

CBBIA 2006 SMALL GRANTS PROGRAM
Improving the synergy between Environmental Impact Assessment and Forestry
Management Plans for biodiversity conservation and management
Final Report

by
Dieudonne Bitondo, Ph.D
Consultant in Environmental Issues

In collaboration with:

Guillaume Lescuyer: CIRAD/CIFOR
National Association of EIA of the Central Africa Republic
National Association of EIA of the Democratic Republic of Congo

November 2006

Table of Contents

Abstract 3

1. INTRODUCTION..... 5

1.1. BACKGROUND 5

1.2. OBJECTIVES 5

1.3. METHODOLOGY 5

1.4. EXPECTED RESULTS 6

2.1. NORMATIVE PROVISIONS RELATING TO THE INTEGRATION OF BIODIVERSITY IN EIA..... 8

 2.1.1. *The Nature and the objective of the standards*..... 8

 2.1.2 *Directives and guides* 9

 2.1.3. *Conditions of Public Participation* 11

 2.1.4. *Conditions of Studies Approval*..... 12

 2.1.5. *Articulation of the procedures to the system of projects authorization* 12

 2.1.6. *Monitoring and follow up*..... 13

2.2. ORGANISATIONAL PROVISIONS RELATING TO THE INTEGRATION OF BIODIVERSITY IN FMP AND EIA..... 13

2.3. INTEGRATION OF BIODIVERSITY IN THE FMP AND EIA IN PRACTICE..... 15

 2.3.1. *Chronology of the recourse to the FMP and the EIA* 15

SOURCE: AUTHORS CONSTRUCTION 16

 2.3.2. *Use of human resources* 16

 2.3.3. *Populations consultation*..... 17

3. A CONCEPTUAL FRAMEWORK FOR A SYNERGIC INTEGRATION OF BIODIVERSITY IN EIA AND FMP 18

3.1. CONSTRAINTS AND OPPORTUNITIES RELATING TO THE SYNERGISTIC INTEGRATION OF BIODIVERSITY IN EIA AND FMP..... 20

 3.1.1. *Constraints* 20

 3.1.2. *Opportunities*..... 21

4. CONCLUSION AND RECOMMENDATIONS 23

References 24

Abstract

The main goal of this study was to contribute to the sustainable management of forest biodiversity through its synergistic integration in Environmental Impact Assessment (EIA)¹ and Forestry Management Plans (FMP) of Forestry Management Units (FMU). The interest of the study, which builds very much on a pilot analysis conducted in Cameroon, is to propose an approach of EIA and FMP which optimises the complementarities existing between these two tools as regards sustainable management of biodiversity. These tools although convergent with the same objective of sustainable management of the forests and its biodiversity are conducted in a nearly independent way, without drawing advantage from possible synergies between them.

The following elements constitute the points of anchoring of the proposal presented:

- The two tools contribute to the sustainable management of the forest including the biodiversity which it conceals;
- The two tools are financially supported by the promoters who showed their interest in setting synergy between the approaches which is likely to involve a lightening of the costs and procedures;
- The populations express their impatience vis-a-vis the multiple consultations which encroach on their activities and do not result in concrete actions. The evocation of biodiversity related stakes during these multiple talks ends up aggravating and giving the impression that the latter is more important than their search of survival;
- Biodiversity is taken into account during the development of the terms of reference of EIA and FMP so as to make sure that the determining elements not taken into account in the FMP are integrated during EIA;
- The description of the biophysical and human environment is carried out in a concerted way between the teams in charge of the development of FMP and EIA on the basis of protocol fixing the data necessary to boot tools while holding account of the determining elements for biodiversity;
- The choice of the management alternative suggested rests on an analysis of various management alternatives carried out jointly by the two study teams while holding account of the determining criteria for biodiversity;
- The environmental management plan holds account of the criteria and indicators of sustainable management of biodiversity and applies to the five years management plan and the plan of annual operations;

¹ The present study does not reconsider the good practices as regards taking into consideration of biodiversity in EIA which were already published by IAIA. Rather, it considers the consistency of EIA and FMP for the sustainable management of forest biodiversity.

- The monitoring and follow-up plan worked out within the framework of the EIA integrates the process of revision of FMP while taking into account the elements of biodiversity.

An analysis of the coherence of the integration of biodiversity by EIA and FMP from the normative, organisational and practical standpoint confirms the existence of complementarities which justify the relevance of such a proposal. Constraints and opportunities related to the implementation of the proposal were identified. One of the areas where this proposal could be implemented is the concerted development of the sectoral directives for EIA of FMP of FMU in central Africa. This approach will be appropriate with the efforts of harmonizing the environmental and forest policies in progress in the Congo Basin. However, given that this study builds very much on the analysis in one country, it would be necessary to take into consideration the fact that certain constraints and opportunities will be specific to given contexts. In this light, each country will require specific adjustments that reflect its social, economic, political and cultural situation.

1. INTRODUCTION

1.1. Background

Following the Rio Summit in 1992, many countries revised their environmental and forestry regulations to include prescriptions for the sustainable management of the environment in general, and forest resources and biodiversity, in particular. Such prescriptions include among others Forestry Management Plans and Environmental Impact Assessment of forestry projects. In Cameroon for example, the practice, reveals that these tools although convergent with the same objective of sustainable management of the forests and its biodiversity are conducted independently way, without taking advantage of possible synergies between them. In this light, it is necessary to examine the axis of coherence that exist between those tools so as to make better use of their complementarities and synergies in the sustainable management of forest biodiversity.

This study was conducted as part of a more global thinking with the aim of making better use of integrated assessment as a tool to assist in integrating environmental, social and economic considerations into national and regional forestry policies in the Central Africa region. It builds very much on the results of the pilot phase of the study that was conducted in Cameroon with sponsorship from the FAO Forestry Department.

