

SOCIAL CHANGE, EXPLOITATION AND MANAGEMENT OF NATURAL RESOURCES IN THE BIPINDI-AKOM II AREA

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SUMMARY

Planning is generally considered a prerequisite for achieving sustainability in forest management. Qualitative and quantitative data on the present situation are the usual and obvious sources of information for such plans. Yet this present situation is only the result-for-the-moment of various ongoing processes of change. Areas to be managed sustainably have their own dynamics, and forest managers lack the means to redirect or stop such processes. Consequently, if forest management plans are based on snapshot pictures of the current situation only, this will result in a number of unpleasant surprises during the implementation phase. Forest managers can reduce the number of such surprises by basing their forest management plans also on knowledge about processes of change. Social dynamics are an essential factor to be taken into account in this respect. The present analysis contributes to achieving this. Local exploitation of forest resources in the Tropenbos-Cameroon research area has undergone profound changes due to such processes as: commoditisation, introduction of new technologies, modification of peoples' residence patterns, and transformations of the normative frameworks regulating natural resources exploitation. These processes are critical variables in explaining current local exploitation of forest resources. As these very processes will also shape the future situation, any plan for sustainable management of forests in this area should take them into account.

Keywords: Bantu, Pygmies, social change, sedentarisation, tenure arrangements, land use planning, forest management, Cameroon.

1. INTRODUCTION

The master management plan developed within the Tropenbos-Cameroon Programme (TCP) is a form of strategic planning. The present paper substantiates that the TCP research area (see Figure 2 in van Gemerden *et al.*, this volume) has been subject to constant change. Not only do these changes affect the ways in which forest resources are exploited, but also their relative importance if compared the other economic activities. It starts with a brief introduction on the various population groups in the Bipindi-Akom II area and their ways of forest exploitation. Its second section focuses on changing economic conditions, the introduction of new technologies, and changing human mobility respectively, and these will be considered in view of their impact on local forest exploitation and management. Attention will also be paid to the impact of plural regulatory forest management frameworks.

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Processes of social change were among the main research topics of the social scientific research within the Tropenbos-Cameroon Programme (TCP). Part of the research among Bagyeli pygmies focussed on socio-economic changes and their impact on local knowledge on and exploitation of forest resources. Another part of the research among Bagyeli pygmies concentrated on the dynamics of their local forest resources tenure in relation to processes of sedentarisation. Fieldwork among Bantu farmers focused on related themes. One part of this research paid particular attention to the influence of the market on Bantu exploitation and perceptions of the forest. The other part analysed dynamics of plural institutional and regulatory frameworks within which land and other forest resources are managed and exploited. Four social scientific researchers were employed for these studies; they were supported by their supervisors and by students. A variety of standard social scientific research methods were used, among which participant observation, semi-structured interviews (targeting either individuals or groups), questionnaires and archival research. Preliminary results were presented in many intermediate reports, articles, papers, and draft PhD thesis chapters. An integrated overview of the overall results of the four studies is presented in an additional report (van den Berg and Biesbrouck, 2000).

2. A HETEROGENEOUS STUDY AREA

The human population in the Tropenbos research area is heterogeneous. There are marked socio-political differences. First of all there is a differentiation between Bantu speaking farmers and Bagyeli pygmies. Bagyeli form a minority group (an estimated 4% of the total population). Most Bagyeli families live at some distance from the passable roads, in base-camps in the forest. Bagyeli camps are unevenly distributed over the research zone: they are concentrated in the northern part of the area, and in the western part towards the south. Bantu farmers live in villages along the passable roads. Their fields and fallow lands form strips on both sides of these roads. Several different Bantu languages are spoken in the area. In the northern part, Ngoumba and Fang speaking farmers are the most numerous. In the western and southwestern part, most farmers speak either Fang or Bulu. The population in the southeastern part, on the contrary, consists almost exclusively of Bulu speaking farmers.

