

# Community participation in wildlife management: the Mount Cameroon experience

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*A participatory wildlife management strategy for the Mount Cameroon region is helping to arrest the rapid decline of wildlife in the forests and may help the country's wildlife legislation correspond better to local realities.*



In the Mount Cameroon region, hunting wild animals for subsistence and income has always been a common practice and has become a lucrative business employing thousands of men, women and young people. However, more sophisticated hunting methods, habitat destruction through bush fires and forest clearance for farmland have led to a sharp decline in the wildlife population. This decrease has been acknowledged as a major concern not only by conservationists but also by local inhabitants whose livelihoods are directly affected.

Although local communities in Cameroon see the need for sustainable management of the resource, wildlife legislation does not give enough room for local resource users to participate in or benefit from its management.

The Mount Cameroon Project Limbe, a project funded by the Department for International Development (DFID) of the United Kingdom, working in the area from 1994 to 2002, facilitated the development of a participatory wildlife management strategy for the Mount Cameroon region. The strategy is being tested for potential replication in other regions of the country. This article shares experiences and lessons learned from community wildlife management in the Mount Cameroon region.

## CULTURAL AND ECONOMIC SIGNIFICANCE OF BUSHMEAT

The wildlife resource commonly called bushmeat is very important in the livelihoods of forest dwelling communities throughout Cameroon. It is hunted mostly for food and for commercial use. Some local communities attach a strong cultural importance to the resource. For example, some traditional societies in the Mount Cameroon region believe that humans are sometimes transformed into animals. Although these societies have a

strong cultural regard for animals, they have no organized structure for managing wildlife (Tako, 1999).

Wildlife has always been exploited in the Mount Cameroon region as a common property resource, although hunting is subject to certain regulations requiring permits, gun registration and the use of approved trapping equipment. Nevertheless, almost all hunting activities have been carried out illegally, i.e. without meeting these requirements. Traditionally, hunting and trapping involved the use of local equipment such as wooden spears and ropes made from vines, and the catch was mostly for household consumption. Over time, the traditional practices have gradually given way to more sophisticated techniques including the use of guns and wires. Individual hunters set as many as 300 animal traps, and fence traps are commonly used to increase chances of catch.

In addition to overhunting, other factors contributing to decreases in wildlife in the region include habitat destruction through bush fires, subsistence farming and large-scale forest clearance for agro-industrial farming.

Approximately 45 large and medium-sized (body weight greater than 3 kg) mammal species have been recorded around Mount Cameroon and form an important part of the ecosystem. Some of these animals are endemic to the region: the drill (*Mandrillus leucophaeus*), Preuss's guenon (*Cercopithecus preussi*), red-eared guenon (*Cercopithecus erythrotis*) and Mount Cameroon francolin (*Francolinus camerunensis*). Elephants and chimpanzees are rare and endangered. The carcasses of all of these animals together with some other common species are traded in the area for bushmeat. Monkeys and rodents are the most common (Tako, 1999).

In the Mount Cameroon region the bushmeat trade employs men, women

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and young people. The market chain is made up of hunters, retailers and eating-place operators (pepper soup sellers) (Ambrose-Oji, 1997).

Hunters comprise mainly young men and fall into two categories: part-time hunters who have other occupations and only carry out hunting on an occasional basis, mostly for home consumption; and full-time hunters who invest most of their time and resources in hunting. Full-time hunters hunt for economic reasons and will move from place to place in search of forests rich in wildlife. The chain is organized such that the pepper soup sellers finance most of the hunting by professional hunters

Intermediaries include both men and women who buy from the hunters

and resell the bushmeat, either fresh or smoked, to the public. This group also contributes to the financing of the process.

Eating-place operators are exclusively women who prepare the meat in pepper soup and sell it to the public.

#### **WILDLIFE MANAGEMENT STRATEGY FOR THE MOUNT CAMEROON REGION**

To address the issue of declining wildlife populations in the region, the Mount Cameroon Project Limbe, together with the local department of the Ministry of Environment and Forests (MINEF), facilitated the development of a strategy to ensure a sustainable wildlife management system in the area that

would contribute to the improvement of community livelihoods.

A review of the Cameroon forestry and wildlife law carried out in 1994 stressed that the current legislation allowed for the involvement of local communities in the management of forest resources, including wildlife; however, the regulations did not yet match local realities on the ground, and there was a lack of clarity on how roles and benefits should be shared, both between communities and MINEF and within communities. One of the objectives of the Mount Cameroon Project was to test approaches that might help make the law practicable.

