

CONTRIBUTIONS OF SOCIAL SCIENCES TO THE TROPENBOS-CAMEROON PROGRAMME

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1. ABSTRACT

Since the launching of the Tropenbos-Cameroon programme (TCP) in 1992, its multi-disciplinary approach called for the active participation of the social sciences. After five critical years of scientific osmosis, social sciences have contributed in their way to the achievements of TCP. As part of its capacity-building goals, four PhD students worked under the supervision of senior professors from Cameroon and the Netherlands. Vital data useful to biological sciences for the achievement of TCP goals have been generated. This paper attempts to situate the role of social sciences in the development of the Rain forest Master Plan or management plans. It discusses the problems and possibilities of enhancing interdisciplinary exchange within TCP and the benefits that can be drawn by each discipline from such an exchange. The paper also addresses the existing gaps that require more research and the ways in which the social science component can contribute significantly to the development of management plans for rain forest projects.

2. INTRODUCTION

The Tropenbos-Cameroon programme (TCP) is a research programme established through an agreement of cooperation between the Governments of the Netherlands and Cameroon. Its main objective is to develop methods and strategies through multidisciplinary research for the sustainable management of the humid tropical rain forest. The thirteen sub-projects of TCP focus on biological sciences (forestry, forest economy, ecology, botany, etc.). The social sciences are also included in achieving the objectives of the programme.

The Tropenbos-Cameroon programme is based in the city of Kribi, a coastal holiday resort. The research area or zone of operation is about 80 km south-east of Kribi, covering about 200,000 hectares extending over two administrative divisions (Ocean and Mvila) of the South Province. The research site has over fifty Bantu villages and an undetermined number of Pygmy camps or villages. The population of the entire research site is over 100,000 people. The search for employment and farm lands has brought into the region many other ethnic groups who are competing for the management of natural resources. With the increasing demand for people's participation in environmental management, the involvement of social sciences has been considered critical for the development of sustainable long-term management plans.

3. MAIN ACHIEVEMENTS BY THE SOCIAL SCIENCES

From the very beginning, the participation of social sciences was designed to achieve two major goals. The primary goal was the generation of social, cultural, economic, and demographic data essential in understanding the human component of environment management. The second goal focused on capacity-building and institutional strengthening. Senior staff and graduate students working on the

TCP come from the Universities of Yaounde I in Cameroon, and of Leiden and Wageningen in the Netherlands. This represents a good case of north-south cooperation in capacity-building and institutional strengthening and the acquisition of scarce skills and resources from the north, which the south often lacks.

Three senior social scientists and four graduate students from Cameroon and the Netherlands have been intimately involved in the TCP, representing the social science contributions to the Project over the years. What social sciences contribute to TCP can be classified in informative and the operational categories.

The first category provides information to researchers (inter-disciplinarity), decision-makers, forest exploiters or logging companies, and NGOs, to serve as a guide for action or concrete initiatives. For example, data gathered on the exploitation and utilisation of forest resources by the local population help decision-makers and others in understanding how critical some of these are for the people's daily survival. At the same time, the data may also indicate to what extent resource exploitation causes conflict between different competing social actors: the local people versus the logging companies; the State versus the local people; the Bantus versus the Bagyeli Pygmies; or different lineages versus one another. The data may also be used to develop strategies for the sustainable and non-conflictual management of such resources. The large amount of informative data generated by social scientists has enhanced sustainable environmental management.

Some of the social science contributions have been used for operational purposes. Far from being just simple guides to action, this category of information contributes to the rational use of forest resources by the local people. Although we are making this distinction here, there is no clear-cut dichotomy between informative and operational contributions. The major contributions of social sciences to the TCP can, indeed, be reviewed under the following headings:

- Indigenous system of knowledge;
- Perception and social representation of the forest;
- Exploitation and utilisation of forest resources;
- Agricultural practices;
- The internal organisation of the different ethnic groups.