Bagyeli camps are administratively connected to Bantu villages; sometimes several Bagyeli camps are linked to the same village. Symbolic kinship relations and intricate economic links relate Bagyeli to Bantu farmers. In the past, these relationships were clientelistic in nature with the Bantu acting as patrons. These patron-client relationships started to decline just before independence. Bantu found alternative opportunities for achieving status in the jobs related to the africanisation of the bureaucracy. Furthermore, the catholic mission commenced its activities aimed at reducing the exclusive and exploitative character of the ties between these groups. Meanwhile, Bagyeli received formal education; got directly involved in the market; and the catholic nuns fulfilled some of the functions of the former patrons. Bagyeli are still looked down upon and their power position remains rather weak *vis-à-vis* Bantu farmers and administrative authorities (van de Sandt, 1999).

Also within these groups there is internal differentiation. The elite of Bantu villages plays an important role in their development. This elite consists mostly of retired civil servants who moved back into their village of birth, and people who currently work in town and maintain the link with their paternal village. Bagyeli hardly ever become civil servants (let alone influential ones), so it is impossible to speak of a Bagyeli elite in this sense. Yet the first generation of Bagyeli receiving formal education fulfils a similar role. Those advocating local participation in forest management

and expecting to find well-organised and coherent villages will be disappointed. Leadership and representation are problematic issues in the entire region, and the Bagyeli are no exception to this rule (van den Berg and Biesbrouck, 2000).

Another dimension of the heterogeneous character of the area is the economic differentiation between and within population groups. For the Bantu, agriculture is the most important economic activity. Two main types of agricultural activities can be distinguished in the area: a) the cultivation of food crops and b) cultivation of cacao. Main food-crops grown are cocoyam, plantains, and cassava. There are a number of secondary crops, among which cucumber, maize, groundnuts, and a few vegetables. Agricultural activities provide for food crops, and for substantial monetary incomes for both men (sale of cacao) and women (sale of food crops) (Tiayon, 1999a). Considerable differences exist between Bantu and Bagyeli as to the scale of the cultivation of food crops. Agriculture is much less important for Bagyeli; in general it provides them with only a minor part of their food, and contributes to their monetary income only in some exceptional cases (Biesbrouck, 1999b).

Hunting and gathering is the most important economic activity for most Bagyeli. Rodents and dukers are the most frequently caught, a large part of the catch is used for own consumption. Bagyeli also collect kernels, seeds of *Strophanthus* climber, bark, and honey. Part of these uncultivated forest products is exchanged with Bantu farmers for food crops or other things, another part is sold in order to be able to pay for some of the primary necessities of life (Biesbrouck, in prep; Nkoumbele, 2000). Bantu also practice hunting and gathering, but to a lesser extent, although some of them have specialised in the extraction of specific forest products (e.g. primates and rodents, several ingredients for palm-wine, bush-mango) (Tiayon, 1999a). Some Bagyeli are professional traditional healers. They combine medicinal bark and leaves from the forest with their special knowledge and powers (van de Sandt and Biesbrouck, 2000). The more famous among them attract patients from town, and this provides them with a substantial income. These traditional healers are particularly dependent on uncultivated forest resources because these provide 'raw material' necessary for the execution of their profession.

Among Bantu farmers in the research area there are regional variations in (perceptions of) pressure on land. Along the northern edge of the TCP area, and in the western part towards the south, the pressure on agricultural lands is high. In the north this is partly related to presence of a steep hill chain that limits agricultural expansion. In the western to southern part, this pressure is due to medium-scale plantations for cash crops. In most of the villages in the TCP area, the expansion of the agricultural area (see below) started long ago and the process seems to be tending towards its end. In these zones, many farmers currently prefer to create their fields on fallow lands in view of the practical constraints related to clearing of forest land (Tiayon, 1999a; Nounamo and Yemefack, 2001). This pressure on land is reflected in the enormous number of conflicts on land. The archives of the traditional courts of the village of Bidjouka, to give an example, showed 276 conflicts on land between 1973 and 1995. Sixty percent of these conflicts concerned fallow lands (Tiayon, 1999a). The Bulu farmers in the hilly eastern part of the area, however, do not experience similar restrictions to the expansion of the area under cultivation. As a consequence, agricultural expansion is still going on in eastern part of the region. Here, clearing high forest is still possible within easy reach of the village. Farmers actually do this, as ownership claims by the state make them feel insecure about future access to land for their offspring. They strengthen their rights to land by planting palm- and fruit trees (van den Berg and Biesbrouck, 2000). These regional differences are