The development of the strategy emphasized the involvement of hunters and other traditional authorities, and the process involved adapting and testing existing local wildlife management systems.

The objectives of the strategy were:

- to create village-based institutions and strengthen their capacity for managing wildlife sustainably;
- to develop locally defined rules and regulations that can support sustainable management efforts based on local realities and within the confines of the national wildlife legislation;
- to define community hunting areas and sustainable offtake;
- to develop a simple local monitoring and evaluation system with the participation of all stakeholders.

Hunters and other stakeholders were encouraged to form associations and wildlife management committees in which rules and regulations for good hunting practices were negotiated and agreed with MINEF.

It was realized that one of the basic requirements for empowering the local wildlife management authority is for the resource users to have legal documents that give them the stewardship to manage the resource. The local forestry service,

in collaboration with the local administration, simplified the procedures for registered local hunters to acquire gun licences and hunting permits, despite a divergence from the national wildlife regulations. This local arrangement between communities and MINEF was devised to get around the shortcomings of the law, with the intention that if it worked out well, it might inform the revision of the national wildlife law.

Hunting seasons and community hunting areas have been defined so as to limit hunting activities to particular areas and retain other areas where animals can feel safe to reproduce. Trapping is permitted only within 1 km of community farming areas but no further into the forest. This is intended to serve the dual purpose of providing the trappers with bushmeat and protecting the farms from small animals, mostly rodents that have been identified in the region as farm pests. In addition, the number of traps per individual is limited to no more than 100.

A simple monitoring and evaluation system has been developed in the region. The wildlife management institution is responsible for carrying out regular monitoring of the wildlife resource. Monitoring information is recorded on specially designed sheets and yearly hunting quotas are allocated based on analysis of the monitoring data collected. Monitoring information is collected from both the forest and the village; in the forest, information is recorded about the abundance of different species and their distribution, while in the village information about offtake is recorded by pepper soup sellers and hunters.

Hunting quotas for different species are based on local abundance and allocated through a tag system. At the beginning of the hunting season, the community wildlife institution gives hunters metal tags for the species that may be hunted; the number of tags given out for each

species is equal to the hunting quota for that species in the hunting season. The hunter attaches the tag to the killed animal and takes it to the village monitoring office to be recorded. The tag is then withdrawn and kept in the village office. When the tags for a particular species have all been collected, the hunting quota for that species for that season has been filled. Endangered species are excluded from hunting. Hunters have also been sensitized about the species that may be hunted through posters and the local media.

The wildlife management institutions are responsible for carrying out regular forest patrols to keep out poachers. Control activities involve destruction of illegal traps, i.e. those set outside agreed trapping areas, and the arrest of illegal hunters, i.e. hunters who are not registered with the village wildlife management institution and are therefore not authorized to hunt or trap even in the agreed trapping areas. Penalties for illegal hunting include confiscation of hunting equipment and fines.

The wildlife management strategy is

*Trapping limits have been fixed by the communities, wildlife management institutions and the Ministry of Environment and Forestry*



being implemented in the entire Mount Cameroon region with varying success in the different communities.

#### **CHALLENGES IN IMPLEMENTATION OF THE STRATEGY Policy**

Cameroon's wildlife legislation falls short of reflecting field realities in hunting and wildlife management and does not encourage local hunters to be involved in the management and use of wildlife. For example, hunting permits are too expensive for local hunters to acquire, especially relative to permits for timber exploitation for artisanal use. Faced with this financial barrier, the local hunters frequently hunt illegally, maximizing their catch in an unsustainable way and killing endangered species.

A gun licence is required as a prerequisite for a hunting permit, but the dane gun, a type of gun widely used by local hunters, is not recognized by the administration and cannot be issued a gun licence. Thus the local hunters are left with no legal option for hunting

with the local guns that they can easily purchase.

The wildlife law recognizes trapping using plant materials only and does not allow the sale of any animals caught. The local reality is that snare wires are used because they are more effective for trapping, and hunters are likely to sell some of their catch to improve their income.

The failure of the law to take these field realities into account encourages illegal hunting, which the government is unable to control.

#### **Community participation**

From the onset, villages were reluctant to embrace community wildlife management because the financial benefits accruing from regulated practices are low. It was very difficult to involve all hunters in the process; some hunters, especially those who hunt as their main occupation, preferred to continue operating illegally since individual benefits from uncontrolled hunting were higher than benefits obtained when the rules and regulations of the community wildlife management institutions were followed, and the chances of being caught and punished for illegal activity were low. Some hunters were also suspicious that the government's move was a trap aimed to arrest them or to tax their activities. After continuous sensitization, more hunters became aware of the potential advantages of the strategy and the number of registered hunters increased.

