

Zoning Mbalmayo

Reconciling conflicting stakeholders in a Cameroonian forest reserve

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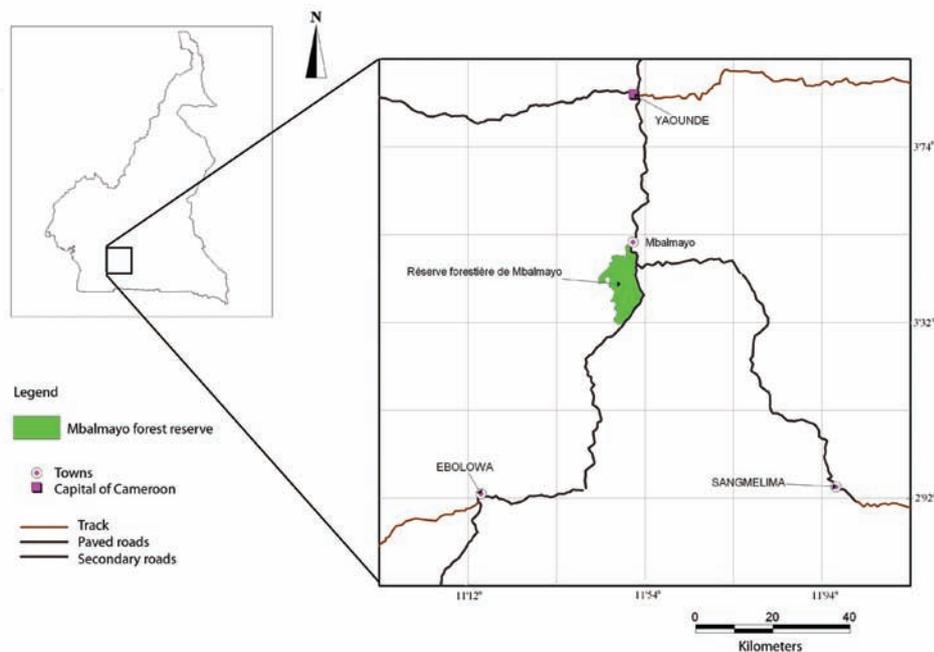
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The primary body in charge of forest management in Cameroon is the state, which is responsible for establishing a general policy as well as legislation in the forestry sector, and for granting forest utilization rights. The 1981 existing law on environment management has been revised extensively on two occasions, as a result of which two laws were adopted to establish a new legal framework, first in 1994 regarding forest management, and secondly in 1996, regarding environment management (Cerutti et al. 2008).

The forest sector institutional environment in Cameroon is considered as quite advanced within the Central Africa sub-region, due to the extensive reforms undertaken regarding the forestry regime and the environment during the past fifteen years. In Cameroon, the legal instruments available reflect the commitment of the Government of Cameroon to the principle of a development strategy combining economic and social progress, as well as respect for the environment (FGF and RIDDAC, 2007).

However, recent economic crises have resulted in a reduction of human resources and equipment within the Forestry Administration, which has limited its ability to execute its mandate. This has also contributed to encroachments on forest reserves (illegal logging, clearing for agriculture, etc.), often by neighboring communities.

The Mbalmayo Forest Reserve (MFR) includes on-site research and educational institutions, as well as a forestry training school. Forest zoning and gazetting allowed for the regulation and clarification of a previously chaotic system in which the government operated as if it were the sole owner of the forest. The distribution of forests in protected areas, trading areas and community areas was the first step towards the conservation of forest land, through the introduction of modes of management and other diverse

potential uses which vary according to the type of area. Together, zoning and gazetting allowed the stakeholders (authorities, communities, industry, etc.) to determine protected use rights, which had been discarded since the colonial period (Topa et al. 2010).