not only related to these geographical and economic characteristics, but also to demographic variations between villages, as well as to the length of human occupation of the area (Tiayon, 2001).

At least two intervening variables complicate this general picture (*ibid.*). First of all, as a result of the economic crisis, young people are nowadays severely restricted in their opportunities to (find or) keep a job in the towns. These youngsters return to their villages throughout the area. Especially young men hope to earn some money in the logging industry or the construction of the oil pipeline. Such jobs, however, are only temporary and limited in number. As a consequence, many of these youngsters start practising agriculture and / or exploiting forest resources (for consumption or market). Secondly, the availability of chainsaws greatly facilitates the heavy work of opening up the high forest.

3. PROCESSES OF SOCIAL CHANGE AND THE USE OF NATURAL RESOURCES

Which processes of social change have been going on in the past few decades, and which were the consequences for local exploitation of uncultivated forest resources?

3.1. Forest exploitation influenced by the market

As from 1986 many people in towns lost their jobs due to enterprises' bankruptcies caused by the economic crisis. Numerous were those who returned to the rural areas. In 1989, producer-prices for cacao dropped, only to recover again five years later. Cacao is the major source of income for most Bantu families. Meanwhile, imported goods had become more expensive as a result of the devaluation of the FCFA. Bagyeli were less affected by these economic trends if compared to Bantu farmers, for Bagyeli hardly produced cacao in the first place, nor did they hold any positions in the towns. Bantu people, on the other hand, had to look for alternative sources of income.

One would expect cacao-producers to shift their attention to cultivating food crops in order to sell the surplus. Research in the Bidjouka area, however, showed that this drop in incomes for cacao-producers generally did *not* lead to an increase of male involvement in production and sale of food crops. The cultivation of food crops and their sale on the urban markets has always been, and still is, essentially a women's affair (Tiayon, 1999a). Despite this, cacao farmers' attitudes towards production and marketing of food crops did change under these circumstances.

Young Bantu men, who re-migrated to their villages of birth after having lost their jobs in town, provide a first example. Some of them specialised themselves as hunters. In the Bidjouka area pressure on fauna grew as a result of this. Another option was the increased exploitation of certain types of forest vegetation, such as kernels (*Irvingia gabonensis*, *Coula edulis*, and *Panda oleosa*) and the seeds of the *Strophanthus gratus* climber. Some farmers increased the production of palm-wine and gained substantial incomes from selling this drink directly to local consumers. This palm-wine was also used and sold as the main ingredient for a palm-wine distillate (Tiayon, 1999a). This growing production of palm-wine for sale led to excessive exploitation of the bark of *Garcinia lucida* (used in the distillation process), and this occasioned an overexploitation of exemplars of this species. Eventually this may cause a scarcity or extinction of this species (Guedje, 1996; Guedje and Nkongmeneck, 2001; see also Ndoye *et al.*, 1998).

