ackery *et al.*, 1995 quoted by Stork *et al.*, 2003). Worldwide, Cameroon is ranked, based on the species richness of mammals, birds and flowering plants, among the ten top mega-diversity countries (Paine, 1997). The table below shows the country's plant and wildlife species richness and the number of threatened species according to IUCN.

Table 2.1: Plant and wildlife species richness and number of threatened species in Cameroon.

Group	Number of species	Number of endemic	Number of threatened species*
Plants	9 000	156	355
Mammals	409	14	43
Birds	925	22	18
Fishes	542	96	39
Reptiles	330	n.a.	4
Amphibians	200	63	53
Butterflies	1 500	n.a.	n.a.

* According to IUCN

n.a.: non available

Source: Adapted from WRI, 1990; IUCN, 1992; 1996; 2006; Vivien, 1991; MINEF, 1995a; 1995b; BirdLife International, 2000; GFW, 2002; Languy *et al.*, 2005.

Globally, biodiversity is under serious and progressive threats. The IUCN Red List defines three categories of threat (critically endangered, endangered, vulnerable) according to quantitative criteria that broadly reflect different levels of risk of extinction such as declining population, small distribution, small population size, very small population or very restricted distribution and quantitative analysis. Other categories include extinct, extinct in the wild, lower risk, data deficient and not evaluated. In Cameroon, threatened animals species include 43 mammals, 18 birds, 39 fishes, 4 reptiles, 53 amphibians (IUCN, 2006).

The Appendix I, II, and III to the CITES Convention provide lists of species afforded different levels or types of protection from over-exploitation. The most endangered species are listed in Appendix I and other species at risk in Appendix II and appendix III. Appendix I includes all species threatened with extinction, which are or may be affected by trade and CITES generally prohibits commercial international trade in specimens of these species. Appendix II includes species that are not necessarily threatened with extinction but may become in future and others, which are similar to these species. International trade in

specimens of Appendix II species may be authorized by the granting of an export permit or a re-export certificate. Appendix III includes all species that any party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation. Table 2.2 gives the number of CITES-listed species in Cameroon.

Table 2.2: Number of CITES-listed species in Cameroon.

Appendix	Animals	Plants	
I	31	0	Animals species listed in Appendix I include 12 mammals, 6 birds, 9 reptiles and 1 amphibian.
II	205	49	
III	156	0	

Source: CITES, 2005.

2.2.1. Conservation policy

Since 1930, the conservation policy mainly consisted of the creation of a network of protected areas. The Tropical Forestry Action Plan (TFAP) adopted in 1988 under the appellation of National Forestry Action Plan (NFAP) remains the sole forestry and wildlife planning reference document. By signing the Convention on Biological Diversity in 1992 and ratifying it in June 1994, the government of Cameroon recognised the necessity to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity. The National Environmental Management Plan (NEMP) of 1996 and specially the National Biodiversity Strategy & Action Plan (NBSAP) defines the biodiversity conservation policy of Cameroon. Although the forestry policy was adopted in 1993, i.e. 3 years earlier than the NEMP, its orientation, objectives and strategies already took into account several environmental issues.

The forest policy has highlighted numerous innovations, especially the land-use plan (zoning) for forest areas, the creation of community forests and community hunting grounds and the involvement of local communities in the conservation and management of forest resources (MINEF, 1995a). Until 1993, forests were classified into four categories: state forests (within the private domain of the State), local council forests (within the private property of the local council), communal forests (forests within the national domain and that do not fall under any of the 3 other categories) and private forests planted by individuals on land they