In developing a sustainable management framework for the MFR, results achieved through previous work (including through ITTO project PD 77/01 Rev.2 (I) and an ITTO fellowship awarded to the lead author) were built upon (Ngodo, 2000; Temgoua, 2007; Owona, 2007; Owona et al. 2008). It was also necessary to negotiate on-site the implementation of zoning proposals, determine the conditions for management transfer and draft terms of reference for agriculture, tourism and science-related uses of the forest in consultation with all the stakeholders involved in the future of the forest (Ongolo, 2008).

Study area

Located in Centre Province of Cameroon, about 50 km from Yaoundé, the MFR was gazetted in 1947 by the French colonial administration. The MFR covers 9700 ha. It is situated at 3.24 degrees latitude north and 11.30 degrees longitude east. It is bound to the west by the Nyong river, to the east by the asphalted Yaoundé-Ebolowa road, and to the south by the So'O river. According to Foahom (1993 in Owona, 2007), the area is characterized by a Guinean bimodal climate with an average annual rainfall of 1600 mm divided into two rainy seasons (March to June and September to November). The average annual temperature is about 23°C and the average relative humidity is 78%. Sunlight reaches around 2000 hours per year. The MFR is located at an altitude of 640 meters on soil with yellow desaturated ferrallitic sesquioxides on a bedrock of schist. The natural vegetation in the area is a transition forest



Slash and burn: The MFR is used by locals for subsistence agriculture, timber and other purposes. *Photo: O. Symphorien*

between semi-deciduous forest and closed evergreen forest (Aubreville, 1956).

Originally, the MFR population was made up of the Ewondo sub-ethnic group and of the Beti ethnic group. The vicinity of Mbalmayo industrial city promotes the movement and intermingling of populations of various origins in Cameroon, which utilize the MFR for fulfilling their needs (construction of dwellings, agricultural land, timber, firewood, etc.).

Methodology

The methodology included the use of reference databases to create an overview of the situation in the MFR. Semi-directed interviews and consultation meetings with the various stakeholders were also held to further knowledge on the various uses, needs and involvement capacities of the stakeholders in the MFR. A number of field missions were conducted for updating the existing map database on the basis of new GPS records and for refining survey results.

Results

Land: a critical stake

The rural economy is mainly based on agriculture in Cameroon. Access rights to and use of land are a major issue for the subsistence of rural communities. As Joiris (1998) indicated, in forest areas, villages are surrounded by a dual land zone utilized by communities. The first area is for agricultural use and the second area for forest use. The agriculture area includes fallow lands of short to long duration (from 2-3 years to 10-20 years, and up to 30 years). It also includes regenerated secondary forests which, although they may look abandoned, remain governed by ownership rules, both community and

individual, and will be cultivated again some day by the village community. The forest area includes trails and traps whose users are known.

The concept of forest enclave so dear to the MFR neighboring communities originates from what Ngodo (2000) calls “family land”. This “family land” (also referred to as “élig”) is governed by rights that family members (including the children of unmarried women) hold over land bequeathed by the parents (and that has often been inherited from ancestors).

Stakeholders in the MFR

Several stakeholders from the private sector and institutions interact in the MFR. In addition to the forestry administration in charge of national forestry policy implementation and of the management of the national forests, neighboring communities are estimated to contain 6300 inhabitants distributed among 7 villages. These communities practice subsistence agriculture based on the slash-and-burn system. Urban populations (non-indigenous) living in the area are involved in commercial agriculture (pineapple, tomato crops, etc.). Illegal timber logging, small-scale fishing, hunting and non-timber forest products collection are also major activities within the the communities. Two community groups in the Ébogo enclave also operate ecotourism activities through a project financed by the World Tourism Organization (UNWTO) and the Government of Cameroon.

In addition to neighboring communities, there is also the Mbalmayo National Water and Forest School (ENEF), a public forestry training institution established in the MFR in 1949. ENEF includes a 700 hectare training forest (mainly composed of secondary forest stands and

agricultural fallow land), a dendrological path, a fish-farming pond and a 5.8 hectare arboretum (the only one in Cameroon).

