Rural Development Forestry Network

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The Law, Communities and Wildlife Management in Cameroon

Samuel E. Egbe

A Community Wildlife Management Model from Mount Cameroon

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Gorilla-based Tourism: a Realistic Source of Community Income in Cameroon? Case study of the villages of Goungoulou and Karagoua

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Mark van der Wal and Elias Djoh

CONTENTS		PAGE
25e(i)	The Law, Communities and Wildlife Management in Cameroon *Samuel E. Egbe*	1
25e(ii)	A Community Wildlife Management Model from Mount Cameroon *Kristin B. Olsen, Henry Ekwoge, Rose M. Ongie, James Acworth, Ebwekoh M. O'kah and Charles Tako*	13
25e(iii)	Gorilla-based Tourism: a Realistic Source of Community Income in Cameroon? Case Study of the Villages of Koungoulou and Karagoua *Elias Djoh and Mark van der Wal*	31
25e(iv)	Community Hunting Zones: First Steps in the Decentralisation of Wildlife Management. Observations from the Village of Djaposten, Cameroon *Mark van der Wal and Elias Djoh*	38

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A COMMUNITY WILDLIFE MANAGEMENT MODEL FROM MOUNT CAMEROON

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SUMMARY

The forest areas surrounding Mount Cameroon host some of the highest biodiversity in West Africa including many rare and endemic species of plants and animals. Wildlife populations are in decline, due to an increasing trade in bushmeat, as well as problems of forest encroachment from farmers and large-scale plantation development.

In collaboration with forest authorities, the Mount Cameroon Project (MCP) has adopted a "participatory biodiversity conservation" approach to wildlife management. It is working with local communities in two forest areas to develop a viable model for participatory and sustainable wildlife management appropriate to local needs in terms of use, capacity and resources. This has involved organising local groups and working with communities and government to develop systems for local wildlife management: hunting licenses, developing and allocating sustainable quotas, sanctions, monitoring and control. Other resource management groups are now seeking to emulate this model and to collaborate on a regional level to ensure effective control. Although developed together with the Ministry of Environment and Forests, some aspects of the model are not catered for within existing legislation. It is hoped that the model will serve to influence policy changes at national level so that realistic community management of wildlife can be achieved throughout Cameroon.

INTRODUCTION

The Mount Cameroon Project (MCP)[1] is a conservation project with a mandate from the Ministry of Environment and Forests (MINEF) to develop and test participatory biodiversity conservation approaches to sustainable forest management. The project aims to "establish the means by which biodiversity on Mount Cameroon can be maintained and the livelihoods of local resource users improved" through a participatory biodiversity conservation strategy (PBCS). In the Mokoko and West Coast project areas, the wildlife resource has provided an entry point to achieve wider resource management. This

[1] MCP started in 1994 with support from the Governments of Germany and UK, building on the latter's support to the Limbe Botanic Garden

paper documents the "sustainable wildlife management model" for the Mount Cameroon region based on the experiences of the community groups, MINEF and MCP over the last 5 years, and discusses the way forward.

Participatory Biodiversity Conservation

The PBCS is a strategy and plan of action to secure the long-term conservation of the rich but fast dwindling biodiversity of Mount Cameroon. It is centred around an approach for integrating the management of biological and social factors to support mutually beneficial development and conservation initiatives.

In line with the principles of the PBCS, MCP aims to develop viable and replicable models for participatory natural resource management for all project areas. The models aim to provide a prescription of the management system (methods of exploitation, regeneration and monitoring) and agreements between government and the community on rights and responsibilities of the local community towards sustainable natural resource management. The key principles of the PBCS are indicated in Box 1.

Box 1 Key principles of the PBCS

- Conservation of scientific and locally important biodiversity through a balance of protection and sustainable use of resources
- Sustainable forest and land management for a sustained production of forest products through community-based management and use systems, based on agreed, viable and legally authorised management plans where the benefits derived from them are ecologically sustainable and equitably distributed
- Support for livelihood options that are complementary to biodiversity conservation
- Empowerment of resource users and communities adjacent to forest areas
- Encouragement of resource users to join together in organised institutions in order to benefit from organisational capacity building and information exchange
- Policy influence on the basis of field realities and the PBCS
- Publication and dissemination of the achievements of conservation initiatives, the process used and lessons learned

Environmental and socio-economic setting

The model is based on the experiences of wildlife management groups operating in two areas that differ in their biological and socio-economic contexts. The Mokoko Wildlife Management Association (MWMA) operates on the Boa Plains and the Mokoko-Onge forests. The West Coast Regional Wildlife Committee represents local groups in the West Coast region, along the coast, on the south-western slopes of Mount Cameroon. The regional biological and socio-economic settings for wildlife management in these areas are outlined in Table1.

Institutional context

Since gaining independence in 1960, forestry legislation has progressively transferred responsibility to the State for all aspects of forest management. In 1994 the new Forestry Law recognised the rights of communities to participate in forest management (Egbe, 2000a, b), through provision of community forests