1.2. Objectives

The general objective of the project was to contribute to the sustainable management of forest biodiversity through a proper, complementary and synergic use of EIA and FMP². More specifically the project aim was to:

- Analyse the state of the integration of biodiversity in Forestry management plans and EIA of forestry operation in a number of Central and West African countries from the point of view of the legal and institutional framework, the organisational framework and the practice;
- Make a SWOT analyses of the complementary and synergetic use of EIA and forestry management plans for the better management of biodiversity from the point of view of the legal and institutional framework, the organisational framework and the practice;
- Propose a conceptual and methodological framework for a complementary and synergic use of EIA and Forestry management Plans for a sustainable management of forest biodiversity.

1.3. Methodology

The project was conducted in such a way as to contribute to capacity building of national stakeholders in the gathering and analysis of data relative to the integration of biodiversity in EIA and forestry management plans. Therefore, country teams from national associations or

² EIA: **Environmental Impact Assessment** ; FMP: Forest Management Plan; FMU: Forest Management Unit

alike groupings from three countries³, namely Cameroon, Central Africa Republic and Democratic Republic of Congo participated in the gathering and analysis of data collected under the coordination and guidance of the Executive Secretary of the Secretariat for environmental assessment in central Africa SEACA and an EIA Expert from CIRAD.

A framework for the collection of basic information was sent to each country teams. The analysis of reports from various countries served as the basis for the elaboration of a conceptual and methodological framework for a complementary and synergic use of EIA and Forestry management Plans for a sustainable management of forest biodiversity in countries concerned.

The criteria used in the study included :

- The analysis of coherence in reference to sustainable management of biodiversity of the existing legal and regulatory arrangements of both the Forestry management plan and EIA procedures as far as the following aspects are concerned : Nature and Objectives of regulations, directives and guides, conditions of public participation, Conditions for FMP and EIA approval, conditions of decision making, Articulation of the procedures to the project authorization system, compliance, monitoring and follow up;
- The analysis of coherence in reference to sustainable management of biodiversity of the existing organisational arrangements of both FMP and EIA procedures as far as the following aspects in relation to the allocation of responsibilities are concerned : overall management of the procedure, preparation and elaboration of reports, quality assurance or approval of reports, public participation programmes, monitoring and follow up;
- The practical analysis (using FMP and EIA case studies) of the coherence in reference to sustainable management of biodiversity of Forestry management plan and EIA procedure as far as the following aspects are concerned : chronology of the recourse to EIA and FMP; taking into account of biodiversity; use of human resources, , public participation in relation to EIA and FMP;

1.4. Expected Results

- The state of the art of the integration of biodiversity in Forestry Management plans and EIA of forestry operations in countries concerned ;
- The strength, weakness, opportunities and threats for the complementary and synergetic use of Forestry Management plans and EIA for the sustainable management of forest biodiversity in countries concerned are identified;

³ Unlike FMP, EIA of forestry operations is not widely regulated in Central Africa. Of the three countries covered, Cameroon is the only one where the two tools are prescribed by law, where as forest management was prescribed by forest regulations in all of them. FMP regulations in those country where quite similar to those in Cameroon. An environmental Audit of FMUs was done in Central Africa Republic The analysis of that environmental audit also helped to describe the state of the practical integration of biodiversity in FMP and environmental analysis. Therefore the report very much built on the pilot analysis conducted in Cameroon.

- A conceptual and methodological framework for a complementary and synergic use of EIA and Forestry management Plans for a sustainable management of forest biodiversity in countries is proposed.

2. STATE OF THE ART OF THE INTEGRATION OF BIODIVERSITY IN FMP AND EIA

2.1. Normative provisions relating to the integration of biodiversity in EIA

The normative provisions pose the bases of application of EIA and FMP from the legal and regulatory point of view. For a better reading of the place reserved for biodiversity in these provisions, we approach them through the analysis of certain criteria of which the nature and the objective of the standards, directives and guides, the methods of the public participation, the methods of approval of the studies, methods of monitoring and follow-up.

2.1.1. The Nature and the objective of the standards

Forest management and the plan which materializes it are prescribed by the forest law of 1994 and its enabling instruments. According to the latter, FMP applies by definition to the management of the forests from the permanent forest domain made up of the national forests and the communal forests. The management of a forest from the permanent forest domain is defined as being the setting up, on the basis of objective and a plan laid down as a preliminary, a certain number of activities and investments, for the sustainable production of forest products and services, without attacking the intrinsic value, nor compromising the future productivity of the aforementioned forest, and without causing adverse effects on the physical and social environment.

The EIA as a tool for the sustainable management of the forest is devoted by the forest and environmental legislation (Republic of Cameroon, 1994, 1995, 1996). The forest law prescribes an EIA for any project of development likely to involve disturbances in forest or watery medium. More generally, the environmental law of 1996 relating to the management of the environment prescribes an ÉIE for any project which can negatively affect the environment. These two texts define the double range of EIA as regards management of the Cameroonian forest:

- EIA aims at estimating the impacts of the non forest projects on the forest. It is the case of the clearing of a national forest or any project (in particular industrial or agro-pastoral) that can affect the balance of the forest ecosystem. In particular, in preoccupations with a safeguarding of biodiversity, the regulation relating to the management of fauna stipulates that any project that can affect the objective of conservation of a protected area must be submitted to EIA;
- EIA also aims at estimating the environmental impacts of FMP, since certain related operations can have consequences not desired on the environment. It is for example the case for the creation of road infrastructures which can indirectly involve an increased pressure on the natural resources. In particular, decree 0/222/A/MINEF fixing the procedures of development, approval, follow-up and control of the FMP of production forest of the permanent forest domain states that any proponent will join to the FMP, if necessary, results and recommendations of the EIA conditioning the construction or the use of infrastructures in edge of the protected surfaces. The decree n° 0069/MINEP of 08 March 2005 fixing the various categories of operations whose realization is subjected to an EIA goes further and submits management plans of protected areas and that of all forest management units (FMU), and no more only those interfering with the protected areas to EIA.