The wildlife management associations have agreed in their internal rules and regulations to operate within a closed circle whereby pepper soup sellers buy only from registered hunters. This obliges more unregistered hunters to register and to function within the framework of the strategy. In addition, the Mount Cameroon Project has introduced and

trained community members to carry out other income-generating activities to reduce dependency on hunting.

#### **Control of poaching**

It has been very difficult to bring hunters who are not resident in the community to the discussion table. Such hunters enter the area unnoticed, usually abetted by some community members. They transport and sell the catch beyond the village in neighbouring urban areas. To combat this group of hunters, the communities developed joint control involving MINEF and wildlife management committees. Joint control has been very effective in removing illegal hunters from the system in some areas, although poaching still remains a problem in peri-urban areas.

#### **Financial sustainability**

A major problem identified in the implementation of the strategy is the lack of financial sustainability of the village institutions. The cost incurred in managing wildlife is far more than the benefits derived from it. Village institutions are therefore not likely to be able to make enough money to sustain the management system.

As part of the solution to this problem, the capacity of communities has been developed to carry out multipurpose forest management so that benefits accruing from the management of other forest resources can support the cost of wildlife management. Many communities in the region are now following a community forestry process whereby the government entrusts the management of a piece of forest to the community, which in return enjoys all the benefits (including revenue) from its management. Income-generating activities have also been introduced to augment the earnings of hunters and those involved in wildlife management.

### **SUCCESSFUL OUTCOMES**

#### **Heightened awareness**

Awareness about wildlife management issues has been raised in the communities through continuous sensitization, initially by the Mount Cameroon Project and MINEF and later by the wildlife management committees. Community members are now more conversant with the wildlife law and its provisions. Community members have modified their practices from indiscriminate hunting to hunting of common, less rare species. This is an indication of the level of awareness on the threats to wildlife in the area.

#### **Improved capacity**

A major achievement is that a partnership has been developed among MINEF, wildlife resource users and other stakeholders to reverse the decrease in wildlife in the area. The capacity of community members to manage wildlife has improved. Local indigenous knowledge on wildlife is used to allocate sustainable hunting quotas. Hunting of endangered species and species legally protected by the Cameroon wildlife law has significantly declined in communities where the strategy has attained an advanced level of implementation.

#### **Increase in wildlife population**

The use of local indicators developed by community members (such as damage to farms by larger mammals) and the analysis of wildlife monitoring data show an increase in wildlife populations. Sightings in the forest of species that were formerly very rare have become more frequent. However, for more quantitative and qualitative analysis and to understand fully the impact of the implementation of the strategy, a detailed wildlife survey is required to complement community data.



*Awareness about wildlife management issues has been raised in the communities through sensitization meetings about the state of wildlife and the need to conserve it*



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### **Livelihood improvement**

Many community members are engaging in other income-generating activities that are complementary to hunting and forest management such as bee farming, snail farming and cane rat domestication. Some hunters have given up the hunting occupation for these more lucrative livelihood options.

### **Joint control**

Joint control operations have succeeded greatly in reducing poaching and have even stopped it completely in some communities. Thousands of animal traps have been destroyed in the forest, and some poachers have been caught and penalized according to the rules and regulations agreed upon in the community and adopted in the new strategies. Some community members have attributed the increase in animal populations to the effective removal of traps in the forest.

### **Policy**

Experience gained in the implementation of the community wildlife management strategy in the Mount Cameroon region is currently contributing to the revision of the wildlife regulations to make them more practical for local communities. Communities of the Mount Cameroon region are frequently invited to present their experiences to decision-makers in workshops and seminars organized as part of the legislation revision process. For example, the relevance of the strategy to the other parts of the country was recognized at a workshop in Garoua in March 2001. Meanwhile, the local department of MINEF has been instrumental in creating a favourable environment to bring hunters and traditional authorities together in the management of wildlife.

### **LESSONS LEARNED**

Continuous sensitization was very important in improving communities'

knowledge of the advantages and benefits that communities could derive from the policy allowing for meaningful partnership between the State and local communities in the management of natural resources.

Partnership with clearly defined roles and responsibilities, as well as elaboration of transparent systems, contributed to reducing the suspicion of the local people and gaining their full commitment in the management of wildlife.