3.1 Indigenous system of knowledge

An inventory of the people's systems of knowledge of the forest has led to the establishment of a taxonomy of the different plants (ethnobotany) and non-timber species of the forest. This inventory shows how local people have mastered the cycle of production and reproduction of plants and animals. The compatibility of these indigenous knowledge systems with the sustainable management strategies of the humid rain forest was also examined. Researchers have discovered an elaborate indigenous system of knowledge, showing how local people use this knowledge for the management of their forest environment. Most often, the system of knowledge shows a utilitarian character (i.e. it enhances the utilisation of forest resources). The indigenous knowledge system deserves to be reinforced in any sustainable management. How can conservationists, agronomists, and land-use experts utilise the local knowledge system in the management of soil fertility and the local techniques of cultivating certain plant species? These questions have answers that can be provided by social sciences.

3.2 Social representations of the forest

In a general way, a review of the functions of the forest in the material and symbolic life of the local people shows a dominance of the utilitarian or material functions. Agriculture is one of the utilitarian functions of the forest. The local people perceive the forest as a major reservoir of cultivable land. Such a perception is common among the Bantu villages, while the Pygmies see the forest first as synergetic space for the collection of plant and non-wood products (hunting and gathering).

The local perceptions in its temporal and perennial dimensions show that the population of the TCP site (Bantu and Pygmies) perceive the forest as an inexhaustible resource base: 'The forest can never disappear'. This perception contrasts, however, with their acknowledgement that the forest is not as rich as it used to be. The local people are also increasingly aware of the endogenous as well as exogenous factors of this depletion. The research into the perceptions and social representations of the forest within the TCP has led to some basic conclusions:

- That the local people perceive the forest as having primarily a utilitarian function;
- That the people also perceive the forest as an inexhaustible resource base;
- That there are no uniform perceptions about the present state of the forest.

These variations persist among the major human groups (Bantu and Pygmies) as well as among members of the same ethnic group. Certain external factors such as industrial exploitation, actions of NGOs and the local elite, policy-makers, and others, play different roles in determining and restructuring local perceptions of the forest environment by enhancing the >bundle of rights= of the local people.

On the whole, the work of social scientists has been to analyse these perceptions within a historical perspective and to identify the different types of interventions that will lead to the emergence of new attitudes conducive to sustainable management. Because of the importance of high social differentiation, more systematic research within the site is still required. This will permit the identification and the analysis of the different local perceptions of ecological and socio-economic conditions. The advantage of such a study is that it will target actions designed to bring about a change in behaviour and perceptions vis-à-vis the forest. Such studies will presuppose that both the social and physical units of analysis are the same and are well known. At the present level of our knowledge, social scientists are unaware of the geographical limitations of the area for which management plans will be developed.

3.3 Exploitation and utilisation of forest resources

Social research has also focused on the exploitation and utilisation of forest resources. What emerges from these studies are a series of observations that need to be highlighted here. A list of plant and non-wood forest products exploited by the local people as well as their different uses have been identified. It is on this basis that it has been possible to identify plants useful to the local people, but which are becoming rare. To this end, a close look at the impact of forestry exploitation on certain resources shows a remarkable depletion and a competitive exploitation between logging companies and the local people. The *Moabi* is a typical tree exploited by logging companies. Some logging practices sometimes destroy certain non-wood forest products used by the local people. The local people are in conflict with the logging companies for destroying in their paths non-wood products vital for the daily life of the local people. This information constitutes a good basis for developing non-conflictual strategies for the exploitation of forestry resources, specially when the interests of other groups of social actors are in jeopardy. In the present context, the identification of commercial benefits as well as increasing the market value of some forest resources certainly enhances local people's commitment to participatory management of such resources.

On the other hand, an evaluation of the impact of local techniques has shown that many endogenous techniques of exploitation of plant and animal resources do not match well with the criteria of regeneration and renewal. The money value of forest products has had a remarkable influence on local techniques of exploitation. The intensification of certain local techniques (wire snares, collection of honey) has had negative effects on the available forest resources. It is important to recognise that certain local techniques do not have a sustainable value. Defining actions designed to promote a rational exploitation of forest products is therefore the logical conclusion, but it is important to distinguish between good and unsustainable local techniques or methods. It is important to note here that interdisciplinary exchanges between ecologists and social scientists have occurred within the research carried out on the exploitation and use of forest resources.