Interest for biodiversity

This double range of EIA gives the possibility of better taking into account biodiversity in forest management operations. Historically, one of the first EIA of FMP in Cameroon, was that of the UFA 09024 interfering with the Campo Ma'an National park. The commission of this study was a recognition of specificity of the problems related to the management of FMU interfering with protected areas because of the possible interaction between the activities of production and the objectives of conservation. This interaction cannot be fully take into account by the only FMP. The considerations relating to biodiversity were in the center of the commission of the EIA.

Indeed, the Campo-Ma'an National Park profited from the contributions of several international partners within the framework of the Project of Conservation and Management of Biodiversity in Cameroon (PCGBC). Moreover, this park had been retained like one of the zones having to benefit from a program of environmental improvement in order to compensate for the residual impacts on biodiversity and the value of the natural habitat caused by the construction and the exploitation of the pipeline between Chad and Cameroon.

2.1.2 Directives and guides

The environmental law gives some general indications relating to the conduction of EIA in particular with regard to its obligatory contents. Article 6(2) of the enabling decree of this law indicates that the minister responsible for the environment should define, after the approval of the of the Inter Ministerial Committee of the Environment, sector guidelines to be used for the drafting of terms of references of EIA These guidelines are not yet available. However, the enabling decree and the order fixing the projects whose realization is subjected to a EIA specify the contents of an EIA which includes:

1. The summary of the study in simple language, French and English;
2. The description and analysis of the initial state of the site and its physical, biological, socio-economic and human environment;
3. The description and analysis of all the natural and socio cultural elements and resources that could be affected by the project, as well as the reasons of the choice of the site;
4. The description of the project;
5. The presentation and analysis of the alternatives;
6. Reasons of the choice of the project among the other possible solutions;
7. The identification and the evaluation of the possible impacts of the implementation of the project on the natural and human environment, the indication of measures designed to avoid, reduce, eliminate or compensate for the detrimental effects of the project on the environment and the estimate of the corresponding cost;
8. The programme of sensitisation and information as well as the signed reports of the consultation meetings held with the populations, nongovernmental organizations, trade unions, leaders of opinions and organized groups, concerned with the project;
9. The environmental management plan including the compliance mechanisms and its environmental follow-up and, if necessary, the compensation plan;
10. The Terms of reference of the study.

The forest law gives the operations that constitute forest management. Those are inventories, afforestation, natural or artificial regeneration, sustainable forest exploitation and infrastructures development. But it is the order 0222/A/MINEF which specifies the directives on the matter. It presents the procedures and the groundwork to which must conform the development of the management plans. The procedures considers delimitation methods, description of the forests, its cartography, forest management inventory, land allocation and the rights of users, calculation of the forest possibility, the determination of various plots, forestry operations, activities of research, and environmental protection, a five year management plan, an annual plan of operation. These procedures are based on various standards of intervention including standards of inventory, standards of forest cartography and the general standards of intervention in forest medium adopted by the Ministry of forestry.

The groundwork of development of FMP is declined in 6 main sections relating to the following points:

- The biophysical characteristics of the forest which amongst other things gives administrative information and the ecological factors of the forest;
- The socio-economic environment which gives the demographic characteristics, the activities of the population including the impact of these activities on the population-forest problematic of the area, the industrial and commercial activities as well as an analysis of the relations and impacts of these activities on the FMU, the roads and other services infrastructures including the analysis of their access to the populations and their relation to priorities of development;
- The state of the forest which gives the history of the forest that is its origin and the former modes of exploitation if ever, the summary of the results of the management inventory which corresponds to an output of the software TIAMA, the productivity of the forest which refers to the rate fixed by the administration or resulting from recognized research;
- The suggested management plans which presents the broad objectives of the management assigned to the forest, the allocation of land and rights of users, the management of the series of production which specifies in particular the forest possibility and makes a synthesis of the evolution of the forest considering the exploitation envisaged, the five years management blocks and the an annual exploitation plots, special forestry regimes, the programme of forestry interventions with analysis of the awaited effects of the treatments suggested, the programme of environmental protection which will treat measures taken to limit the environmental impact, other management operations inter alia harmonizing the activities of the population with the objectives of the FMP, activities of research to fill the gaps observed in the base line data and which are necessary for the conduction of the management;
- The duration and revision of the plan which will establish according to selected rotation the schedule of work of revision;

- The five years management plan and the annual plan of operation which presents the plan of management for the first 5 years period of the first five year management block and the annual request of exploitation for the first year.

Interest for Biodiversity.

The FMP and the EIA through investigations on the biophysical characteristics and the ecological factors of the forest give the possibility of having information on biodiversity. The concerns relative to biodiversity are taken into account in the FMP specially by the integration of the preoccupations with a replenishment of the resource and in the within the context environmental protection. The later requires of the proponent to indicate in the FMP how the obligations relating to environmental protection will be satisfied and what will be the special measures which will be put in place as regards protection of fauna in addition to the those included in the general standards of intervention in forest medium whose object is to minimize environmental impact. Some obligatory measures as regards the protection of fauna are enacted: Adoption of an internal regulation on hunting, transport, marketing or the consumption of bush meat; the construction of stations and barriers of control and the closing of the roads of exploitation after the exploitation; the availability of the alternative protein sources to employees at affordable prices. The delimitation of conservation plots within the FMU also appear in the row of provisions of taking into account of biodiversity.

Although national directives for elaboration of EIA of FMP are still lacking, the analysis of the cases studied reveals that the protection of biodiversity occupies a good place in these cases. The questions raised relate not only to floristic but also to faunal biodiversity. Thus, compatibility between management parameters and the risk on the replenishment of the resource, the impact of the more or less large opening of the canopy on the distribution of the species and the consequences of the opening of the industrial wood exploitations facilities on the fauna are very often largely approached.