Two research institutes were also established with operations in the MFR: IRAD¹, which originally conducted research on timber species, and IITA², which conducted agricultural seed production and enhancement work. WAC³, in partnership with IRAD, is also conducting domestication and improvement tests for fruit trees and other agro-forestry species.

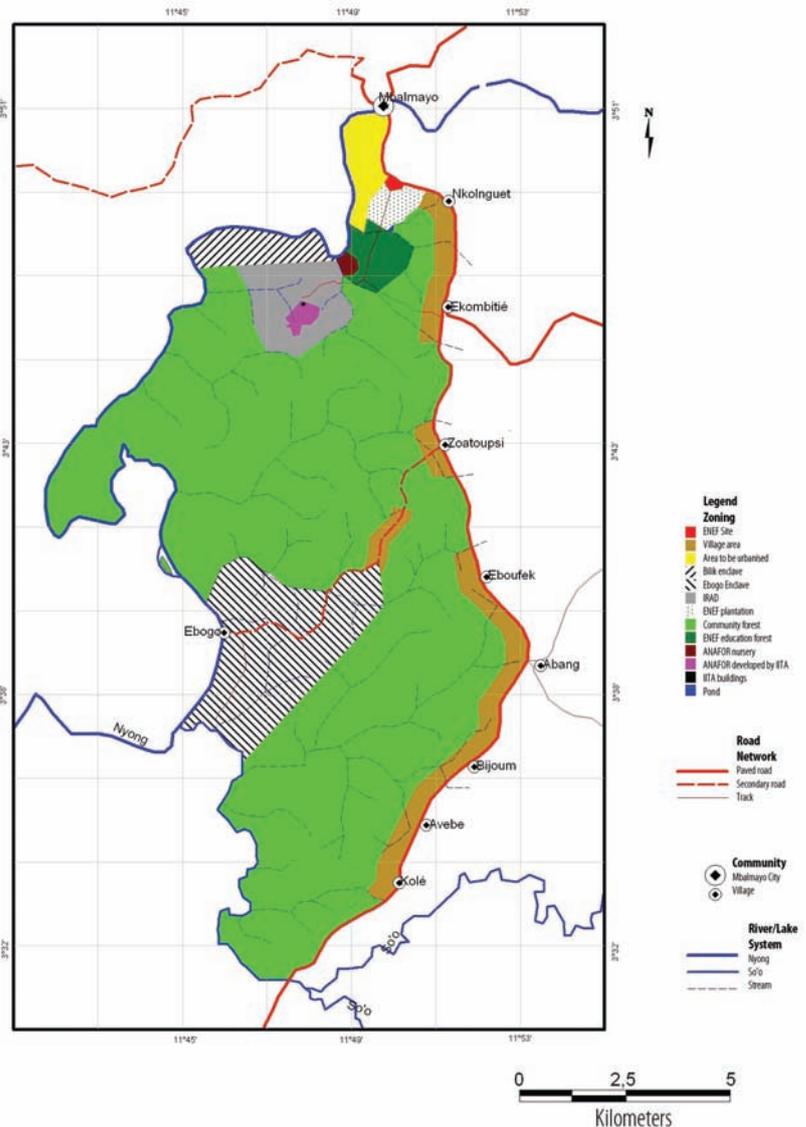
Origin of encroachment

Encroachment by neighboring populations for agricultural and forestry uses was promoted by legal loopholes and contradictory forestry policies prevailing in the Decree creating MFR. The Decree stipulates on the one hand that the MFR is established “with a view to promote natural reforestation and conduct methodical reforestation work”, whereas it further determines that (i) “existing cocoa plant plantations which are maintained and healthy will be demarcated and marked out” and that (ii) “indigenous populations with custom rights to the land shall be allowed to cultivate subsistence crops within the gazetted forest area”. Such a mix of uses and aims combined with ambiguous interpretations of the forestry law by indigenous populations is one of the reasons for land tenure disputes. The easing of control operations in the MFR by the forestry administration also contributed to increased encroachment.