At the operational level, an ecologist was integrated into the social science team, an integration that was beneficial for both disciplines.

3.4 Agricultural practices

Social studies conducted so far show the influence of the market economy on the industrial exploitation of wood (use of the engine saw). The local agricultural practices, however, have remained dominated by shifting cultivation. This has immediate implications on the dynamics of the agriculture-forest continuum. No direct conversion of forest to agricultural land exists because slashing and burning are preferred, principally because of several socio-economic, human, social, and ecological gains.

The development of the local agrarian system has important implications for the development of strategies for land use and forest management. In a more concrete way, the research has provided information permitting the review of existing zonal plans of the Southern Cameroon Forestry Plan within the TCP site. The elaboration of micro-zonal plans of the TCP site will also be possible with information compiled from intensive multi-disciplinary field research.

The optimal use of these data on agrarian systems will be enhanced by more studies on a certain number of representative villages. These studies will enhance the analysis of the present agrarian system, showing the specific socio-economic, ecological, and demographic characteristics of the zones. It will not only give us a proper understanding of the local agrarian system, but also an evaluation of the complex interaction and impact of agriculture on the forest.

Such studies are certainly at the cross-roads of several disciplines concerned with land use, soil, plants, agronomy, and society. The different studies conducted through a combination of different perspectives will determine the demographic pressure on the forest through agricultural practices. The necessity of such studies will be determined by the results of the other sub-projects whose research activities are still in progress. Their capacity to maximise the abundant information and integrate the data will determine the success of the TCP.

This last perspective raises one of the major problems in multi-disciplinarity. In this context, there is always a risk of discovering that results are not integrated or just juxtaposed, therefore requiring another effort to pull them together into an integrative structure. For inter-disciplinarity research to be meaningful, the teams must work together on common objectives and problems. By bringing in their unique insights, each discipline can contribute to seeking solutions and appropriate strategies for the participatory management of rain-forest resources. Apparently, this did not happen in the TCP because they were not integrated *ab initio*.

Beyond these studies, it is imperative that socio-economic and demographic surveys be conducted on the entire TCP site. In order to have useful baseline data, however, clear terms of reference should target actions to be undertaken within the entire site. In any case, these surveys constitute the pre-conditions for actions to be undertaken towards the development of sustainable management plans. Other studies that deserve to be done include land-use patterns that will highlight the distinction between primary (disturbed and undisturbed) and secondary forests. Such studies would enlighten the claims of local people to certain portions of the forest and will also determine and target the criteria of appropriation or those on which these claims are based.

3.5 Internal organisation of different ethnic groups

Several questions may be raised within the framework of sustainable management of forestry resources and the participation of local people. These questions are many and varied. What is a community? What are its rights and duties? What are community forests? How can these be managed? What are production forests? Does the creation of such forests restrict the exploitation of its resources by people who have owned them for generations? What types of activities respect the 'bundle of rights' of local people? These fundamental questions raise critical issues about the nature of participation. The degree and nature of participation will depend on the type of socio-political organisation of the different ethnic groups. To approach these issues in a more constructive way, a clear understanding of such terms as leadership, community, and empowerment are needed.

3.5.1 Definition of the term community or social unit of action

Social research has indicated that, if participation is to be meaningful, one must have a clear notion of the term 'community'. Identifying the appropriate communities can play a role in the sustainable management of the rain forest environment. The new Cameroon Forest Law makes references to communities, but fails to define what these social units are. Recent ODA research conducted by P. Burnham, M. Rowlands, and students in various parts of Cameroon indicate that this concept is difficult to interpret. Before colonial penetration, the Bantu groups were highly mobile societies and had a segmentary political organisation, with villages composed of patrilineal segments. Because of the diffuse nature of political organisation, it was easy for ambitious leaders to split off and move away to establish new villages elsewhere in the forest. The ethnic group was therefore a composition of independent villages with no clearly instituted central authority above the village level. Leadership was largely built on charisma, a sense of organisation, and personal achievements. A person could emerge as a leader by accumulating a large number of followers beyond his kinship groups and affinal relatives (friends or even clients) from other lineages and families. There were no clearly institutionalised positions of power or 'offices'.

