Lessons Learnt on Rain Forest Management for Wood Production in West and Central Africa

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Abstract

The study was carried out with the aim of analyzing and establishing what lessons have been learnt from positive and negative experiences of various initiatives, projects and programmes aiming at sustainable management, use and conservation of rain forests in Sub-Saharan Africa. The lessons learnt from the case studies are articulated around the following four particular items: (1) necessary conditions for implementing SFM and the extent to which current practices satisfy these conditions, (2) factors that inhibit implementation, (3) what needs to be done by different actors and (4) replicability of success stories.

Key words: forests, sustainable management, lessons

Introduction

Sustainable Forest Management (SFM) implies management that integratively pays attention to the productive, protective, social and environmental aspects of forestry and, as explained in FAO (1998), is monitored through a number of criteria by use of specific quantitative, qualitative and descriptive indicators. The productive function, and specifically industrial wood production, is the criterion of primary attention in this study, which was made in the context of the deep concern that the potentials for Africa's forest resources to contribute to general economic development, poverty reduction and environmental stability in the continent are not being realized. In particular, because of its low level of participation, Sub-Saharan Africa, which depends greatly on its natural resources for its economic development, appears not to be contributing to, or benefiting from, the general debate on how to achieve sustainable forest management.

The present study is one of several commissioned by the Royal Swedish Academy of Agriculture and Forestry (KSLA), in collaboration with FAO and The African Forest Research Network (AFORNET) of the African Academy of Sciences (AAS), in a project titled *Lessons Learnt On Sustainable Forest Management In Africa*, designed to address some of the above concerns. The objectives of this study were:

- To analyse and establish what lessons have been learnt from positive and negative experiences of various initiatives, projects and programmes aiming at sustainable management, use and conservation of forests in Sub-Saharan Africa;
- To analyse and establish what ecological, economic, social and other pre-requisites are necessary for extending positive lessons to wider use (to more people, larger areas, other countries, etc); and
- Based on the outcome of the above analyses, to identify the most urgent issues and concerns for Africa to draw the attention of the various international processes.

This article will firstly present current situation and practices of forest management based on lessons learnt, which will be followed by suggestions on way forward.

Material and methods

This study focuses on countries in Central and West Africa in which rain forest exists and is under some form of management, primarily for industrial wood production. The term rain forest is used here broadly, to cover tropical evergreen forests at low elevations where the annual rainfall is greater than 2500 mm, and the much more extensive moist deciduous tropical forests, also at low altitudes, where the annual rainfall is 1000–2500 mm. Selected countries for the study include: Cameroon, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon and Republic of Congo in Central Africa and Benin, Cote d'Ivoire, Ghana, Guinea, Liberia, Nigeria, Sierra Leone and Togo in West Africa.

The study was accomplished mainly from existing literature, direct data collection being limited to case studies of current forest management arrangements in Ghana and Cote d'Ivoire for West Africa and in Cameroon and Gabon for Central Africa sub-regions.

Results

Current situation and practices from lessons learnt

Weak enabling environment for investment

Political stability is one of necessary conditions for SFM to take root. The importance of political stability for forestry development is discussed extensively in the FOSA reports (FAO, 2003a and b). Instability in government, largely stemming from resource use conflicts, which has erupted into wars and physical combats in many countries of the sub-regions, affects forestry development in several ways. In many cases, management and protection break down as forest areas are themselves the arenas for physical combat, or forest resources are sequestered by one party as a source of income to prosecute the conflict. The social disruption that attends conflicts undermines traditional livelihoods and drives many to fall back heavily on forest resources for food and energy, while displaced persons often take refuge in forests. In these circumstances normal forestry development or practice cannot take place. Even without physical conflict, political environments that are largely undemocratic cannot support reforms for more inclusive forest management practices, while frequent changes in government make it more difficult for reforms to take root.

In West Africa, while Ghana can be said to be currently enjoying stability that encourages hope that the reforms in that country will be sustained, the contrary is the case with Cote d'Ivoire and to a lesser extent Liberia. Indeed, the sub-region as a whole has suffered a long period of political instability (physical conflicts in Sierra Leone, Guinea and Liberia; military interventions in government in Nigeria) that has impeded forest development. In Central Africa, forestry reforms are under way in all countries but Central African Republic is torn by socio-political turmoil (ITTC, 2003). Civil strife in the Congo and the Democratic Republic of Congo also impedes the reforms