It appears clearly that those two sustainable forest management tools are complementary from the point of view of the taking into account of biodiversity. The FMP concentrates on the parameters and the impacts directly connected to forest management where as the EIA goes to beyond that to integrate more global aspects of conservation and sustainable management of biodiversity.

2.1.3. Conditions of Public Participation

The principle of public participation in forest management is recognized in the environmental and forest laws of Cameroon. The regulation on forest specifies that the administration responsible for forest management consults and associates the bordering populations concerned and trade associations of the forest sector. The classification of a forest in the permanent forest domain holds account of the opinion of the commission in charge of the examination of possible remarks or complaints emitted by the populations or any interested person. The procedure of elaboration of FMP also includes socio-economic studies and dialogues with the populations for the purpose of taking into account their concerns in the choice of the management options. The relationship with the populations is therefore recognized like a crucial element to ensure the success of the management plan. On the other hand, the environmental law prescribes consultation with all the actors of environmental management to encourage the participation of the populations in the

management of the environment. Within the framework of the EIA this participation is ensured by consultations and public audiences which are used to collect the opinions of the populations on the project. In theory the opinion on the approval of the project must hold account of the evaluation report of the audiences.

Interest for Biodiversity

Adoption of a participatory approach is recommended in sustainable management of biodiversity. It is recommended to. Consult widely to ensure that all stakeholders cuts been consulted and that important biodiversity been worth are taken into account. Valuation of biodiversity edge only Be done in negotiation with the different groups gold individuals in society (stakeholders) who cuts year interest in biodiversity. Use traditional and indigenous knowledge wherever appropriate. Work carefully with indigenous communities to ensure that knowledge of biodiversity is not inappropriately exploited. The fact that both the FMP year public the EIA make provision for participation is therefore year opportunity that should Be better optimised for the benefit of biodiversity conservation and enhancement.

2.1.4. Conditions of Studies Approval

The environmental law dictates the broad outline of the conditions of approval of EIA. The report of the study must be in conformity with the terms of references. It must be approved by the inter ministerial Committee of the environment. In the same way the approval of the FMP is subjected to a Committee of EMP approval.

Interest for Biodiversity

The composition of the inter ministerial Committee of the environment and the Committee of EMP approval includes representatives of the structures in charge of the safeguard and promotion of biodiversity. This can let suppose that issues relating to it will not be eluded during the approval process of the studies.

2.1.5. Articulation of the procedures to the system of projects authorization

The forest law clearly stipulates that the plan of installation is preliminary to the implementation of any management operation in the forests of the permanent forest domain. In the same vein, the environmental and forest regulations make the approval of EIA a prerequisite for the granting of the authorizations for forest projects subjected to EIA.

Interest for biodiversity

Biodiversity is part of the stakes to be considered both at the level of EIA an FMP, The double precondition of the realization of those studies make it possible to optimize the chances of making sure that FMP are indeed respectful of biodiversity.

2.1.6. Monitoring and follow up

For the forest regulation, the follow-up relates to a series of measures which are taken to make sure that forest exploitation will be done according to the methods envisaged by the approved FMP and the annual plan of operations. Chapter 2 of title 3 of the environmental law which is devoted to EIA is dumb on the monitoring and the follow-up. However, one can consider that the follow-up concerns research on the environmental quality or the reports on the general state of the environment which the ministry in charge of the environment most compile each year. The follow-up should make it possible to appreciate the accuracy of the conclusions of the EIA. The enabling decree does not give a definition of follow-up, but it dictates the contents of the technical and administrative monitoring relating to the effective implementation of recommendations of the environmental management plan included in the EIA.

Table 1 State of normative arrangements of the integration of biodiversity in EIA and FMP

Criteria	FMP	EIE	Interest for biodiversity
Nature and Objectives of regulations	Forestry law and enabling decrees Sustainable management of forest	Forestry law and enabling decrees Environmental law and enabling decrees	Need to protect biodiversity among objectives of the regulations Complementary integration of biodiversity in both regulations
Directives and guides Conditions of public participation	Order 0222/A/MINEF Recognize by the forestry law and application instruments	Enabling decrees and order Fixing projects submitted to EIA Recognize by the constitution and the forestry law and application instruments Recognize by the environmental law and enabling decree and order relating to EIA	Both Guides clearly refer to biodiversity issues There is a possibility to optimize the integration of biodiversity by both consultative platforms
Conditions for FMP and EIA approval	Define by order 0222/A/MINEF Validation by the FMP approval Committee	Conformity to terms of reference Validation by the inter ministerial Committee of the environment	The approval committees include stakeholders that can check for the proper integration of biodiversity issues
Conditions of decision making Articulation of the procedures to the project authorization system	Specified by order 0222/A/MINEF Precondition to the management of forests of the permanent forest domain	specified by the environmental law Precondition to the implementation of the forest management plan	This offers the possibility to make sure that biodiversity is well taken care of before project authorization
Conditions of monitoring and follow-up	Specified by order 0222/A/MINEF	Follow-up is implicit in article 10 of the environmental law Follow up is specified in articles 18, 19 and 20 of the enabling decree of the environmental law	monitoring and follow-up should include biodiversity considerations

Source: Authors construction

2.2. Organisational provisions relating to the integration of biodiversity in FMP and EIA

The organisational framework is about the distribution of responsibilities between the actors of FMP and EIA. Table 2 summarizes the general the involvement of main actors of EIA and FMP in Cameroon.