Table 1 Environmental and socio-economic setting of the two case studies

West Coast and Mount Etinde	Mokoko-Onge and Boa Plains
Natural resource base	**Natural resource base**
• 7,700 ha high biodiversity lowland evergreen rainforest and sub-montane forest with globally unique vegetation • 6,400 ha under CDC leasehold and 1,300 ha communal forest • Wildlife species of high biodiversity importance include the regional endemics, drill, Preuss guenon, red eared guenon, and Mount Cameroon francolin, and also chimpanzee, Ogilby's duiker, bare headed rock fowl, and the African forest elephant • Key bushmeat species include primates, duikers rodents, porcupine and river fish • Important timber and fuelwood species include *Berlinia bracteosa*, *Pycnanthus angolensis* (ilomba), *Hymenostegia afzeli*, and *Alstonia boonei* • The area is rich in NTFPs such as chewstick, spices, medicinal plants and fruits	• 27,000 ha high conservation value lowland forest (of which 4,000 ha flooded forest) • 9,000 ha under CDC leasehold and 9,700 ha in the Mokoko River Forest Reserve (State owned production forest) • Land use divided between natural, largely undisturbed forest, secondary (logged) forest, small-scale shifting agriculture and plantation agriculture • High densities of endangered drill, red-eared guenon and chimpanzee. Seasonally flooded areas are valued for bush pig, antelope and crocodiles • Key bushmeat species include all primates, blue duiker, bushbuck, reptiles and porcupine • Ironwood (*Lophira alata*), iroko (*Milicia excelsa*), doussie (*Afzelia bipindensis*) and ilomba are common timber species • Important NTFPs are rattan, bush mango, njansang, and eru
Socio-economic environment	**Socio-economic environment**
• Administered within Fako Division • Estimated population of 20,000 inhabitants fluctuates over the year due to seasonality of economic activities • Population made up of local ethnic groups (Bakweri, Bomboko), nationals and foreigners (Nigerian, Beninois and Ghanaian) • Erosion of the authority of the traditional council over the years due to lack of transparency and an influx of immigrants • Principal economic activities include fishing, hunting/ trapping, plantation work, government administration, fuelwood and timber exploitation, farming, bushmeat and petty trading, and fish smoking • Major trading port at Idenau an important centre for economic activity. Plans for a deep sea port in the area will bring an influx of people, money and pressure on natural resources • Idenau and Limbe town linked by a tarred highway	• Administered in Ndian Division • Estimated population of 9,000 inhabitants • Culturally diverse region with four clans (Balondo, Barombi, Ekombe and Bakolle) and a large number of immigrants from Cameroon and Nigeria • Decisions on issues such as land use and tenure and forest exploitation made by chiefs and traditional councils • Some 90% of households actively involved in farming both for cash and for subsistence. Other economic activities include fishing, land rental, hunting, timber exploitation, NTFPs, petty trading and CDC labour • Long-standing inter-village boundary disputes between the communities and CDC. Communities opposed to further expansion by CDC • Poor accessibility by dirt roads, where bridges often collapse during the rains

Source: EIA report (1998), Tchouto et al. (1999), Gadsby and Jenkins (1992) and Olsen et al. (2000)

and community hunting zones. The latter give the community rights to a defined hunting territory, through a management contract between a community and the wildlife service. Unfortunately the procedure and responsibilities of the wildlife service are very unclear. Furthermore, both community hunting zones and community forests are highly impractical due to their size limit of 5,000 ha and the fact that, legally, they cannot apply in any forest area where there is a pre-existing exploitation title.

In the past, enforcement of illegal forest exploitation in the Mount Cameroon area was ineffective due to poor institutional capacity within MINEF and low motivation of its staff. The principle of community participation represents an appreciation of the long-term interest of local people in forest resources, as bushmeat is an important local source of income and protein. It is therefore reasonable to recognise the rights of local people to use and manage the forest resources, and enlist them in sustainable resource management.

Over-exploitation is caused by outside hunters and an influx of people to the area. MCP has encouraged local forest users to become organised and to develop relationships with other institutions influencing forest use to manage these outside pressures. The strength and nature of these relationships are illustrated in Figure 1.

CURRENT CONTEXT FOR WILDLIFE MANAGEMENT

Community wildlife management initiatives are limited by the policy and social environment and by the biological resources of the area. The opportunities and limitations of these environments in the Mount Cameroon area are outlined in Table 2 overleaf.

STRATEGIES FOR WILDLIFE MANAGEMENT AND CONTROL

Formation of community wildlife management groups

MCP initiated contacts with communities through village-based stakeholder analyses for sustainable wildlife management in the two areas in 1996 and 1997. Focus group discussions centred on wildlife use patterns, perceptions about other stakeholders and the future role of stakeholders in wildlife management. The dialogue in turn led to the formation of a number of interest groups.

The Mokoko Wildlife Management Association (MWMA), formed in late 1997, has as its goal to increase the wildlife population in the Mokoko River Forest Reserve (the reserve) and the adjacent forests. The MWMA aims to manage hunting, control outside hunters and improve members' income. Since its creation, members have been pursuing this goal relentlessly, working together with MINEF and MCP.

MWMA comprises indigenous and non-indigenous hunters, trappers, pepper soup sellers (mostly women), traditional councils, traditional societies and local MINEF staff. The MWMA has 100 members from 11 villages along the north and western borders of the reserve, two zonal committees and an umbrella committee. Further, the group is seeking to involve villages in the creeks to the north west, and in Bomboko to the south, of the reserve.

The three West Coast Wildlife Management Committees (Batoke, Etome and Bakingili) and one Hunters Union (WMCs) were formed in 1997. The groups were registered in 1999 as Common Initiative Groups, and at the same time the West Coast Regional Wildlife Committee was formed.