Furthermore, commercial timber exploitation enhanced local awareness of the forest as an area producing valuable resources for the market. Nowadays, the utilitarian perception of the forest tends

to predominate among local populations (see, e.g., Tiayon, 1999a). The Ngoumba have been elaborated as an example of Bantu farmers perceiving the forest for agricultural purposes as well as a stock of valuable timber. This utilitarian perspective is, at least in part, a reaction to commercial timber exploitation by logging companies. The 'compensation' received by villages and paid by logging companies led to a multitude of conflicts between the two parties. In addition to this, such compensation also led to conflicts between inhabitants of adjacent villages on its distribution. The inhabitants of the respective villages wish to maximise the amount of compensation derived from 'their' forests, and this results in the villages becoming increasingly interested in demarcating their village forest. This tendency has been coined a *villagisation* of forests (Tiayon, 1999a). Furthermore, Bantu farmers contact logging companies in order for them to harvest the commercially interesting species found in their fields and fallow lands and pay the owner.

In the eastern part of Cameroon this tendency was strengthened by the 1,000 FCFA 'tax' paid to local communities for each cubic metre of timber leaving a sale of standing stock (*vente de coupe*) (Milol and Pierre, 2000). If the same phenomenon were to happen in the Tropenbos research area, it is expected that the *villagisation* trends will be reinforced, with heavy risks of social unrest due to boundary disputes.

3.2. Availability of new technology facilitates local forest exploitation

Chainsaws, cable wire, and rifles are rather efficient tools in exploiting natural resources. Over the past few decades, these technologies have either been newly introduced, or their use has expanded significantly.

The use of the chainsaw for agricultural purposes is a relatively new phenomenon in the area. Its introduction was largely related to logging practices, which made use of this technology. The temporary drop in cacao prices seems to have accelerated farmers' recourse to the use of chainsaws. In fact, among farmers this drop created a need for alternative sources of income. The expansion of food production was hampered by the scarcity of labour, which was especially felt in the preparation of new fields. The introduction of the chainsaw greatly facilitated this task. However, due to its high price, only the wealthier people could afford to buy such a chainsaw. Those who were less fortunate try to make use of this facility either by making use of their social relations, or by paying these lumberjacks for their services. Currently, a local association (KTM) attempts to organise communal use of this chainsaw in many of the Ngoumba villages along the northern edge of the TCP area (Tiayon, 1999a).

Cable wire was already introduced during the colonial period. The material is relatively cheap, and it increases the efficiency of snares. This explains why currently the material is widely used by both Bantu and Bagyeli trappers. Despite this availability, many lines of snares in the forest consist of a mix of traps made from traditional materials and those made with cable wire (Nkoumbele, 2000).

The use of the rifle in local hunting practices dates even further back, namely to the trade economy. After the country's independence its use greatly intensified, especially in response to the development of the trade in bush-meat. Urbanisation led to an increasing demand for bush-meat, and the improved roads facilitated access to the urban markets. Despite these developments, rifles are not owned on a very large scale nowadays. This is because rifles are expensive, the acquisition of the required permit is hampered by the complexity of the administrative procedure, for most of

the Bantu hunting is just a marginal economic activity, and mainly for auto-consumption. The relative scarcity of rifles, combined with the demand for bush-meat, has led to the creation of new temporary partnerships in hunting, centring around rifle-owners, and to practices known as commissioned hunting (Dkamela, 1999; Tiayon 1999a). This implies that the number of rifle-users largely exceeds the number of owners. Those hunting with a gun do not necessarily restrict their activities to the forest near their place of residence. Some forests are fuller of game than others, and hunters make use of their kinship and cordial relations in order to have access to other forests. This led to a regionalisation of some hunters' forest use (Tiayon, 1999a).