The EIA procedure is initiated by the promoter of a project who has to make a request for realization of the EIA study accompanied by a project of terms of references relating to it. After approval of the terms of reference by the administration in charge the environment, the proponent conducts the study with the participation of the public. In particular, the report of EIA must contain the outcome of the discussions with the populations. The Ministry in charge of the environment decides on the admissibility of the study and if necessary makes it public. An ad hoc committee is charged to draw up an evaluation report of the public audiences. The administration in charge of the environment submits to the inter ministerial Committee of the EIA for approval. The minister in charge of the environment takes the final decision about the EIA taking into account the opinion of the inter ministerial Committee of the environment. The administrative and technical monitoring is jointly assured by the qualified administrations and that in charge of the environment.

The Ministry in charge of forests is responsible for the FMP procedure. the latter can sub-contract certain management activities to private or Community structures. In the case of the forests allocated to timber production, the promoter must work out the FMP during the three years of the provisional convention. The development of the FMP requires that the decree of classification fixing the final limits of the concession is signed by the Prime Minister on the initiative of the Minister in charge of the forests. The FMP approval committee is responsible to analyse and deliver an opinion on the projects of FMP subjected to the approval of the Minister in charge of the forests. The monitoring and follow-up of the implementation of the plans of installation are ensured by the administration in charge of the forests through the Central Control Unit of forest activities and repression(CCU) which has been profiting from the assistance of an independent observer since 2004. The promoter is responsible to ensure the good information and the implication of the public in connection with his management plan.

Table 2: State of organisational arrangements of the integration of EIA and FMP

Criteria	Responsibilities		Interest for biodiversity
	Forestry Plans	EIA	
Management of the procedure	Ministry of Forestry and Wildlife	Ministry of the environment and nature protection	Involvement of the two main ministries in charge of biodiversity
Preparation and elaboration of the studies	Proponent	Proponent	Make it possible to better coordinate the results and the strategies with regard to biodiversity
Quality control	Ministry of Forestry and Wildlife / FMP approval committee	Ministry of the environment and nature protection/ Inter ministerial committee for the environment	Involvement of the two main ministries in charge of biodiversity
Monitoring and follow up	Ministry, independent observer	Ministry/Minifof	
Public information and participation	Proponent	Proponent and the Ministry	Make it possible to better coordinate public participation strategies with regard to biodiversity

Source: Authors construction

Interest for biodiversity

As can be noticed in the synthesis presented by table , the institutional arrangements related to EIA and FMP are such that there are many aspects that enable proper integration of biodiversity including the following:

- The Involvement of the two main ministries in charge of biodiversity;
- The fact that the promoter is responsible for the preparation and elaboration of the studies makes it possible to better coordinate the results and the strategies with regard to biodiversity;
- The involvement of the main ministries in charge of biodiversity in both reports approval and monitoring and follow up;
- The provision of public participation in both cases.

2.3. Integration of biodiversity in the FMP and EIA in practice

According to Rivain and Eba'a (2002) the institutionalisation of FMP went through a phase of difficulties in the communication on the objectives and the interest of the tool and on the mastery of the techniques, as far as stakeholders are concerned. The majority of promoters only consider it as a constraint. An inversion of the tendency is observable with time and there is a drop of the proportion of those who consider it only as a legal obligation. In May 2004, out of 72 allotted FMU, 39 FMP had been subjected for approval to the forest administration.

It is important to make a distinction between the EIA prescribed for non forest interventions but which because of their localization or of the consequences of their implementation can affect the forest environment and the EIA prescribed for FMP. At the level of the FMU, one could announce the EIA of the project of installation of the FMU 09024 Campo Ma' an and of all those which followed the signature of order 0/222/A/MINEF. Until 2005, EIA especially related to FMU close to protected areas. Eight of them were available at the level of the inter ministerial Committee of the environment. The implementation of the recent enabling instruments of the environmental law as far as EIA is concerned should see the number of EIA of FMU knowing an increase.

The table gives the practical situation relating to the integration of biodiversity in the FMP and EIA from the point of view of the chronology of the recourse to these tools, of the use of human resources and data and of public participation.

2.3.1. Chronology of the recourse to the FMP and the EIA

As indicated earlier in this report, the signature of a provisional convention gives the promoter three years to work out a FMP and to carry out all studies preliminary to the exploitation of which if necessary the EIA. During this period, He has the right to exploit an plot yearly. In practice therefore, many promoters start exploiting without working out their FMP. The signature of order 0222/A/MINEF made the presentation of an EIA a condition for the renewal of the annual authorizations of cut for the FMU close to the protected areas. This explains why many EIA were carried out even before the FMP. In this respect, it is important to note that the EIA of FMU 09021 and 11002, were carried out in parallel to the development

Table 3 : State of the synergistic integration of biodiversity in the FMP and EIA in practice

Cases	Promoter	chronology of the recourse to EIA and FMP	Taking into account of biodiversity	Use of human resources in connection with EIA and FMP	Populations consulted in relation to EIA and FMP
FMU 09024	HFC	EIA Preliminary to the FMP	Good taking into account in the two tools	Distinct teams	Nonapplicable
FMU 10015	CIBC	EIA Preliminary to the FMP	Good taking into account in the two tools	Distinct teams	Nonapplicable
FMU 10007 et 10011	SAB	A FMP whose EIA recommends actualization was ongoing	Good taking into account in the two tools	Distinct teams	Not specified
FMU 10064, 10012, 10010, 10009, 10008	SEFAC, SEBAC, La Filière Bois	Precondition to the FMP whose development is recommended by the EIA	Good taking into account in the two tools	Distinct teams	Nonapplicable
FMU 10013	CFE	Precondition to the FMP whose development is recommended by the EIA	Good taking into account in the two tools	Distinct teams	Nonapplicable
FMU09021	WIJMA	EIA in parallel to the FMP	Good taking into account in the two tools	Distinct teams	Not specified
FMU 11002	WIJMA	EIA in parallel to the FMP	Good taking into account in the two tools	Distinct teams	Not specified

Source: Authors construction

of FMP. The conclusions of the EIA carried out indicate that they systematically recommend the development of the FMP for the FMU which do not have them yet, and in the case where the EIA was carried out in parallel to the FMP, one notes that an evaluation of the possible management alternatives was carried out.