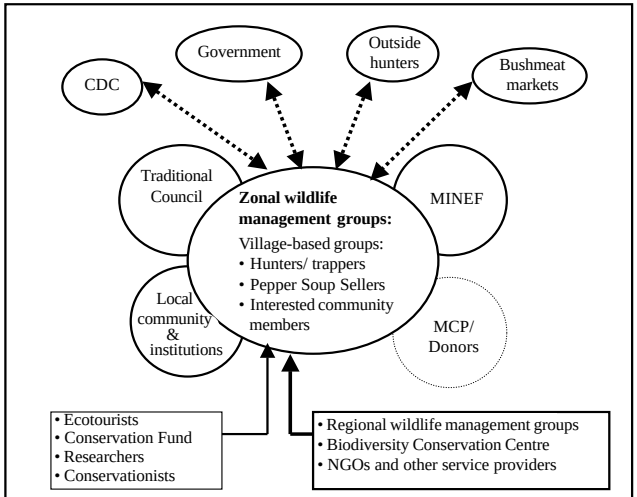
The WMCs are represented by indigenous and non-indigenous hunters, trappers and pepper soup sellers and, following a resolved conflict of power, are also collaborating with the traditional council. Within the Batoke WMC, three operational sub-committees (wildlife forest monitoring, bushmeat off-take and timber) have been created to facilitate a move towards broader forest management.

The WMCs and MWMA received full recognition by MINEF and were installed (officially recognised and supported) by the Administration in 1997 and 2000 respectively.

Agreements

A major issue for wildlife management groups has been to secure agreements with government

Figure 1 Relationships between local forest users and others



Institutions (indicated by circles and boxes): Thickness of line illustrates strength of relationship required for strong community-based management. MCP/ Donor relationships are temporary. ***Relationships (indicated by arrows):*** Thickness of line illustrates importance of relationship and the arrow illustrates direction of input. A solid line indicates existing relationship and a dashed line indicates a desired relationship requiring further capacity building.

Table 2 Opportunities and constraints for community wildlife management in the Mount Cameroon area

	Opportunities	Constraints
Legal framework	• National Forestry and Wildlife (1994) laws, the Wildlife Decree (1995) and more recently the Yaounde Declaration (1999) and the new concept of *Zone d'Intérêt Cynegétique à Gestion Communautaire* or Community Managed Hunting Concession (2001) provides support for the concept of community management of wildlife • Local and regional MINEF are actively involved in developing models for sustainable wildlife management • Communities can manage wildlife within a community forest or as sub-contractors to MINEF in a Protected Area • Communities can legally organise themselves as Common Initiative Groups or Operations Committees of a community forest • Customary rights are recognised by law as the right to hunt non-endangered species for personal consumption *only*	• Commercial hunting by local people without a licence is prohibited • The law does not detail the modalities for community participation or local distribution of benefits for wildlife management • The monies from hunting permits and exploitation are administered by the Treasury, a different government department • Obtaining a community forest is slow and expensive • Customary rights exclude the use of modern weapons and wire used by local hunters, or sale of bushmeat • Experimental status of community management initiatives is permitted by involvement of MCP which ends in 2002 after which time the community must obtain legal endorsement for its activities
Financial resources	• Traditional Societies and village development associations • MCP Community Support Fund and the MCRCF[2]	• Costs of monitoring, control and communication over 2,500 km^2 area • Local bush meat trade is a high input, low value investment • By law hunting permits cost 45,000 CFA annually per hunter • A large proportion of commercial bushmeat trading is by non-traditional forest users • In theory 10% of the *Taxe d'Affermage* should be distributed to the community. In practice the tax is rarely distributed after reaching the central Government coffers
Biological resources	• Rich in natural resources for local consumption: timber, fuel wood, bushmeat, fish and farm land • Strong international conservation interest • Ongoing negotiations with CDC to release land to local people	• Subsistence agriculture and 'chop' (food crop) farm expansion • CDC plantations of rubber, bananas and oil palm • Declining bushmeat resource • High pressure on biological resources from an influx of CDC workers, the military and army
Institutions	• MINEF/ MINPAT[3]/ MINAGRI/ MCP • Local resource management groups • Village development associations • Traditional institutions with cultural values of wildlife	• Poor infrastructure limits regional co-operation • Potential conflict between community groups and traditional institutions

formalising local rules and regulations, agreeing roles and responsibilities, and giving legal recognition to community resource management activities.

The MWMA has negotiated a wide range of agreements with MINEF, including a Memorandum of Understanding that addresses legal and policy issues for wildlife management. Constraints to sustainable use of wildlife were identified using problem trees. The 'problems' so identified (which included outside hunters, indiscriminate trapping and hunting using dogs) have been key to developing a strategy for more sustainable hunting practices. Rules and regulations were formulated in the light of traditional wildlife management, then harmonised with the government's regulations for hunting through a series of workshops. Local rules include trapping limits, respect of hunting seasons, species and methods. Tradi-tional Councils and societies were co-opted into the MWMA to ensure their total support in enforcing rules and regulations. Village traditional councils now play a lead role in sanctioning defaulters, while traditional societies are enforcing the law on hunting and 'fishing by poison' now respected in all the villages.

The WMCs have been key to negotiating more realistic terms for hunting and gun permits. In collaboration with MCP they have argued for an approval by the local administration of the use of locally fabricated guns in local hunting and encouraged all local hunters to register their guns with the authorities. They have also negotiated a 60% reduction in the cost of hunting permits and are now seeking to negotiate group permits for the wildlife management committee. However, very few benefits have accrued to the wider community from wildlife management. As a result, wider community support for the WMCs has dwindled. The WMCs also failed to achieve effective control of non-registered hunters and outside hunters, although authorised to do so.