Without any unique leader, the colonial state borrowed a leaf from the centralised chiefdoms. It forcefully introduced 'chiefs' to groups that were highly mobile to facilitate the collection of taxes and the recruitment of labour. Most villages, usually located along the roads, were composed of different kin-groups. Such a reorganisation, however, often led to the constitution of heterogeneous villages. Today, many villages are composed of a variable number of patrilineages that are often not related by common descent. Lineages that claim an often mythical common descent have a strong sense of belonging to a larger group, the 'clan'. Clans tend to be dispersed over different villages. In all villages, one finds lineages of different clans. This variation shows that people from three to four clans will live in different villages. In some cases, a clan segment in one village may contain up to twenty 'lineages', constituting approximately independent segments. Claiming often different origins, they assert rights over different parts of the forest. Today, a 'traditional chief' is a misleading idea imposed by the colonial state. Because of the heterogeneity of these villages and the need for identifiable persons to perform functions for the colonial administrative officials, the newly instituted 'chiefs' often found it

difficult to impose their authority on members of their village communities.

The situation is even more elusive among the Bagyeli (Pygmies). Most camps constitute small patrilineal units. For example, two or three brothers with a varying number of relatives, maternal kin, and possibly 'friends' may establish a camp. The composition of these groups, however, changes constantly because of great individual mobility. Individuals may decide to go temporarily or definitively and live with other groups. What characterises the Pygmy group is the constant movement of people between well-defined settlements (*kwaato*) and from time to time make their home in hunting camps (*ngya'a*). The periods that people sojourn outside the *kwaato* seem to get shorter as most Bagyeli tend to settle for longer periods in such *kwaato*. Each group of Bagyeli Pygmies recognises a special relationship with a Bantu villager, expressed in common clanship (*ka'a*), with the Bantu villager providing patronage and protection. In principle, he will play a mediating role in Bantu and Bagyeli commercial exchanges and disputes. Such a 'patron' will claim some authority over 'his' Bagyeli friend or fictive kinsman.

During the first decade after independence, the State encouraged Pygmy groups to settle in permanent camps. A sedentarisation policy was designed to provide social services (education, health, etc.) to these marginalised ethnic groups of Cameroon. The Bagyeli groups were encouraged to settle along the road, often near the village of their 'patrons'. In more recent times, however, the sedentarisation policy suffered a set-back. The conviviality between the Bantus and Bagyeli witnessed many growing problems, obliging Bagyeli groups to take refuge in settlements deeper in the forest. This withdrawal permitted some of the Pygmy groups to re-evaluate the advantages and disadvantages of sedentarisation and their relative mobility. Today, it seems that Bagyeli groups are trying to combine the advantages of both. More permanent settlements provide regular access to markets for the sale of bush-meat, honey, and other forest products. The Bagyeli also have access to medical and educational facilities provided by Catholic nuns in the Bipindi area. Data obtained in the TCP area show that most Bagyeli groups prefer to combine permanent settlements with long-term stays in 'hunting camps', which allow them to exploit additional resources through hunting and gathering. A number of camps along the roads have been established (around a well-known Pygmy healer, whose healing services attracted both Bantu and Pygmy settlers, who regularly live there for long periods of time).

One of the great advantages of sedentarisation has been the increasing independence of Pygmy hunters from the overbearing Bantu 'patrons'. The Bagyeli have a greater direct access to the markets than ever before, and their 'patrons' now complain about their failure to respect their special obligations. These changing relations have led to increasing tensions between Bantu villagers and Bagyeli. On several occasions, physical attacks have been perpetuated on the Bagyeli, even leading to manslaughter.