Interest for biodiversity

The facts above confirm the practical complementarities between these two tools for the sustainable management of the forest and its biodiversity.

2.3.2. Use of human resources

In the cases studied, the teams in charge of the EIA and FMP were distinct.

Interest for biodiversity

Generally, it was not clear if there was a strategy put in place for the mutual valorisation of data collected within the framework of FMP and EIA. Let us note however that in the case of Wijma where the EIE were carried out parallel to the FMP, the terms of references referred to the possibility of using the information produced within the framework of FMP.

2.3.3. Populations consultation

Certain EIA give the list of the actors and the populations consulted. The socio-economic studies undertaken within the framework of the FMP also implied the populations and other actors.

Interest for biodiversity

However, it was not specified if there was a strategy to limit and optimise the number of meetings with the groups concerned.

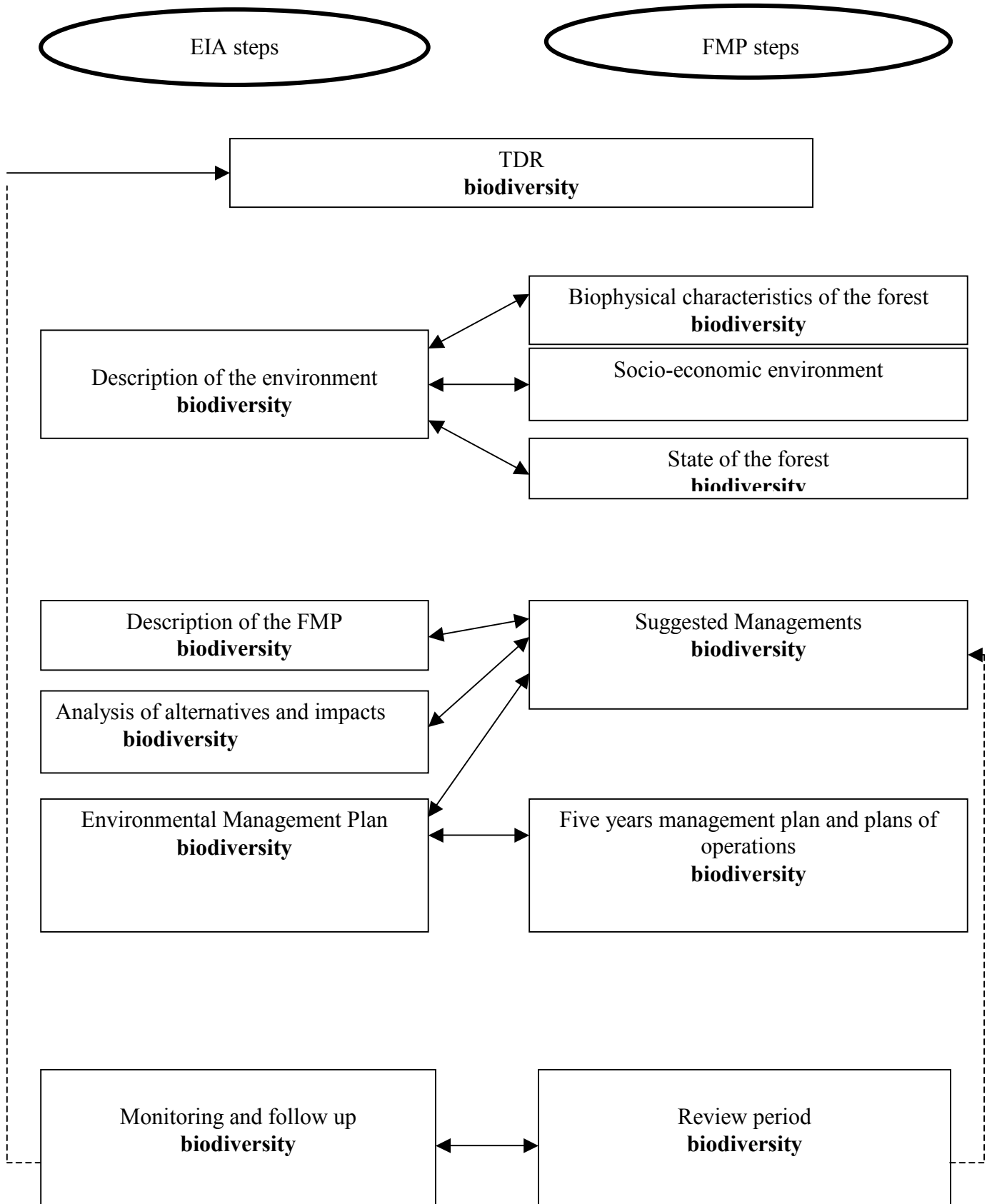
3. A CONCEPTUAL FRAMEWORK FOR A SYNERGIC INTEGRATION OF BIODIVERSITY IN EIA AND FMP

This proposal schematised here is based on the principle by which the EIA and FMP are carried out in an integrated way which allows for the best integration of biodiversity related aspects by a better interaction between the teams responsible for the conduction of the two tools and a better use of the collected data. The following elements constitute the points of anchoring of the proposal:

- Biodiversity is taken into account during the development of the terms of reference of the EIE and FMP so as to make sure that the determining elements not taken into account in the FMP are integrated during EIA;
- The description of the biophysical and human environment is carried out in a concerted way between the teams in charge of the development of FMP and EIA on the basis of protocol fixing the data necessary to boot tools while holding account of the determining elements for biodiversity;
- The choice of the management suggested rests on an analysis of various management alternatives carried out jointly by the two study teams while holding account of the determining criteria for biodiversity;
- The environmental management plan holds account of the criteria and indicators of sustainable management of biodiversity and applies to the five years management plan and the plan of annual operations;
- The monitoring and follow-up plan worked out within the framework of the EIA integrates the process of revision of FMP while taking into account the elements of biodiversity.