A critical issue has been to agree on benefit sharing from illegal exploitation of wildlife between the community and MINEF. Although the law stipulates that 10% of the 'Taxe d'Affermage' (a tax on timber exploitation) is redistributed locally, in reality no benefits have accrued to the community. According to the Joint Forestry Control mechanism (see below), 30% of the sale was to be allocated to the community resource management group and 70% to the Treasury. The MWMA argued for a fairer distribution to better reflect the low returns of bushmeat compared to timber. Subsequently a new distribution of 70% for MWMA and 30% for the Treasury has been agreed. The efforts of the MWMA in elaborating a sanction and benefit-sharing

[2] The Community Support Fund is a MCP initiative that aims to support sustainable community development initiatives compatible with and complementary to viable participatory natural resource management. The Mount Cameroon Region Conservation Foundation (MCRCF) aims to provide long-term support for biodiversity conservation in the Mount Cameroon region through local civil societies, public sector organisations and research institutions, for the sustainable use of management of forest resources by and for the benefit of local communities.

[3] MINPAT - Ministry of Public Investment and Territorial Management ; MINAGRI - Ministry of Agriculture.

mechanism have encouraged a review of the West Coast system.

Monitoring the impact of wildlife management

Local ownership of a management system means that the MWMA and WMCs are now in a position to identify and act upon the effects of management on wildlife. A monitoring system is needed to do this, and this should aim to measure how wildlife populations are responding to restrictions and control measures, whether wildlife managers are complying with the rules and regulations of their management system, whether wildlife managers are benefiting financially, and if livelihoods are improving. Monitors must be involved in and understand the data analysis and the wider community needs to understand how the results link to management of the wildlife resource. The wildlife management strategy should clearly define how it will change in response to monitoring, including internal sanctions and mechanisms for flexible quotas. Community-based monitoring systems must build on the knowledge, skills and resources of the local resource managers, and take into account constraints of time, money and technical skills.

Community-based wildlife monitoring

Initially, baseline data for key bushmeat species in the reserve were collected by Distance Sampling on four transects (O'kah, 1998). These were walked on a monthly basis by a team of volunteer MWMA monitors from the surrounding villages, recording observations and signs of all identified animals. Transect surveys generated estimates of animal density (Olsen *et al.*, 2000), the basis for setting hunting quotas (see below). As a monitoring system, this method generated little information relative to the high monitoring effort and the data analysis and interpretation were too complicated for the community group to handle themselves.

A more appropriate wildlife monitoring system has now been put in place in Mokoko. It was developed on the basis of field trials and discussions with the MWMA and members of the Cameroon Biomonitoring Network (Olsen, 2000), and aims to be financially, technically and socially sustainable, at the same time as providing robust data to guide wildlife management. The new system uses hunting paths and line transects, and is combined with control activities, thereby making it more cost-effective. Participatory mapping was used to stratify the hunting zones according to wildlife species and physical features, and to identify paths to be used for monitoring. A simple monthly analysis will allow comparison of changes in wildlife populations over time and space, so that managers get regular feedback on the effectiveness of their management, and can translate this into the necessary action. This system should serve the priority needs of local users, and the interest of conservation specialists. Cost benefit analysis of the wildlife management system (see below) has shown that the monitoring component of management can be self-financing in the future (Olsen and Yaron, 2000; Yaron, 2000), and has therefore justified pre-financing from the Community Support Fund (Percy, 2000) of MCP.

Standard wildlife surveys, supported by national or international conservation interests should be complementary to participatory methods as an independent verification of management achievements on a periodic basis.

Commitment of local institutions

Commitment of registered hunters is measured by recording bushmeat sales. Registered pepper soup sellers, to whom the hunters sell their bushmeat, make records of off-take. These provide information on the species and sex ratio of the animals killed, the hunting methods used and the location of hunting activities. The information is analysed simply and can easily be used to generate discussions on the impacts of management and compliance of the registered hunters with their rules and regulations. Experience has shown that it is essential to follow up with training in analysis and interpretation.

Adherence of the registered hunters to their Memorandum of Association is crucial. At present MWMA off-take data highlight the failure of some hunters to comply with regulations in terms of hunting seasons, hunting methods and species bans. This reflects the fact that sanctions were not clearly stated and implemented by all members of the MWMA and WMCs. Funding from external sources should include conditionalities such as compliance with local rules and regulations, and mechanisms for cross-checking the accuracy of internal reporting. A benefit-sharing system that provides returns to the community as a whole from wildlife management would also help to ensure that sanctions take effect.

Impact on livelihoods and biodiversity

At present wildlife groups are not monitoring impact on livelihoods or biodiversity. However a MCP-based working group is developing locally appropriate indicators of wealth and forest condition with communities to facilitate this in the near future (Sama *et al.*, 2000; Davies, 2000).

Setting sustainable hunting quotas

Statistical analysis of the Mokoko wildlife survey data using *'Distance'* software[4] generated estimates of population density for key species (Olsen *et al.*, 2000). Using density values and estimates of intrinsic breeding rates, maximum sustainable production was calculated. The proportion of recommended off-take to ensure population increase varied between 5 and 20% depending on the species. These estimates were used by MCP technical staff during the elaboration of the participatory management strategy to advise, where necessary, on appropriate species quotas.

Through discussions and participatory exercises, the perceived relative abundance and breeding rates of the various species were obtained. Relative ranking by the MWMA member agreed very closely with the wildlife survey data and with population growth figures. Discussions showed that hunters have a good understanding of the factors affecting population dynamics. They understood that growth or decline depends upon the number of animals, breeding rate, and level of exploitation. It was also agreed that less common and slow breeding species should be hunted at a lower intensity or not at all.