Inadequate mechanisms for effective stakeholder participation

Encroachment sometimes is a reaction from local communities who watch forest reserves, many of which are supposed to be held in trust for them, providing benefits to concessionaires without a commensurate share of these benefits returning to the communities. There are sometimes also conflicts deriving from disputes between government together with logging companies and communities over ownership of forest reserve land. Although forest degradation is not yet an issue in most of the Central African countries studied, the same forces are operative albeit to a lesser degree. Logging opens the way to agriculture, hunting and gathering and eventually conversion for settlement and infrastructure. In addition to all these, most of the supply of forest products to meet growing demands is derived from public or common property land, with no significant private sector investment in growing forest products. The reforms towards more inclusive and participatory policies are driven both by the need to minimize conflict with stakeholders and the realization that government alone cannot effectively manage all forest land, to supply forest products and services to meet growing demands. The reforms, more advanced in Ghana than anywhere else, have as their central feature the involvement of stakeholders, particularly local communities and exploiters in forest management—sharing of responsibilities and benefits. Notions of community forest management, joint management of forest reserves, and decentralization of forest management authority, are part of the new trend, which should promote the social sustainability of forest management. A prerequisite for meaningful participation and partnerships is the entrenchment of democratic processes, which the countries surveyed, and indeed all countries in the sub-regions, subscribe to and are struggling to achieve.

Capacity building and empowering stakeholders

Training to re-orientate forestry staff to new ways of relating with clients, training to upgrade skills of forest users and product processors and marketers, and development of the necessary supporting research capacity are some of the human capacity building needs. Data management and information systems are also required infrastructural resources; and adequate knowledge of the resource base must be readily at hand to facilitate planning and decision-making. All of these capacities are short in the study countries, but, perhaps the inadequacies in the knowledge base are potentially the most constraining.

Gaps in knowledge

Gaps in knowledge of stand growth characteristics and genetic variability of important commercial trees also constrain SFM. Without background information and data from long-term sample plots, it is difficult to make proper forest growth simulations to assess forest reaction to silvicultural treatments, while the development of sound conservation strategies is impeded by limited knowledge of the genetic variability of important species. The reduction of

forest cover, which is relatively low (0.4%) in the Central African region, may not be the key issue. The key issue is the loss of important timber tree species because of logging practices. Conservation strategies should therefore target threatened species rather than the whole ecosystem.

Knowledge of the resource base through inventory, and security of tenure of forest land based on instituted land use plans are pre-requisites for long-term planning and action towards SFM. Data on forest resources for the study countries are dated, obsolete and/or partial (FAO, 2001). Most of the data in the Global Forest Resources Assessment 2000 Main Report are based on national expert estimates (FAO, 2001).

Knowledge of the forest resource base is hardly adequate for any country, in terms of the currency, reliability and consistency of the data. West Africa has hitherto paid more attention to acquiring the technical and ecological knowledge and skills, than to the social, economic and political factors, for forest management. Even so there are still major gaps in knowledge of the forest as a biophysical resource. Silvicultural systems that balance the need for achieving profitability of logging with cutting rates, annual allowable cuts (AACs) and rotation lengths that do not transgress the ecological limits of the forest are yet to be discovered. The greater inclusiveness of the reforms now taking place in forest management with the resultant expansion of stakeholders, requires forestry, more than ever before, to acquire economic as well as socio-cultural knowledge about its clients, so that it can better predict and take into account the factors that motivate these clients in the way they react to forestry; and, given the multiplicity of factors identified in the Forestry Outlook studies as drivers of forestry development, the enormity of the information need at the interfaces of forestry and these factors is only now being realized.

Available information shows that there is still a wide gap between the reforms and their implementation. Even where prescriptions are made, based on available knowledge, weak compliance is another factor that hinders implementation of reforms.

Inadequate tools for resource management

On maintaining forest production, through effective implementation of management plans, the task for exploiters is quite complex. In Central Africa, developed management plans varied from one case study to another, in terms of the concession areas, the rotation period, type of inventories used (single or multi-resource inventories), participation of local populations in the development and implementation of the management plans and in silvicultural treatments prescribed. These variations in management plans are quite normal, because its development depends on various factors, which cannot be similar in all countries or among ecosystems within the same country. These factors include the objective of the management, the richness in harvestable species of the ecosystem, the official list of harvestable species, the situation of the ecosystem (fragile or not), the minimum harvestable diameter, list of endangered species to be protected, etc.