Figure 2 schematises the proposal of an approach of integration of the EIA and FMP which should allow a better coherence between these two tools and a better synergy in the taking into account of biodiversity.

Figure 1 : synergetic integration of biodiversity in EIA et FMP



3.1. Constraints and opportunities relating to the synergistic integration of biodiversity in EIA and FMP

3.1.1. Constraints

The major constraints relating to the synergistic integration of biodiversity EIA and FMP return more to interpretation of the object of these tools by the implied actors and to the way in which they can be managed that with the very principle of integration which does not pose a problem if the various fields of complementarities which were released during this study are considered. These constraints are referred to the following points:

Institutional arrangements

Following the change of government in December 2004, the former Ministry of Environment and Forestry was broken into a Ministry of forests and fauna and a Ministry of Environment and Nature protection. The Department in charge of the conservation of the biodiversity is thus in the Ministry of Environment where as the Department in charge of management of the forests, fauna and protected areas are in the Ministry in charge of the forest and fauna. In theory all the Departments concerned with biodiversity related issues should be involved in the different committees of approval and follow-up of the FMP and EIA, but the current provisions do not allow for that;

Determination of the time when the EIA should start.

This question had been discussed during a seminar on the integration of environmental concerns in forest exploitation activities. Held in August 2003 at Kribi (Cameroon). It had been retained that the EIA should be done before the signature of final convention in accordance with the forest law. For some, the EIA should be done before the beginning of any exploitation, that is to say even before the signature of the provisional convention or right afterwards. The latter question the three years deadline granted by the legislator to the promoter to present a FMP and EIA because of the possibility for him of profiting from the exploitation to finance these preliminary steps. As much as one can read in the spirit of the legislation, this is due to the will to be practical by finding compromises and give the forest promoters, who are in fact of the subcontractors of the State in forest management, the means of leading the necessary preliminary studies. But this particular provisions raises questions as to its conformity with sustainable management of forests and biodiversity. This is because cases were reported where the promoters use this opening to exploit abusively, thereby endangering biodiversity;

Technical limitations.

Technically, the determination of the value of biodiversity is not easy. Where as EIA should as much as possible make a sensitivity analysis regarding the various impacts on biodiversity of management options proposed. This implies that it should be possible to value the weight, including the economic one, of biodiversity;

Insufficiency and poor organization of the expertise and human resources

The technical capacity of the forest administration and the qualification of local consulting firms for the realization of these studies are often failing, which for example led the most important forestry firms to create in-house sustainable management departments or to pass conventions with international consulting firms. On the 39 FMP submitted until 2005, 22 had been approved and 17 rejected. This led to the conclusion that much remains to be done particularly in terms of capacity building at all the levels.

Limitations to public participation

Other constraints are related to the absence of a known validated technical EIA guidelines applicable to FMP, the difficult access of the public to the EIA and FMP. NGO also complain about the lack of incentive measures to the public participation. This is even more important as these consultations tend to multiply because of the lack of coordination between the various sustainable forest management tools as shown above in the case for EIA and FMP.

3.1.2. Opportunities

With respect to the opportunities to the synergistic integration of biodiversity in the EIA and FMP, one could raise the following points:

- The two tools contribute to the sustainable management of the forest including the biodiversity which it conceals;
- The two tools all are financially supported by the promoters who showed their interest in setting synergy between the approaches which is likely to involve a lightening of the costs and procedures;
- The populations express their impatience vis-a-vis the multiple consultations which encroach on their activities and do not result in concrete actions. The evocation of biodiversity related stakes during these multiple talks ends up aggravating and giving the impression that the latter is more important than their search of survival;
- The FMP is prerequisite to the exploitation and envisages the taking into account of biodiversity. Its elaboration thus offers a good base for the concerted planning of measurements relative to biodiversity enhancement. In particular, the submission of FMP to EIA is an opportunity of making EIA fully play its role of preventive tool and of accompaniment of the design of a design which integrates the concern of biodiversity;
- Dialogue between the Ministry in charge of forest management and that of environmental management is underway and already leads to the development of environmental clauses applicable to forest projects on the basis of standards of intervention in forest medium. These clauses integrate the aspects of biodiversity;
- The decree fixing the conditions of realization of EIA envisages a joint follow-up of projects subjected to EIA by the ministry responsible for the environment and that

responsible for forests management that could enhance the cross check of the proper integration of biodiversity related aspects;

- The general composition of the teams that carried out the cases studied include forest management designers having an environmental background, Civil or industrial engineers having a good knowledge in environmental issues if infrastructures or the factories are implied and socioeconomists. The teams could be reinforced with the inclusion of an ecologist for the improvement of the collection and analysis of information that is useful for the proper integration of biodiversity enhancement considerations in both EIA and FMP.

4. CONCLUSION AND RECOMMENDATIONS

EIA is a preventive tool which expresses its full potential when it accompanies the design of a project. It must be integrated into the existing processes of planning and approval, so as to minimize distortions to be caused with normative and organisational arrangements in place and to maximize its effectiveness. These principles were used as a basis for the present reflexion on the improvement of synergy between EIA and FMP for sustainable management of the forest biodiversity. Indeed, these tools although convergent with the same objective of sustainable management of the forests and its biodiversity are conducted in a nearly independent way, without taking advantage of possible synergies between them. Although concerning Central African region, this study is based especially on the results of a pilot analysis carried out to Cameroon. An approach of EIA and FMP which optimises the complementarities existing between these two tools as regards sustainable management of biodiversity was proposed.