On the basis of this information the MWMA then identified broad management objectives for each animal. Off-take quotas were agreed. Where these conflicted with Cameroonian Law or with the quotas proposed by MCP on the basis of maximum sustainable off-take, the MWMA agreed to respect this technical advice (which

[4] *Distance* Version 3.5 Release 5 (1998-1999) Research Unit for Wildlife Population Assessment, University of St. Andrews, Scotland.

they themselves had invited). MINEF has agreed that this quota will form the basis for a group permit given to the MWMA for the region, and the MWMA is responsible for its effective implementation. The quota is divided between villages, while allowing for new member villages. Village committees are responsible for distributing the quota between individual hunters. The success of this quota system is clearly dependent upon final approval of hunting licences to the MWMA and on the effectiveness of the control system.

Control systems

The control strategy in the Mount Cameroon area has been developed within the spirit of the current forestry policy and laws to decentralise the management of forest resources to forest communities. General principles of the system are the same for all areas, but may vary according to local practicalities.

Customary rights

The law allows local people to exploit forest resources for subsistence use. Both MWMA and WMC members have agreed to suspend this right, stopping all hunting until quotas are implemented in order to allow animal populations to increase. In return, MINEF has made a number of concessions to the communities, e.g. hunting permits and benefit-sharing (see section on Agreements above).

One problem, however, is that the majority of illegal exploiters are hunters from outside who hunt indiscriminately for commercial markets, and therefore have no interest in complying with either local or national laws. These are seen as a major threat to the sustainability of the system. The problem has been addressed through the empowerment of local hunters to effect control in the area, thereby increasing manpower and providing encouragement to the authorities, and a recognition of the need to collaborate and harmonise management efforts throughout the region.

Joint Forestry Control

Joint Forestry Control (Ngatoum and Tekwe, 2000) is a locally endorsed initiative that aims to set practical modalities for communities to participate in, and share the benefits from, regulation of legal and illegal exploitation. Communities are represented in joint controls by organised wildlife management institutions and the State is represented by MINEF, gendarmes and the police. Local initiatives are based on the agreed rules and regulations for sustainable exploitation of wildlife resources in the area, as well as on local and national Forestry and Wildlife laws. WMCs and the MWMA are currently carrying out regular controls, mainly involving destruction of traps beyond trapping limits and destruction of bush houses. The MWMA has agreed a regular schedule of control with frequent surprise controls and emergency controls when required (Mbani, 2001). The control teams also have the authority to arrest hunters operating without gun or hunting permits and outside the quota. The groups have also recognised the importance of regionalising control efforts to increase pressure on illegal hunters throughout the area (Olsen *et al.*, 2001).

Lack of benefits from wildlife management has been a key issue in developing sustainable wildlife management systems. The Joint Control process and subsequent negotiations between the MWMA and MINEF has resulted in fairer distribution of benefits derived from wildlife control. Communities receive 100% of a legal catch, and 70% from auctioning of illegally hunted bushmeat and fines.

Negotiating an equitable and decentralised sharing of benefits at national level is likely to encounter resistance. As well as drawing funds away from Central Government, the issue is complicated as the central coffers are administered by a different Ministry, MINPAT. Further, if benefit sharing is extended across resources, this will require collaboration between the distinct Forests and Wildlife departments. It is hoped that a planned economic study will show that legal exploitation is far more profitable to the State than underground illegal activity, and therefore enlist the support of the State. This may provide a much-needed incentive to draft a piece of legislation that embraces community management of all aspects of forest resource management, an opportunity missed during the drafting of the Forestry Law (Egbe, 2000a).

Allocating and regulating quotas

A new system has recently been developed in Mokoko. Individual quotas will be allocated to hunters in the form of metal tags. These tags will be attached to the animal as soon as it has been killed, thereby making the kill legal. The pepper soup seller purchasing the bushmeat records the tag and returns it to a central committee. Anybody found in possession of an untagged animal is subject to heavy sanctions.

Sanctions

The MWMA has recently elaborated a detailed sanction system to facilitate enforcement of its rules and regulations, and ensure financial returns to the Association. Previously sanctions against offenders were rare and took the form of small fines in cash and kind divided between traditional institutions and the MWMA. Now sanctions against all types of infractions (from setting traps beyond trapping limits to embezzlement and failure to report a kill) are clear, as are the authority and responsibilities of both the community and MINEF. Sanctions range from local fines (by MWMA) to court charges (by MINEF) and are heaviest on members who abuse their responsibilities.