The agro-forestry techniques long tested in the MFR also contributed to increasing opposition on the part of the local inhabitants. Public research institutions had started preparing the land using bulldozers for the experimental cultivation of fast growing timber species (ayous, fraké, framiré, etc.). The species are considered as “valueless” by the local populations, who consider that they don’t justify destroying the natural forest (which provides edible or commercial non-timber forest products such as *Irvingia gabonensis*, *Gnetum* spp., *Baillonella toxisperma*, etc.) in order to introduce the new species. Feeling increasingly vulnerable, the populations started a race for the control of the land in the MFR. The rights enforcement strategy selected was to establish as many agricultural fields as possible to demarcate “one’s property”.

Future zoning proposals

The legal framework which governs Cameroon’s forestry policy stipulates that regional and local authorities as well as communities may, according to relevant individual mechanisms, benefit from a mandate for the management of the national forest estate. The 2008 decentralization law reaffirms and reinforces some of these mechanisms.



The management policy proposed for the MRF (see map above), was drafted while taking into account the uses, needs, involvement and management capacities of the various stakeholders. For instance, it will be possible to grant management rights to the ENEF with a view to providing the school with a rich and diversified education and research forest, including the arboretum, fish farming pond, and primary and secondary forest stands. It might also be possible to grant a second management mandate to IRAD, including its experimental site and part of the former IITA concession, in order to continue research on timber species and production of agricultural seeds.

The establishment of an agro-forestry zone should be prioritized in the vicinity of villages and/or along roads, according to the number of village inhabitants and the degree of land-use for agriculture. Dwelling construction and the establishment of agricultural activities will be allowed in those areas where agro-forestry practices will be promoted. Declassification of the Northern part of the MFR, already considerably urbanized, will be possible for the benefit of Mbalmayo City. Removing this area from the

1 Institut de recherche agricole pour le développement (Institute of Agricultural Research for Development)
 2 International Institute of Tropical Agriculture
 3 World Agro-forestry Center

gazetted forest would serve to legitimize and regulate the *de facto* situation.

Finally, it will be possible to grant management rights to Mbalmayo City for 7044 hectares of the MFR. This will enable the development of an ecotourism recreation site in the forest. The proximity of Yaoundé, Cameroon's administrative capital, represents a major advantage for enhancing the site as a suburban forest used for landscape and recreational purposes. The development of community forestry will prove just as beneficial for the supply of legal timber to small-scale industries (furniture and construction) and firewood for Yaoundé. The use of NTFPs for food or medicines will be allowed and regulated through quotas based on productivity in the relevant area. Even though the zoning project development is the result of consultations conducted for three surveys within and in the vicinity of the MFR, it also aims to serve as a technical tool for decision-making. Its aim is to provide a solid base for the final plan of use and ownership rights to be negotiated following an essential phase consisting of the development of maps in participation with all MFR stakeholders. Consequently, it is essential for public authorities to promote a bottom-up approach to the reform process, in order to develop a government management policy for the MFR involving all stakeholders from inception to ensure better ownership of the process. The recommendation is based on the analysis of various development projects which were implemented in the study site. The top-down approach used for the projects was largely responsible for the failure of the top-down development model, since such a concept is far removed from local stakeholders and does not facilitate local ownership of results.

Issues

The legal status for the preservation of protected areas remains meaningless without political support and if management structures are not established in the field (Doumenge, 1998). Even if legal status is in place, due to its ambiguity, and lack of limits and direction, it may be easily bypassed or reinterpreted for the benefit of uncontrolled utilization.

As Pamard and Ramiarantsoa (2008) point out, it is easy to understand how zoning can be a constraint for communities used to considerable freedom regarding the use of space and utilization of resources. In spite of this real disadvantage of zoning, territorial definition does not only entail constraints. It also yields opportunities for some groups to redefine their territories. The link between the development selected and other forms of social and territorial organizations in place highlights distortions in boundaries which shed light on the issues and stakes of the stakeholders.