An important objective of the project in the Mount Cameroon region was to provide feedback from the local level to influence national legislation and decision-making, and the relevance of the strategy to other parts of the country has been recognized. However, the revision of the forestry and wildlife legislation to include this type of local, participatory model is still in process.

A major lesson was that a legal framework within which hunters could

identify themselves and carry out their trade legally gives them more feeling of ownership and motivates them to manage wildlife in a sustainable way to ensure long-term benefits. Legal recognition of the wildlife management institutions in the Mount Cameroon region has given these institutions some level of power to be able to control illegal hunting. This has also contributed to checking the hunting of endangered species.

Indigenous knowledge about resource management should never be underestimated. The integration of local knowledge about wildlife in the development of a monitoring and evaluation system in the Mount Cameroon region made the system easy to use, cheap and easy to adapt.

#### CONCLUSIONS

Community wildlife management, although still a new management approach in Cameroon, seems to remain the only hope for arresting the rapid decline of wildlife population in Cameroon's forests. The Mount Cameroon wildlife management strategy has prospects for addressing wildlife management issues if implemented in a favourable policy environment. The knowledge gained should be used to revise the country's wildlife legislation, and the government should encourage the replication of the initiative in other areas of the country. ♦



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## Can forests be sustainably managed for non-wood forest products?

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For the past quarter century, non-wood forest products (NWFPs) have been receiving increasing attention for their potential to improve the income of forest-dependent people. Since the 1992 United Nations Conference on Environment and Development (UNCED), NWFPs have also been recognized as important elements in the conservation of forest biodiversity. The Convention on Biological Diversity (CBD), in its expanded Programme of Work on Forest Biological Diversity, recommended a balanced approach between conservation and use of forests and emphasized a third goal, equitable benefit sharing. Can forests really be managed for NWFPs in such a way as to accommodate all these expectations?

This question, among other key issues related to the sustainable development of NWFPs, was discussed in a side event to the XII World Forestry Congress entitled "Strengthening Global Partnerships to Advance Sustainable Development of Non-Wood Forest Products" in Quebec, Canada on 20 September 2003. This full-day side event was organized by the International Union of

Forestry Research Organizations (IUFRO), the Center for International Forestry Research (CIFOR) and FAO.

Evidence presented at the side event revealed that in some cases management of forests for NWFPs has indeed significantly improved the livelihoods of the NWFP producers and that in some cases the use of NWFPs has maintained species diversity in forests. There have also been cases, however, where NWFPs have demonstrated little potential for either long-term income generation or biodiversity conservation.

The case of bamboo growing in Anhui County in China was probably the best example of how a single crop, over ten years, significantly improved rural income for many people over a vast area. The forest vegetation (heavily degraded) of the hills was gradually replaced with bamboo, but the bamboo fields that came to dominate the landscape had a level of biodiversity comparable to that of a field of maize. The question also remains, of course, whether bamboo, when intensively cultivated by farmers, can still be considered a non-wood forest product.

Cases from the Amazon, on the other hand, showed that NWFPs have indeed been harvested using practices that have maintained species diversity. Examples included rubber (from *Hevea brasiliensis*) and Brazil nuts (from *Bertholletia excelsa*, whose felling is prohibited by law). However, in general, gathering of NWFPs may not have contributed to improving rural income in the Amazon in a significant and lasting way. The production volumes of most NWFPs from the Brazilian Amazon have been declining from high outputs in the early 1970s to almost insignificant levels today as several products have become obsolete or have been substituted by farmed outputs.

Between these extreme cases of NWFPs managed for either income generation or biodiversity conservation, there is a whole range of intermediate situations, and in most cases it is difficult to assess the overall sus-

tainability of managing forests for NWFPs. Much progress has been made in the study of the socio-economic aspects of NWFP management, but little is known about the ecology of the species producing NWFPs, particularly in tropical countries, or about biodiversity in managed forests. Methodologies for assessing the impacts of techniques for managing and harvesting NWFPs, and particularly for assessing the sustainability of the resource over time and space, still need much improvement.

The questions concerning management of forests for NWFPs touch on many sectors, not only forestry. It is hoped that the process of improving partnerships set in motion through the side event at the World Forestry Congress will continue, and that enhanced collaboration will facilitate the development of a set of harmonized and globally understood terms, tools and reliable methodologies for the identification and monitoring of key parameters needed to evaluate the sustainability of managing forests for NWFPs.

All documentation related to the NWFP side event at the XII World Forestry Congress is available on the Internet: [www.sfp.forprod.vt.edu](http://www.sfp.forprod.vt.edu)

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