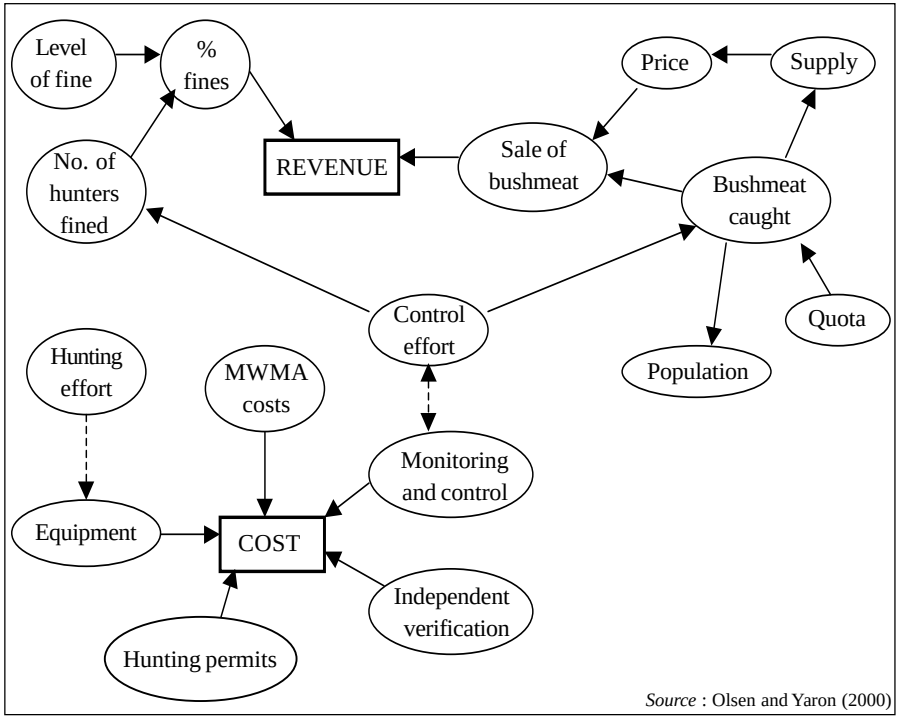
Financial viability

A financial cost benefit analysis of the wildlife management systems was undertaken to ensure that sustainable wildlife management is profitable, and to explore the financial sense of alternative policy options relative to illegal hunters. The model developed is illustrated in Figure 2 overleaf.

Data were collected from a combination of interviews with registered hunters, stakeholder analyses and reports, and wildlife population data. Results show that sustainable wildlife management can be financially sustainable for local wildlife managers in the medium-term provided an effective control scheme is implemented (Box 2, overleaf).

In the long-term, however, wildlife management can only be viable if it sources funding from elsewhere. The concept of broader forest management is evolving from the approach of single resource management in the area. This can generate more equitable benefit-sharing arrangements across resources, and ensure more effective management. In the MCP area the MWMA is also hoping to raise income from marketing domestic meat, encouraging tourists to their wildlife sanctuary

Figure 2 Financial Cost Benefit Analysis Model for Wildlife Management in Mokoko



Source : Olsen and Yaron (2000)

and sourcing funds for monitoring and control from conservation-interested bodies.

LESSONS SO FAR: PRE-CONDITIONS FOR SUCCESS

Key elements of a wildlife management strategy

Motivation to initiate wildlife management requires a justification to the local community and to outside donors of significant negative trends in the wildlife resource and the reasons behind the change. Changes in wildlife population numbers and distributions, socio-economic patterns, cultural attitudes and changes in methods of exploitation can be recorded from local knowledge, supported by stakeholder analyses, wildlife surveys, and various participatory exercises. The information needs for developing and implementing a wildlife management strategy are summarised in Table 3 (overleaf).

The wildlife strategy should become an integral part of a forest management plan approved by the State. However the range of legal status of forests in the region complicates this. The requirements of management plans for State forest reserves, communal and community forests are all different (Egbe, 2000b).

Institutional landscape

Building the capacity of local institutions to manage themselves and their resource is crucial in ensuring that management efforts are sustained in the absence of outside support. The MWMA has achieved a high level of organisation and stability as a result of institutional capacity building in group dynamics, communication and conflict resolution. Group members have a high sense of ownership of the process and take self-initiated actions such as wildlife monitoring and seeking to sensitise and involve neighbouring villages. They are also proactive in joint-control, training other wildlife groups and selling their skills to visiting researchers. Furthermore, the group is working towards wider forest management objectives through collaboration with other resource user groups. The confidence of the group to operate and make decisions independently suggests they are likely to succeed in the absence of MCP.

Box 2 Recommendations for financial sustainability of wildlife management in Mokoko

- Groups receive pre-financing grant to implement monitoring and control mechanisms, with conditionalities of success to be assessed through monitoring systems
- Financial sanction mechanism elaborated to include fines of up to 50,000 FCFA for severe disrespect of management regulations
- Benefit-sharing mechanism agreed with MINEF to ensure that managers receive ≥ 50% of fines and auction cash
- Control efforts result in destruction of ≥ 10% traps now and increasing to ≥ 50% by 2010
- Local hunting quotas are increased in response to increases in wildlife populations
- Modalities of wildlife management are integrated into broader forest management
- Monitoring and control systems developed to encourage national and international financial support through data exchange and contributions to global biodiversity conservation

The groups have relied upon financial and technical assistance from MCP to build organisational capacity and knowledge base. In the future, local community development initiatives can receive grants from the evolving Mount Cameroon Region Conservation Foundation. The Foundation will also provide groups with access to information about funding, legal rights and management options, through encouraging communication with local NGOs and the Mount Cameroon Biodiversity Conservation Centre. Some of the capacity building requirements for community-based wildlife managers are illustrated in Figure 3 overleaf.

The role of the local MINEF office is changing from forest management through 'policing' to local participation resulting from skills acquired through project activities. Success of the wildlife groups will largely depend on the leadership and direction of MINEF in providing a conducive policy environment and their participation in the elaboration of wildlife management plans. Frequent transfer of local MINEF staff after capacity building may pose a serious problem in future, though it is hoped that the MCP exit strategy will prevent this.