The concession areas vary a lot among the countries, from 125,000 ha in Lokoundjé-Nyong in Cameroon to 1,151,000 ha for Pokola-Kabo-Loundoungou in the Republic of Congo. There had been a lot of discussion in Cameroon when the country was developing its forestry law, and the decision was reached that 200,000 ha would be the maximum area for a forest concession. But today the area of forest concessions allocated in Cameroon varies between 61,000 to 650,000 ha, according to the productivity of the forest area and the processing capacity of the concession-holder. Larger concessions increase the volume harvested annually for more profits to the logging company. But it could also generate a lot of waste. Then different rotation periods (25, 30 and 40 years) were used for almost the same forest ecosystem within the region. All of these parameters should be fixed with the objective to maintain the ecological and production functions of the forest ecosystem. The longer rotation period (40–50 years) normally will allow for forest recovery; but it could become also a limiting factor (discouragement) for investors in the sector.

The case studies showed ample evidence from the case studies that relevant policy, legislative and institutional reforms are taking place in the sub-regions. The reforms and their implementation are perhaps more advanced in Ghana than in any other study country (Parren, 2000). However, it is doubtful that any country in the sub-regions has achieved adequate capacity in human and infrastructural resources (Okali and Eyog-Matig, 2004).

The general conclusion is that far-reaching production reforms towards SFM have been designed or prescribed, but these have largely not been implemented or complied with by government or exploiters. Government lacks the capacity for fully implementing the reforms, while concession holders are reluctant to handle long lasting and expensive forest operations that may threaten their profits in the short-term.

Trust and transparency

On compliance with laws and regulations, the four case studies in Central Africa show several violations by stakeholders. These violations consist of no respect of the concession area authorised by law, unclear allocation of concessions, no involvement of local communities all along the process, failure to implement scheduled silvicultural treatments, illegal logging and illegal wood markets, etc.

For example, an exploiter interviewed in Cote d'Ivoire did not carry out pre-exploitation inventory, contrary to the guideline outlined by the forestry service. Cameroon lost revenue estimated at 2.5 billion FCFA during the allocation of forest concessions in 1997 because of unclear criteria of bidding procedures. Also by allocating more than 50% of the concession area to foreign companies in 1997, the Cameroon government created unnecessary frustration and conflict among bidding companies.

The existence in most of the countries in the sub-regions of illegal logging and black markets for forest products (either from logging companies or from local communities) is also an indication of lack of transparency, where wrong information and data are returned to the forest administration. Cases of transportation of logs in the night or through the rivers to hide them from control of forest administrations are well known in Central Africa. In Ghana, to curtail such activities, movement of logs is banned at certain periods—between 6.00 pm and 6.00 am and during public holidays. If it became critical that logs must move at the prohibited times, this is done under special permit for which the log mover pays a special fee in addition to over time pay for the workers involved. Greater trust and transparency, than exists at the moment, needs to be developed for SFM to succeed in the sub-regions. Countries have engaged the necessary reforms for more transparency.

Poor linkages with other sectors

One way of assisting the development of SFM is to have the process undertaken as part of a an overall rural development scheme. In this way, synergies can be exploited between forestry and rural development activities. Road development for the purpose of evacuating forest produce could be part of a rural development road network. The case study of Ngotto Forest concession in Central African Republic is one such attempts at integrating SFM in a global rural development scheme. Ngotto concession is part of the broader ECOFAC rural development programme, which covers an area of 800,000 ha, with other components such as conservation and rural development. ECOFAC is a sub-regional programme with similar forest management plans in other countries in the sub-region (e.g. in Cameroon). Forest management is only one component within a broader rural development scheme of the ECOFAC programme. The advantage is that forestry is only one rural activity among others, with a lot of synergies expected from the various rural development components.

Replicability of success stories

It is too early to regard the forest management reforms now taking place in West and Central Africa as successes, but lessons can still be learnt from them in terms of problems experienced in the drive towards SFM. Ideally, gathering of such experience should be made through detailed studies, involving information sharing and physical visits. The visits should be of duration long enough to observe operations and partnership interactions in practice. The studies should be sufficiently analytical to grasp underlying causes for actions, and understand the milieu in which processes are taking place. It may be necessary to break down the practices being studied into components such as: (a) policy (its formulation process, content, coverage of related sectors and stakeholders); (b) administrative framework (governance structure, administrative backstopping); (c) technical management; designing of management plans; silvicultural system; (d) human environment (workers and local communities); (e) economics of the operations; (f) equity in relations, especially with regard to benefit generation and sharing among stakeholders.

Issues to stress might also include the following: (g) public sector impact on SFM; (h) participation by stakeholders, especially local communities in concession areas; (i) impact on local communities, especially women, and its reach; (j) role of SFM in poverty reduction; and (k) sustainability of timber production, biodiversity conservation, wildlife management and protection of fragile ecosystems. Such detailed studies will enable observations made to be replicated, through the kind of cyclical and re-iterative process described by Mayers *et al*. (1996). This process begins with goal setting, and continues with planning and capacity building, field trial, monitoring, information assessment, goal-revision and re-iteration of the process, until an acceptable practice is achieved.