3.3. Sedentarisation and the spatial distribution of forest use

Human mobility is an important factor determining the spatial distribution of forest exploitation for local use. Sedentarisation of Bantu farmers started early in the colonial period and this concentrated forest use in specific areas. Contemporary Bagyeli, on the other hand, are anything but sedentary. Research on Bagyeli mobility showed how sedentarisation can have many faces. A comparison of several cases indicated that mobility has altered in various ways, resulting in several different current patterns of mobility. These changes in the various forms of mobility occurred independently from one another. Over the years, the time spent per year in temporary hunting camps has reduced considerably. Despite this, important differences still occur between families, for some of them spend considerably less time in their hunting camp than others. A similar statement can be made about the frequency of moves of groups of people towards other base-camps: nowadays a few Bagyeli families move between base-camps much less frequently than they did before the 1960s. In many other cases this type of mobility has also reduced, yet less dramatically⁴. A third form of mobility, indicating whether or not the base-camp is situated on the roadside, showed additional differences. In the 1960s, a governmental campaign aimed at Bagyeli settlement on roadsides. The majority of Bagyeli in the research area obeyed the government's resettlement policy, but they disliked the ensuing frequent contact with 'meddlesome' and 'haughty' Bantu farmers, and many Bagyeli soon returned to their base-camps in the forest. The Bagyeli families in Ndtoua and Nyamenkoum are exceptions in this respect, as these have managed to live on the roadside in the neighbourhood of villagers for several decades (Biesbrouck, 1999a; 1999b; Hanssen, 1995; Henning, 1997; Nkoumbele, 2000).

When Bantu farmers expanded the area under agriculture they drew on the space immediately neighbouring their current fields. This space used to be available for Bagyeli, so these were confronted with an increased pressure on the land in the immediate vicinity of their base-camps. In some cases Bantu withdrew the Bagyeli right of usufruct of these lands. Bagyeli were sent away from their base-camp and this caused mobility. However, in other cases Bagyeli mobility reduced, as the latter preferred to keep living in that specific base camp in order to defend their claims to the surrounding land (Biesbrouck, 1999a).

3.4. Plurality of normative frameworks (regarding forest exploitation)

All this happened in a situation figuring a plurality of normative frameworks regarding forest exploitation. At the local level, the exploitation of natural resources is predominantly conditioned by customary tenure arrangements, and not by state forest regulations as the latter are hardly implemented. Bantu farmers as well as Bagyeli hunter-gatherers developed such arrangements.

⁴ Readers with a particular interest in this subject are referred to Biesbrouck (1999a; in prep.), who deals with this matter at length.

Bantu and Bagyeli discern different forestland types or categories of space. The residential area is a separate category; there is high pressure on these lands. Among Ngoumba, *Dzier* appears as a generic term including all land categories apart from human settlements. It then consists of sub-categories such as *ngie* indicating the fields and plantations; *Mabvur* is the notion used in referring to fallow lands; *Pandé* is the concept utilised to indicate 'primary' forest (Tiayon, 1997; 1999a; 1999b). Bagyeli classification of forest space parallels that by Ngoumba, although there are slight differences in terminology (see Biesbrouck, 1999c). The Bulu call a field or plantation that is actually under cultivation *Afup*. *Ekotôk*, on the other hand, refers to fallow lands that are initially still used as storage for food-crops and a source of planting material. After a fallow period of approximately thirty years an area is designated as old secondary forest, *Mfôn afan* (van den Berg, 1996). 'High' or virgin forest, *Fut afan*, is the category of land in which the vegetation shows no sign of human impact, and according to local memory it has 'never' been transformed into agricultural land.

Various levels of social organisation are involved in local management of natural resources. In order to understand which of these levels applies, it is crucial to know on which type of forestland a resource is found, and whether or not particular investments have been made in the productivity of that resource. The House, households and individuals play important roles in the access to fields, fallow lands and cacao-plantations⁵. Throughout the TCP area, the House holds collective rights for its members over the fields and fallow lands that were inherited from previous generations; Tiayon calls this set a *patrimony*. Its head, together with the elders, distributes these lands among its constituent households. In daily practice, these households are the significant units in managing these lands. Agricultural land that was not inherited but that has recently been opened in high forest, however, is governed by the individual man. This man derives this right from the fact that he was the first to put his axe into this section of the forest and from the principle of first occupancy. In the Bidjouka region, such a man has the right to expect others even to refrain from transforming the forest immediately bordering his fields and fallow land into agricultural land, as this is considered to be his *Nkwong dzier* (the width of this area is at least 300-500 meters). Individual men generally start building their own patrimony after their marriage; as time passes by the number of his descendants increases, and this group will form a separate House (Ngo Mboua, 1996; Tiayon, 2001).