Suitable policy and legal environment

An appropriate legal environment for effective

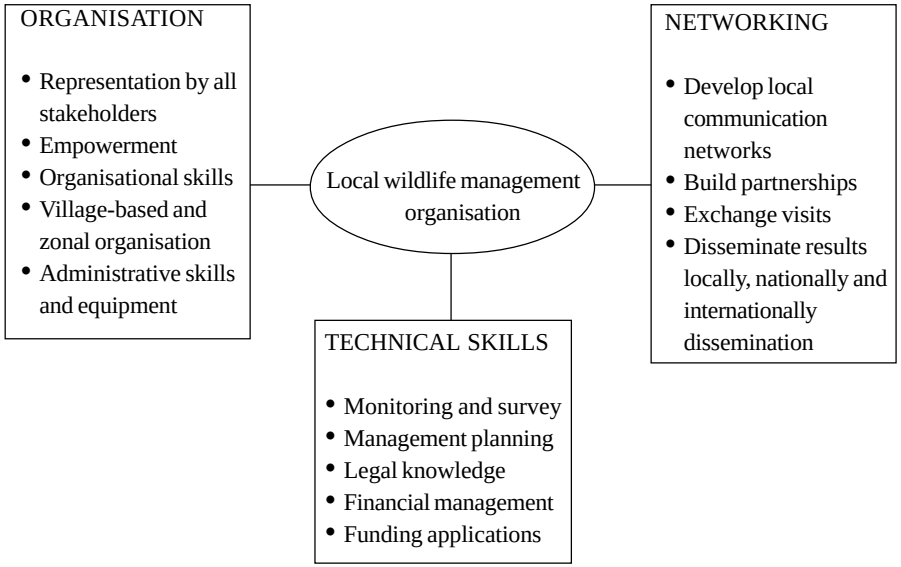
Table 3 Information needs for implementing a wildlife management strategy

Elements of wildlife management	Information required
Local and legal wildlife management institution	Legal options for local organisation and participatory resource management, stakeholder representation
Management objectives and quotas for each species	Current trends and threats (based on local and scientific knowledge), desired status, breeding rates and current exploitation
Rules and regulations for hunting	Management objectives, local and national legislation and impact of current hunting methods, benefit-sharing
Control system	Sanctions, rules and regulations, quotas, tagging system, agreed responsibility of MINEF and communities
Technically and socially appropriate monitoring systems	Options for participatory monitoring and evaluation of resources, institutions and livelihoods, skills to monitor, analyse, interpret and effect management
Equitable benefit-sharing mechanism	Costs and benefits of management, legal benefit-sharing system
Integration into broader forest management at regional and national level	Knowledge of other resource user groups, identification of areas of collaboration and contributions to broader community, networks

management by local communities must appreciate the values of field realities. Local laws must be detailed and transparent to enable unambiguous actions on management and control. In summary:

- Customary hunting rights should be adapted to recognise locally common, more modern, hunting methods and materials. This flexibility will also allow for occasional traditional ceremonial practices.
- Hunting activities should be regulated through weapon and hunting permits, and species quotas.
- Hunting permits must be affordable to hunters if they are expected to legalise their activity.
- Quotas should be developed on the basis of population dynamics and local knowledge.
- Trapping activity should be restricted to pest control.
- Responsibilities and procedures for dealing with offenders must be agreed in unambiguous terms between communities and authorities.
- National forest and wildlife laws should encourage wildlife management within the context of broader forest management. Policies should support cross-disciplinary joint-control and advocate benefit-sharing through multiple resource use.
- A wildlife management strategy should form an essential component of a forest management plan and should allow for joint community and MINEF roles in management in all legal categories of forest areas where communities express an interest in resource management.
- The mechanism for distributing benefits between communities and authorities must be approved by the state.
- Effective control operations must be regular and on a regional scale through encouraging communication and exchange between groups.

Figure 3 Capacity building requirements for community-based wildlife managers



Financial viability

Based on the Onge-Mokoko experience, a number of conditions must be met in order to ensure that a community wildlife management initiative is financially sustainable (Box 3 overleaf).

WILDLIFE POPULATIONS

For long-term community interest in wildlife management, effective management must result in improved livelihoods from increased hunting and direct benefits from management activities. For populations to increase, baseline populations must be sufficient to ensure rapid population growth for some fast-breeding, key bushmeat species, such as bush pig and duiker. Animals which are illegal to hunt and which recover slowly, such as drills and chimpanzees, must become intrinsically valuable through other direct benefits of management. In the Mount Cameroon scenario these direct benefits may include support to managers from a Conservation Foundation and sharing of monitoring data with interested biomonitoring initiatives.

SCALING UP FOR A REGIONAL WILDLIFE MANAGEMENT MODEL

Wildlife is a mobile resource, in high demand from traditional users and immigrants to the

Box 3 Conditions for financial sustainability of community wildlife management

- Baseline wildlife populations should be high enough for fast recovery of key bushmeat species for local consumption
- An effective control system must be implemented which generates financial benefits for wildlife managers, significant costs for illegal hunters and increases wildlife populations
- A benefit-sharing and sanction system should ensure that managers receive profits and can cover management costs
- To attract national and international conservation interests, a monitoring system that generates a high standard of data should be developed
- A regional control system is needed to ensure price elasticity operates in favour of the community. Increased bushmeat prices are less likely to be undercut elsewhere in the region if bushmeat supply is reduced throughout.
- Local hunters are willing to explore and adopt alternative income-generating activities

Mount Cameroon area. Successful management requires co-operation between all traditional resource users in the area, and financial and social motivation in the long-term. In collaboration with representatives from wildlife management groups, MCP and MINEF have developed a strategy for regional wildlife management. A regional committee aims to discuss how community groups can support each other through sharing skills and experiences, regionalising control efforts, developing networks and planning activities for regional education. Regional co-operation will not only ensure more effective control, but will increase the sense of responsibility of the local managers.

The groups should now work towards obtaining appropriate legal status for security of tenure and the right to manage the local forest. Further, MCP should assist communities to appeal for changes in national policy, through legalising modalities for the local wildlife management model.