Recommendations on what needs to be done

On Cross-cutting issues

- On-going forest management reforms in the sub-region should be encouraged and supported by the international community and civil society organizations.
- Technical and financial assistance should be provided to set up national systems for periodically updating information on forest cover, types, ownership, status and stocking, based on direct physical assessment.
- Governments, with assistance from the international community, should undertake some form of land use plan, in a participatory manner, involving all stakeholders, so that appropriate adjustments can be made to secure the resource base for SFM.

On Industrial wood production

- Governments should develop and adhere to clear criteria for the allocation of concessions, allowing an independent body to intervene in the process in order to enhance transparency.
- Policy reforms should be undertaken to provide for adequate incentives to attract stakeholders to SFM. For example, tenure of concessions should be sufficiently long to give loggers a sense of security for their operations and at the same time a sense of responsibility for sustaining production from their concessions. Also, mandatory return of benefits to local communities and payment of compensation by loggers to farmers for farm damage should be instituted as an incentive to attract farmers' collaboration in monitoring logging operations and stemming illegal logging.
- Profitability of management for wood production should be enhanced by:
  - Broadening the range of marketable products (inclusion of lesser-known species and extending the size of products) recoverable from exploitation.
  - Forest certification with eco-labelling of wood to stimulate market demand and to increase transparency. This should be done through the creation of a national independent certification body, which should be internationally recognised and serve to give the eco-label to forest products.
- To make logging economically more attractive, multi-resource management plans should be developed, in which non-wood forest products, eco-tourism, fishery, beekeeping, wildlife management are incorporated as objectives.

On-Going Reforms

- In addition to addressing such issues as the debt-burden, support should be given to on-going economic recovery programmes in the countries to help reduce poverty and improve investment in forestry. The reforms themselves should be pursued in the context of global schemes of rural development in order to exploit synergies and reduce the financial burden.
- On-going policy and institutional reforms towards sharing rights and responsibilities in forest management should be expedited; in particular forestry staff should be re-trained and re-oriented towards new and emerging approaches and issues in forestry.
- To improve the financial climate for investment in SFM, mechanisms for recovering from forest revenues the full costs of forest management should be pursued, by, for example, species-differentiated upward reviews that tie forest fees realistically to market values, effective enforcement of regulations, and charging higher penalty fees.
- Roles and responsibilities for public and private sectors should be better defined in the reforms so that the public sector focuses on areas that are socially and economically important and where it has the comparative advantage and the roles of the private sector and local communities are reinforced in the development and implementation of forest concession management.

Augmenting the knowledge base

- Multi-disciplinary approaches should be employed in generating knowledge for sustainable forest management. The complexity of managing forest concessions demands that the scientific community (research institutions and universities) participates in developing new methodologies and comprehensive technical guidelines (for inventories, development of forest management plan, silvicultural treatments, conservation strategies, etc.). There is also a need to develop new curricula for training staff.
- The search for appropriate silvicultural systems should focus on managing forests as ecosystems, where other forest functions and values are not ignored in the pursuit of industrial wood production. Silvicultural systems that aim at simulating events as they occur in the gap-phase dynamics of rain forest regeneration should be developed.
- Effort should be made to establish annual allowable cuts (AACs) rationalized from knowledge of forest growth characteristics, e.g. mean annual increments (MAI), as the basis for exploitation.

Inter-sectoral linkages

- Policy formulation for any sector should involve all affected sectors, to exploit synergies, develop trade-offs and avoid conflicts. In particular, there should be effective forestry inputs in the formulation of policies for population, agriculture, land use, settlements, infrastructure development, energy and macro-economic management. At the very least, policy formulation in these sectors should be closely coordinated.

Inclusive approach to management

- Civil society organizations, in particular, with donor support, should intensify their efforts in improving the capacities of local communities, through awareness raising, skills development and creating appropriate institutions to make them more effective in partnerships with other stakeholders in forest management. The

capacities of forestry staff and loggers should also be enhanced by training.

Making the transition to SFM

- The transition from present practices to sustainable forest management should be understood as a long-term process, and approached systematically by re-iterating cycles of goal-setting, planning and capacity-building, field implementation (trial), monitoring, information assessment, and goal-revision, until a satisfactory management system is reached.
- Special attention should be given to developing the capacity for monitoring, evaluating and assessing performance, as well as the capacity for periodic auditing of management by the various stakeholders now to be increasingly involved in forest management

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