The above analysis does suggest that it is important and even crucial to clearly define what we mean when we refer to 'communities' and 'villages'. Social studies have shown how misleading some of these concepts can be when it comes to the level of application and the participatory management of natural resources. The new Cameroon Forest Law seem to use these terms interchangeably. Evidence from social science research indicates that different social actors exist within social units of various compositions and levels, inferring that the new Forest Law is highly problematic. It is important that participation be constructed on the evidence from the ground that suggests the development of a more complex model of 'co-management' by different social units and levels. Recent studies in the TCP area have identified the following social units that could play a role in such a more complex model:

- The Bagyeli *camp*, whose claims to parts of the forest are formulated on the basis of its special relationship with its Bantu 'patron';
- The *village*, which claims a general right of control over a more or less clearly delimited part of the forest (user rights are established by lineages and households through clearing and cultivation);
- The *lineage*, in principle, claims rights to specific parts of the village's forest domain but, in practice, such a lineage domain may be dispersed over different parts of the village domain;
- The *household* also enjoys user rights over those parts of the forest that are cleared and brought under cultivation by one of its members (or ancestors); such user rights have become greatly enhanced by the spread of cocoa cultivation, which is leading to the establishment of more permanent farms.

To guarantee and ensure the active participation in sustainable management of natural forest resources by Bantu ethnic groups marked by clan and lineage heterogeneity, the following observations would seem to be appropriate:

- That the new Cameroon Forest Law imply that the terms 'community' and 'village' seem to be one and the same thing;
- The villages are composite units; they are not necessarily mono-ethnic, and, even if they are, they are still clans and lineages, each having its rights and obligations over natural resources;
- The option that regards villages as units of operation is misleading and unoperational within the context of community forest provided for by the law.

The village with its various social actors does not provide a coherent homogeneous structure capable of mobilising consensus on land use or exploitation.

The situation again appears more confused among the Bagyeli Pygmy groups, because they often settle near Bantu villages, but still maintain their specific community identity. It would appear imperative that this specificity of the Pygmies be taken into account in any strategies enhancing the participation of local people in the sustainable management. Their specific ways of life, interests, and forms of forest exploitation are distinct from those of the Bantu groups. All these points suggest that, in any participatory management schemes, the Bantu and Bagyeli social units (villages, camps, clans, lineage, and households) should be taken very seriously. Village consultation exercises designed to empower the people must consider these as important social partners.

Because of the hierarchisation in the exercise of rights by different social groups over different sections of the forest, it will be important that any management model must integrate, at all levels, the different social units and the different levels of decision-making.

3.5.2 Leadership vacuum and the power of negotiation (empowerment)

Faced with a social organisation marked by heterogeneity and a perennial problem of social representation, the emergence of charismatic leaders seems desirable and even urgent. Such leaders could play a role as opinion leaders or representatives of social groups in which they are recognised as

such. Unfortunately, these kinds of persons in these segmentary forest societies are difficult to come by. As we have seen, the so-called 'traditional chiefdoms' are a colonial institution maintained after independence to perform administrative functions. They are not the true representatives of the villages. Among the Pygmies, this state of things is again worse as their social and organisational structures are far more fluid. In these forest societies where leadership is loose and diffused, there are no credible leaders, posing a serious problem to participatory management.

Data obtained from social research offer some alternatives. A closer look at the different social forces in the villages enables different levels of authority to be identified. Firstly, each village or group of hamlets always has a '*conseil du village*', constituted by the village chief, his notables, lineage heads, and other leaders who play a consultative role in decision-making processes. Secondly, the urban elite, although living and working outside their villages, are agents of change and useful partners. Thirdly, the State's withdrawal from community development in the early 1980s has promoted an effervescence of development or cultural association throughout the country, and this region is no exception. Within the TCP site, an association known as *ARBI* (*Association des Retraites de Bipindi*) could also be brought into the picture. The local NGO such as CODEBABIK (Committee of Development of the Bagyeli of Bipindi-Kribi) could also be associated in any efforts to enhance people's participation in the sustainable management of forest resources. Fourthly, the creation of '*Groupes d'Initiatives Communes*' (*GIC*), which pull interest groups and social actors together for a common cause, may also be an option. In this case, care must be taken to avoid any negative fall-out of such a new structure. In any case, it will be important to give legal support to such an institution, and to define the roles of each social entity in relationship to the activities to be undertaken within the Project.