In areas of communal forest on Mount Cameroon, communities are currently involved in a land use planning exercise that will result in appropriate legal status for forest use and protection being defined. By dividing the forests into areas requiring greater or lesser levels of protection and use, these areas can be legally endorsed through the allocation of legal status or through a management plan. These legally binding mechanisms aim to ensure both protection of forest areas and the rights of local people to use their forest resources. This is particularly important in the future when major developments to the area are anticipated. The privatisation of CDC brings the risk of further plantation expansion (Acworth and Ekwoge, 2001) and a new deep sea port planned for the West Coast area will bring an influx of people and demand for resources to the area. A strong group of wildlife managers with clear rights and responsibilities will go a long way to ensure that the forests and wildlife are not at risk from these important economic developments.

ACRONYMS

CDC	Cameroon Development Corporation
FCFA	Currency in French-speaking West and Central Africa. Exchange rate: 100 FCFA = 1 FRF 750 FCFA = 1 USD
MCP	Mount Cameroon Project
MCRCF	Mount Cameroon Region Conservation Foundation
MINAGRI	Ministry of Agriculture
MINEF	Ministry of Environment and Forests
MINPAT	Ministry of Public Investment and Territorial Management
MWMA	Mokoko Wildlife Management Association
NGO	Non-Governmental Organisation
NTFP	Non-timber forest product
PBCS	Participatory biodiversity conservation strategy
WMC	Wildlife Management Committee

REFERENCES

Acworth, J. and Ekwoge, H. (2001) *Towards community management of forest resources in the Onge-Mokoko forests of Cameroon*. Rural Forestry Development Network Paper 25c. ODI, London.

Buckland S, Anderson D, Burnham K and J. Laake (1993*) Distance Sampling: Estimating abundance of biological populations*. Chapman & Hall, London.

Davies, R. (2000) *Monitoring and evaluation consultancy*. Project report, MCP, Limbe.

Egbe, S. (2000a) *Communities and wildlife management in Cameroon*. Consultancy report presented to the DFID – Cameroon Community Forestry Development Project (CFDP).

Egbe, S. (2000b) *Briefing report on the legal and institutional review of the joint management activities of the MCP*. Project report, MCP, Limbe.

Ekwoge, H., Mbani, J.M., Ntube, G. and Acworth, J.A. (ed) (1998) *Stakeholder analysis report for participatory wildlife management in Mokoko River Forest Reserve and the surrounding forest*. Project report, MCP, Limbe.

Elsworth, L. (2000) A Cameroon mountains conservation fund: feasibility, options and next steps. *Project report, MCP, Limbe.*

Environmental Resources Management (1998) *Environmental impact assessment of plantation expansion in forested lowland of the Mount Cameroon Region: CNTR 97 3285A. Report for DFID*. Environmental Resources Management, London.

Gadsby, E.L. and Jenkins, P.D. (1992) *Report on wildlife and hunting in the proposed Etinde Forest Reserve*. Report to Limbe Botanic Garden and the Rainforest Genetic Conservation Project.

Mbani, J.M. (2001) *A control strategy for the Boa Plain area*. In: Olsen, K.B., Mbani, J.M., Acworth, J., O'kah, E.M. and Ebile, A. Regional wildlife management workshop report. MCP, Limbe.

MCP Limbe Team (2000) *Participatory Biodiversity Conservation: A strategy for the Mt. Cameroon*, September 2000. Project report, MCP, Limbe.

Ministry of Environment and Forests (1994) New Forestry Law. *Government of*

Cameroon.

Ministry of Environment and Forests (1998) *Manual of the procedures for the attribution, and norms for the management, of community forests*. Government of Cameroon.

Ngatoum, D. and Tekwe, C. (2000) *Joint forestry control review workshop report*. A MINEF and MCP report, MCP, Limbe.

O'kah, E.M. (1998) *Participatory bushmeat species surveys and monitoring of the Mokoko Forest Area*. Training workshop and meeting report. MCP-Limbe and GEF-Wildlife Surveys Unit.

Olsen, K.B., Mbani, J.M.M., Adolf, E., O'kah, E.M. and Acworth, J. (2001) *Regional Wildlife Management Workshop report*. MCP, Limbe.

Olsen, K.B., O'kah, E.M. and Mokoko Team (2000) *Wildlife management strategy workshop report*. MCP, Limbe.

Olsen, K.B. (2000) Case study: Monitoring of community-based wildlife management in the Mokoko River Forest Reserve. *In: O'kah, E.M. (ed.) (In press) Proceedings of the first Cameroon Biodiversity Network meeting, Trobenbos, Kribi (12 – 13th October 2000).*

Olsen, K.B. and Yaron, G. (2000) *Cost benefit analysis for sustainable wildlife management: The case of the Mokoko Wildlife Management Association in the Mokoko River Forest Reserve*. MCP, Limbe.

Percy, F.P. (2000) *Community Support Fund: Policy document for supporting community development projects*. MCP, Limbe.

Pouakouyou, D., Ongie, R.M., Abonge, G. and Nchimfor, Z. (1996*) Stakeholder analysis for participatory wildlife management in West Coast*. MCP, Limbe.

Powers, M.J. (1997*) General Hunting Regulations of Wyoming Game and Fish Commission*.

Sama, M. and Livelihoods Working Group (2000) *Livelihoods workshop report*. November 10th 2000. MCP, Limbe.

Tchouto, P., Pouakouyou, D. and Acworth, J. (1999) *A rapid botanical survey of the lowland CDC leasehold in the West Coast area*. MCP, Limbe.

Yaron, G. (2000) *Cost benefit analysis: A short-term consultancy undertaken for MCP*. Aide Memoire and Brief Report, GY Associates.

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