Tenure arrangements pertaining to land do not always correspond exactly with those regarding the uncultivated resources found on them. In other situations, however, tenure of land can affect tenure of other resources (Biesbrouck, 1999c; Ngo Mboua, 1996; van den Berg and Biesbrouck, 2000). Bagyeli use arrangements regulating the access to uncultivated forest products in the high forest among several right-holders. Elements occur of more or less individual control over natural resources. Some resources are appropriated by individual persons or a small group by means of personal efforts. Such investments turn collectively held resources into more or less private property: the person (or persons) who catches or gathers the product can decide what will happen to it (Biesbrouck, 1999c). Among Bantu farmers, the House controls access on valuable trees found on the *patrimony*, except for those trees that have been appropriated by an individual. The House also controls the access to the fauna found in fallow lands, and its members may grant others the right to exploit this. Individuals, however, control valuable trees on this patrimony in case they are the ones who

⁵ The House is not a house in the usual sense of a building, for people belonging to the same House do not necessarily live in the same building. A House is a group of people recognising their social and political ties.

invested energy in enhancing its productivity. Individuals also control access to wildlife and fish on their own agricultural fields and plantations (van den Berg, 1995).

Meanwhile, national forest legislation pertains to the very same forest areas. During the colonial period, the state proclaimed itself the owner of the so-called *terres vacantes et sans maîtres*. Agricultural activities were taken as indicators of human occupation, notwithstanding the fact that at the local level claims over natural resources may be based on other activities as well. This legal manoeuvre brought forests containing valuable timber under the influence of the state. Current legislation still builds on this legal move, and this is at the basis of the state distributing permits for commercial logging (Biesbrouck, 1997).

Yet the distinction between the various normative frameworks is not entirely exclusive. Elements of state legislation also figure in local discourse on tenurial matters, even though detailed knowledge of the forest and land laws is generally lacking at the local level. Notwithstanding this, Bantu farmers, in their disputes on natural resources with other farmers or Bagyeli, legitimise their claims by referring to principles and regulations derived from either of these normative frameworks. As forest clearing is one of the most effective ways to secure rights to land in the long term, both in terms of local tenure and in terms of the current state legislation, existing feelings of insecurity of rights motivate farmers to strategically open up the forest (van den Berg, 1999). One can easily imagine that this plurality of normative frameworks allows for a rather chaotic exploitation of the forest.

4. IMPLICATIONS OF SOCIAL CHANGE FOR SUSTAINABLE FOREST MANAGEMENT

Demographic differences between Bantu villages, geographical particularities, as well as variations in the length of human occupation make the research area heterogeneous in terms of agricultural practices. There are regional variations in availability of land for agricultural expansion. In the Nyangong region, expansion of agricultural area into the forest is still possible. In most other areas, however, such expansion has become virtually impossible, as the forest is at quite some distance by foot. Those planning forest management should take such regional variations into account.

Apart from this, the extent of forest dependency differs between Bantu and Bagyeli, although these differences are not absolute. The forest is important for both groups, but to varying degrees and in different ways. For Bantu, the high forest is mainly a reservoir for agricultural land as well as a stock of valuable timber to be 'sold' to logging companies. For Bagyeli, on the other hand, as well as for some individual Bantu NTFP specialists, natural forests are their main sources of food and income.

Local forest exploitation is influenced by economic conditions and developments on the market, by feelings of insecurity of rights caused by the presence of external actors such as logging operators, and facilitated by the availability of new technology. The use of new technology in hunting both occasioned a regionalisation of hunting with guns and increased pressure on the fauna in some areas. As a consequence, those planning sustainable forest management should take great care in the definition of stakeholders in game, and in the delimitation of hunting zones.