Each of these suggestions or alternative solutions have some advantages and disadvantages. To use these suggestions for any rational management of the forest, one has to examine the constraints and opportunities offered by each option, removing or mitigating the constraints.

3.6 Normative framework of management and exploitation of forest resources

Studies conducted so far reveal the existence of rules for the exploitation of different natural resources (trees, non-plant forest products, animals, water, and land). The first categories of rules govern behaviour among the Bantu and Pygmy ethnic groups. There is even a differentiation among different ethnic Bantu groups. Nevertheless, the exploitation of forest resources by local people is characterised by the plurality of norms. The situation is more complex when this plurality of norms at the local level is juxtaposed to the land tenure and forest laws of the Cameroon State. What is paradoxical is the dominance of the State laws and regulations over the already plural and complex Bantu and Pygmy regulations.

The contradiction between the different normative levels and the definition of the rights over the management and exploitation of forest resources exist. The differential conception of space and its boundaries shows different contradictory perspectives (Bantu, Bagyeli, State). The different rights are superimposed on the same space and the same resources.

What emerges from this analysis are conflicts between the different rules of management and rights, and conflicts between the social partners (Bantu, Bagyeli, State, logging companies). This situation makes collaboration within the perspective of co-management of forest resources very difficult. The question is how to manage the forest sustainably in the context of legal pluralism?

3.7 Master plan: perspective for people's participation

If sustainable management is to be achieved, all initiatives within the context of people's participation

must acknowledge this normative plurality and the potential conflicts embedded in them. Examining the validity or the non-validity of these norms and the possible compromises that can be made, may be a useful exercise. It will be unfortunate and erroneous to accept the principle that only basic laws of the State have the legal force over the control and exploitation of forest resources. Local people have, from generation to generation, owned and managed the resources over which, today, an artificially- created State claims total right and control.

There is also a need, firstly, to recognise the rights of the people over forest resources, and secondly, also to acknowledge their rights to an equitable share of the benefits of forest exploitation. In doing so, there should also be a clear demarcation between the rights of the Bantu and those of the Pygmies. The recognition of the extensive rights of the local people is fundamental for any meaningful participation. After all, their claims are much older than those of the State. This recognition infers the necessity of proceeding to integrate management planning with due regard to the people's 'bundle of rights' over their resources, instead of proceeding to the management plans that exclude and prohibit people from exercising any rights over what they believe is their ancestral patrimony.

The demarcation of boundaries ought to make use of the local people's 'cartography of rights'. People's claims are usually based on 'traditional well-known' limits or boundaries. It will be a useful exercise to map out the space that villages, clans, lineages, and even households believe is their 'ancestral territory'. Maps obtained on this basis must be superposed on those drawn according to technical, ecological, and economic criteria. Through these methods, zones of potential conflicts can be identified and possible compromises worked out. The emphasis must not be placed on zones for exclusive use but, above all, on the priority functions without which other functions will be excluded. This exercise therefore requires the collaborative effort of other disciplines. Interdisciplinary exchanges between the social issues and other biological issues within TCP become all the more important.

4. SOCIAL SCIENCES AND POLICY

According to the terms of the agreement between the two Governments, TCP was required to initiate and coordinate multi-disciplinary research. The results would be used as tools for policy and for the rational management of the Cameroon forest patrimony. Within this perspective, the results obtained within the entire project would not only be used in policy formulation, but also in the review of State legislation on the management of natural resources.