An analysis of the coherence of the integration of biodiversity by EIA and FMP from the normative, organisational and practical standpoint confirms the existence of complementarities which justify the relevance of such a proposal. Constraints and opportunities related to the implementation of the proposal were identified. One of the areas where this proposal could be implemented is the concerted development of the sectoral directives for EIA of FMP of FMU in central Africa. This approach will be appropriate with the efforts of harmonizing the environmental and forest policies in progress in the Congo Basin. However, given that this study builds very much on the analysis in one country, it would be necessary to take into consideration the fact that certain constraints and opportunities will be specific to given contexts. In this light, each country will require specific adjustments that reflect its social, economic, political and cultural situation..

References

- Abaza, H., Bisset, R. et Sadler B. 2004. Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach.
- ADIE-PRGIE 2002. Atelier de haut niveau sur l'évaluation environnementale en Afrique centrale. Quelle démarche de réalisation des Études d'impacts sur l'environnement en Afrique centrale. Yaoundé Cameroun 28-29 novembre 2002, 36 p.
- André, P., Delisle, C.E. et Revéret, J.P. 2004. L'évaluation des impacts sur l'environnement. Processus, acteurs et pratique. Deuxième édition. Presses internationales Polytechnique, Montréal, 519 p.
- Association Centrafricaine des Professionnels en Evaluation Environnementale 2006: Situation de quelques outils de gestion durable de la forêt exemple de la république centrafricaine. ACAPEE, RCA.
- Association Nationale pour l'Evaluation Environnementale 2006 : Forces, faiblesses et opportunités des études d'impact environnemental et plan d'aménagement forestier en République Démocratique du Congo. ANEE, RDC.
- Bitondo, D. 2000. Environmental Assessment in Cameroon: State of the Art. Impact Assessment and Project Appraisal 18(1) :33-42.
- Cellule de coordination du PNGE 1996. Plan national de gestion de l'environnement. Volume I Rapport principal. Ministère de l'Environnement et des Forêts, République du Cameroun, 53 p.
- Colotte, P., Mengue M. C., Binga, H. et Bitondo, D. 1999. Inventaires des besoins et applications des législations gabonaises en matière d'étude d'impact environnemental. PFE, PRGIE, Libreville, Gabon, 71 p.
- Languy, M. 2001. Étude complémentaire d'impact sur l'environnement relative à l'exploitation de l'UFA 09-024. JMN Consultant et Tecsalt, Étude déposée au Ministère de l'Environnement et des Forêts du Cameroun par la Forestière de Campo. Yaoundé, 73 p.
- Lapuyade, S., Djomo, L., Nkotto, N. H. Ndjodo, T. et Nwel, T. P. 2000. Étude d'impact social et environnemental de l'exploitation forestière dans la concession de la compagnie forestière du Cameroun (C.F.C.) province de l'Est – Cameroun.
- Lescuyer, G. Bitondo, D. 2004. L'évaluation des impacts environnementaux comme outil d'aménagement de la forêt tropicale. Une expérience au sud-Cameroun. Revue africaine d'évaluation et de gestion environnementales. 8 :53-73.
- Ministère de l'environnement et des forêts 2003. Séminaire sur « La prise en compte des préoccupations environnementales dans les activités d'exploitation des ressources forestières ». (Kribi, 6, 7 et 8 août 2003). Rapport général. 134 p. MINEF, Yaoundé, Cameroun.

- Ministère de l'environnement et des forêts – Secrétariat permanent à l'environnement 2004. Compte rendu de la Réunion de relecture du projet de décret fixant les modalités de réalisation des études d'impacts environnemental.
- Ministère des Forêts et de la Faune 2005. Principes, critères et indicateurs (PCI) de gestion durable des forêts au Cameroun. MINFOF, OAB/OIBT.
- Poulin Thériault Inc. 1998. Évaluation des impacts environnementaux en milieu forestier. Tome 1 à 4, Gestion durable des forêts camerounaises, ACDI, République du Cameroun.
- Présidence de la république. Décret n° 2004/320 du 8 décembre 2004 portant organisation du gouvernement
- République du Cameroun 1994. Loi n° 94/001 du 05 janvier 1994 portant régime des forêts, de la faune et de la pêche.
- République du Cameroun 1995. Décret n°95/531/PM du 23 août 1995 fixant les modalités d'application du régime des forêts.
- République du Cameroun 1995. Décret n°95/466/PM du 20 juillet 1995 fixant les modalités d'application du régime de la faune.
- République du Cameroun 1996. Loi n° 96/12 du 05 août 1996 portant loi cadre relative à la gestion de l'environnement.
- République du Cameroun 2001. Arrêté n° 0222/A/MINEF du 25 mai 2001 fixant les procédures d'élaboration, d'approbation, de suivi et de contrôle des plans d'aménagement des forêts de production du domaine forestier permanent du Cameroun
- République du Cameroun 2002. Décret n° 2001/718/PM du 03 septembre 2001 portant organisation et fonctionnement du Comité interministériel de l'environnement.
- République du Cameroun 2003. Document de stratégie de réduction de la pauvreté. 245 p.
- République du Cameroun 2005. Décret n° 2005/0577/PM du 23 février 2005. Fixant les modalités de réalisation des études d'impact environnemental
- République du Cameroun 2005. Arrêté n° 0069/MINEP du 08 mars 2005 fixant les différentes catégories d'opérations dont la réalisation est soumise à une étude d'impact environnemental
- Rivain, S. et Eba'a A. R. 2002. Étude sectorielle des impacts sociaux et environnementaux du programme sectorielle forêts et environnement. État des lieux du secteur forestier et étude d'impact de l'activité forestière. . Ministère de l'Environnement et des Forêts, République du Cameroun, 97 p.

Tecsalt 2001. Étude d'impact sur l'environnement relative à l'UFA 09-024. Étude déposée au ministère de l'Environnement et des Forêts du Cameroun par la Forestière de Campo, Yaoundé 213 p.

Zimmermann, C.R. 1982. Environmental Impact of Forestry. Guidelines for its Assessment in Development Countries. FAO Conservation Guide 7