Notwithstanding reductions in mobility, Bagyeli are still far from being as sedentary as their Bantu neighbours are. Often, this mobility takes place within the area over which Bagyeli hold rights based in local tenure, and this does not pose any problems in terms of externally initiated forest

management. However, if they move out of their own area and start exploiting forest resources elsewhere, this could become a matter of concern. If future arrangements for sustainable forest management are based on a choice for zoning, it is to be feared that these will be made on current patterns of residence only. This result from notions on exploitation of resources developed in western, sedentary societies, taking geographical entities as a criterion rather than kinship. However, if applied rigidly in the southern Cameroonian context, such an approach leaves out related right-holders living elsewhere, who will certainly come and manifest their rights some time in the future. This could create problems with regard to controlling access to resources. Therefore, when developing such arrangements for areas inhabited by mobile peoples, provisions will have to be made for the rights and the responsibility for the behaviour of these 'distant' individual stakeholders. Furthermore, there is a possibility that 'others' (friends, distant relatives), through good relationships, have been granted the privilege of exploiting certain resources. In such a case it is said that this other 'passes on the name of' the person actually holding the right to allocate access. This latter principle is a locally acknowledged way of tracing ultimate responsibility for the exploitation. In a co-management setting, this principle may be a convenient mechanism to solve this problem in co-operating with mobile people.

In a situation of relative poverty, local utilitarian perceptions of the forest are at odds with western concerns for forest conservation. Extension activities are necessary as these might reduce the gap between these different logics. Yet it would be naive to assume that extension alone will solve this problem. Compensation should mitigate the restrictions put to future local forest exploitation.

5. CONCLUSION

Planning is generally considered a prerequisite for achieving sustainability in forest management. Qualitative and quantitative data on the present situation are the usual and obvious sources of information for such plans. Yet this present situation is only the result-for-the-moment of various ongoing processes of change. Areas to be managed sustainably have their own dynamics, and forest managers lack the means to redirect or stop such processes. Consequently, if forest management plans are based on snapshot pictures of the current situation only, this will result in a number of unpleasant surprises during the implementation phase. Forest managers can reduce the number of such surprises by basing their forest management plans also on knowledge about processes of change. Social dynamics are an essential factor to be taken into account in this respect. The present analysis contributes to achieving this.

Nowadays, the market and the availability of new technology have an impact both on local forms of forest exploitation and on products derived from its conversion into agricultural land. A combination of several events between the mid 1980s and the mid 1990s reduced farmers' incomes, while some of the costs rose. The desire to earn money intensifies the sale of natural resources. Farmers looked for alternative income generating activities. One of the options was to increase production of food crops for the market. Depending on the farming system structure, this implied the expansion of the area under cultivation. Another option was the increased sale of such uncultivated forest products as bush-meat and NTFPs. Meanwhile, new technology (such as chainsaws, rifles, and metal wires) had become available. This technology allowed for a more efficient exploitation of natural resources, and this enabled some people to realise these desires. Local pressure on the forest increased as a result of this. Bantu agricultural expansion went at the expense of space immediately neighbouring their current fields and fallow lands. This space used to be available for Bagyeli, but such arrangements were reconsidered under the changing circumstances. Bagyeli felt the pressure on land. This influenced Bagyeli mobility, yet the effect of this influence depended on the specific circumstances. All this happened in a situation figuring a

plurality of normative frameworks regarding forest exploitation, a situation that allows for a rather chaotic exploitation of the forest.

These changes resulted in the current patterns of local forest exploitation. These trends will continue to play a role in the future, and they should therefore be taken into account when planning forest management. Yet one can never predict the exact course of the events. Socio-political and economic realities in Cameroon are rather complex, due to their internal dynamics, which is also a response to trends at the international policy level. In this situation, predicting trends even a decade ahead is particularly hazardous. Therefore, plans for future management should be flexible and allow for regular reopening of negotiations in response to changing circumstances.

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