Indeed, there is an iteration between the results (actual and potential) of research in TCP and policy. The master plan (*'plan d'aménagement'*) for the TCP forest area was, from the very beginning, not one of the explicit objectives of the programme. Its inclusion as a specific objective, and even as a priority objective for TCP, falls within the political domain, and is teleguided by the demands of subsidiary donors. Such a decision leads naturally to the re-focus of social research. At least, it imposes a re-interpretation of research results, if the operationalisation of this objective has to be taken into account. Evidently, research has become donor-driven and highly politically motivated. Because the outcome of social research is still being awaited, it is impossible at the moment to predict the political and operational implications. Even so, one recommendation that needs to be made here is the necessity to conduct baseline surveys whose data will be used to design the said 'Master Plan'.

Nevertheless, despite these iterations identified between politics and research, there is a need to be prudent, especially when it is a question of research in the social sciences. Can the research results be converted into policy instruments for sustainable management? What will be the importance of research

conducted in social sciences and in other sub-projects of TCP?

Prudence is based on the fact that, in Cameroon, the forest domain and that of petrol are considered 'private affairs of the State'. It is a domain of which the State, despite appearances, does not want to lose part of its sovereignty and control. Usually, policy declarations are designed for international consumption but, on the ground, the practice is the contrary. Within such a context, the recommendations that social research can offer for participatory management of natural resources run the risk of being coldly received. For most Government officials, the concept of participation is an empty concept; the State's sovereignty is primordial. Under the present economic recession, enhanced by corruption in high places, the intensification of forest exploitation has become one of the potential environmental hazards. The wanton destruction of the forest by foreign companies seems to go on with little or no control. Participation has come to mean the distribution of rice, oil, and imported wine to local villagers who pretend to represent the people. Instead of providing social services (e.g. health facilities, schools, better road systems, good drinking water, etc.), the logging companies are more concerned with their Structural Adjustment Programmes (SAP) through organised corruption. As the State officials defraud in national elections, so they defraud in the management of the nation's natural resources.

One may rely on the influence of the international community and international ecological lobbies capable of influencing State rigidity. Indeed, the rational management and exploitation of forests in Cameroon are often replaced by occult interests capable of ignoring research design that seeks to determine the conditions for a better participation of local people in the management of forest resources.

5. SOCIAL SCIENCES AND OTHER DISCIPLINES

In this paper, allusion has been made to the working relationship between social sciences and hard sciences. The question is, has there been any real interdisciplinary exchange? On the whole, social research within the TCP has benefited substantially from experiences and findings of other disciplinary work. I believe the reverse is also true. Nevertheless, despite these interactions, the research findings of the social scientists have sometimes been perceived in a negative way by certain forest researchers, either because of the pretension of a superior methodology of their discipline, or because of the failure to understand the qualitative nature of social sciences.

The survival of a reductionist perception of the forest has persisted among a category of foresters, despite the significant break-through of 'social foresters'. They have continued to think that the forest can be planned and preserved exclusively for the intensive production of the demands of the market. This economist's perception of certain foresters does not tally well with disciplinary exchanges. Despite these misunderstandings, there is hope that public, national, and international lobbies will bring their weight to a change in mentalities. Certainly, there will be no dichotomy between economic, political, and ecological and the social imperatives. It is under such conditions that research will have a real impact on the policies and, above all, on the decision-making process towards a more participatory management of forest resources.

6. SOME REFLECTIONS ON THE GAPS AND PERSPECTIVES

According to some programme managers, the production of a Master Plan (*'plan d'aménagement'*)

is just one of the results of the TCP programme. For others, it is a major goal of the TCP. The social science findings should therefore have broader relevance to the newly defined TCP mandate. However, the experiences in the field offer the following suggestions:

- A detailed Master Plan (*'plan d'aménagement'*) is not possible unless institutional channels have been created that permit representatives of local social units to make appropriate choices. The empowerment of the different social units and actors seems to be an important condition for the negotiation and formulation of such a Master Plan.
- A Master Plan is not possible at this critical level of our knowledge; social research has not collected baseline data on the socio-economic aspects of all local communities within the project site. To fulfill the demands of the State, the gathering of baseline information on demography, social infrastructure, number of villages, the exact surface area of cultivable land, becomes a *conditio sine qua non*. There is a new cost implication not provided earlier.
- Social research has not only demonstrated the high diversity of ethnic composition (Bagyeli, Bulu, Ngomba, Bassa, and *'allogenes'* or strangers), but also the representative character of the study will be further enhanced by the baseline survey recommended above.
- There are visible signs that the hard disciplines regard social sciences as second-rate because of the qualitative nature of their data and their lack of quantifiable information. Social sciences have generated tons of qualitative data that are difficult for other scientists to use. The tendency among the hard sciences is to seek quantitative data from the soft sciences. Most hard scientists show a poor understanding of social science methods and techniques. If the hard sciences are to understand and use the data generated by social scientists, it is imperative that they take a closer look at the social science methods and techniques.
- Although, there is a desire to promote inter-disciplinarity, research teams were never inter-disciplinarily working around specific objectives, nor were they focusing on specific problems. Apparently, each discipline went on to do its work in the hope that the reports of others would be useful to them. Instead of social science working in close relationship with other sciences, providing a service and insights on a permanent basis, its sporadic discourse did not match well with the integrative nature of the Project. To enhance future action, a number of steps need to be taken. First, through workshops, researchers in the hard sciences should be educated in the methods and techniques of social sciences. Secondly, by working closely with hard scientists, social scientists must become integral parts of multi-disciplinary teams and not just marginal individuals. Other scientists should share their methods and techniques with the social sciences, and social sciences should not just be an adjunct subject, but an integral part of the process of seeking solutions to human problems.
- Researchers (in both the hard and the soft sciences) usually believe that their work can only be understood by their peers, and that local people cannot contribute to the production and reshaping of knowledge. No village workshops have been conducted to share research findings with the local communities and to get feed-back. This is a very useful method of validating data and collecting complementary or supplementary information.

7. SOURCE

In April 1997, Professors Peter Geschiere, Franz von Benda Beckmann, and myself produced an evaluation report on the social science component of TCP entitled *Project Tropenbos-Cameroon Social Sciences*. The present paper is a recast of that report, built entirely on the work conducted by the four graduate students, Francis Nkoumbele, Françoise Tiayon, Karen Biesbrouck, and Jolanda van den Berg.

CONTRIBUTIONS OF SOCIAL SCIENCES TO THE TROPENBOS-CAMEROON PROGRAMME

Achievements

- Clear overview obtained on the variation in perception on the forest among and within ethnic groups.
- Plants that are useful but are threatened by commercial logging are identified.
- Evaluation on the sustainability of indigenous exploitation methods is conducted.

Challenges and Problems; Information Needs

- Current forest laws (in Cameroon) do not recognise the complex patterns of social organisation and its implication for forest management, which reduces the possibilities and success of participatory management of natural resources.
- Different rights are superimposed on identical space and on the same resources, leading to conflicts between the different rules of management and rights, and conflicts between the social partners.
- There is a discordance between the quantitative nature of 'hard sciences' and the qualitative nature of 'soft sciences'.

Points for Future Research

- Studies highlighting the distinction in land use of primary and secondary forests.
- Map out the various spatial claims of villages, clans, lineages, households and determine zones of overlap with spatial claims based on technical, ecological and economic criteria.
- Empowerment of the different social units and actors in order to stimulate their meaningful input in resource use planning.
- Gather social baseline information.
- Educate researchers in hard sciences on methods and techniques of social sciences through workshops.
- Organise village workshops in order to obtain feedback from population.

Conclusions

- Meaningful interdisciplinarity implies that teams work together on common objectives and problems from the beginning.
- Any management model should integrate at all levels the different social units and levels of decision-making.
- Social science research in the programme has benefited substantially from other disciplinary work and reverse, but significant problems of integration remain.