Risks of sharing-based zoning

Sharing-based zoning will result in the fragmentation of the MFR, followed by the physical demarcation of boundaries. Plots will thereby be allocated to the various stakeholders involved in the MFR for registration. However, such a process could destabilize further the ecosystem which has already been disturbed by anthropogenic activities, since most of the stakeholders aim at shifting to new land use modes (forest conversion to agriculture).

The neighboring communities, convinced they will be deprived of their customary rights in the MFR, seize all opportunities to make land claims when faced with MFR sharing or changes in zoning. Such concerns have been raised at the public information and consultation meetings organized for the communities in which all other institutional stakeholders took part. During the discussions, some village representatives declared that *"If the Mbalmayo Forest Reserve were to be re-zoned, it would be legitimate for local communities (indigenous) to be allocated larger land areas than the 'aliens' (non-indigenous population and other institutions established in the MFR)"*. Due to the local communities' concerns, the risk of land-related conflicts is real, as is the threat to social stability, which is already fragile due to underlying land-related tensions.

Social fragility and socio-politic threats

In a cross-analysis on natural resources in relation with the fragilities of forest-rich states in Central Africa, Pourtier (2007, in Châtaigner and Margro, 2007) stated that a study of fragile states should include a review of possible causal links between natural resources utilization and power issues surrounding their control. The author draws on the work of Misser and Vallée who, as early as 1997, showed that in Central Africa, a strong link is observed between resources and conflicts.

Considering the population increase observed in the study site (1.9% natural increase per year), a rapid encroachment on the MFR is to be feared if the area came to lose its gazetted status. The land ownership system in the Beti territory is essentially based on slash-and-burn operations. In addition to the environmental impact, a migratory movement of the populations described as "environmental refugees" by Belhassen et al. (2003) represents a long-term risk. One of the socio-political impacts could be the mass or individual displacement of communities towards still forested areas to satisfy their needs for structural timber, energy timber, non-timber forest products and animal proteins.

Recommendations

Insufficiencies identified in the 1947 colonial decree establishing the Mbalmayo Forest Reserve need urgently to be improved. In this regard, MINFOF should make arrangements for the signature of a new gazetting decree, taking into account the new zoning policy for the MFR, and including the uses, needs and involvement capacities of relevant stakeholders. To ensure synergy of action in the MFR ecosystem, a co-management mechanism ensuring the involvement of all stakeholders should be implemented. It will also be necessary to conduct an inventory of all resources to understand the actual potential of natural resources in the MFR; on the basis of this it will be possible to better determine the objectives of sustainable management.

In order to effectively reduce anthropogenic pressures on forest resources in the MFR, it is crucial to provide an exchange mechanism to ensure

equitable sharing of benefits and to help provide a guarantee for sustainable management. The mechanism could be implemented on the basis of revenue-generating activities through the development of micro-projects.

Conclusion

As Smouts (2001) pointed out, by definition protected areas restrain uses throughout a designated land area. They deprive populations of rights which they consider as theirs, and dismantle traditional systems of space organization and local exchange and management practices.

This analysis shows the need to identify correctly the stakeholders involved in a given area, to know their needs and uses prior to determining the future functions to be allocated to the zone designated to become a protected area. The participative approach selected for the process promotes the commitment of neighboring communities to the project while reducing the risk of socio-political conflicts, which often appear in conservation areas where stakeholders were insufficiently consulted. While there are various causes of encroachment and deforestation in the MFR, slash-and-burn agriculture and illegal timber use remain the main identifiable causes of degradation. Considering the population increase in the vicinity of the MRF, it may be anticipated that the survival of this essentially agricultural population will have an environmental impact whose effect already appears to include forest loss. Cameroon's forestry administration is facing an eternal dilemma, i.e. how to reconcile the socio-economic development of communities living in forest areas while ensuring compliance with national policies for the conservation of natural resources?

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