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### FORESTRY AND CRITERIA OF SUSTAINABILITY: THE CASE OF CAMEROON

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#### **Abstract**

Cameroon has a very lush forest massif. This is probably the reason why a lot of pressure is put on its resources. As a matter of fact, Cameroon has almost 22 million hectares of forest. But does its exploitation – as it is done now – fit exactly the inter-generational and/or intra-generational equity? That is the aim of the present study.

#### Introduction

Cameroon is a Sub-Saharan African country. Its forest massif is known to be very abundant and lush. It covers about 47% of the national territory (that is 22 million hectares) and is characterised by a great variety in flora and fauna. Cameroon counts almost 300 species listed and is ranked among the first five African countries which are the most naturally diversified with 297 species of mammals, 849 species of birds, almost 9,000 plant species, and about 190 species of batrachians, according to the International Union for the Preservation of the Nature and its Resources (IUPN).

The forest plays an important role in the development of the country. Its contribution in the national economy is remarkable and significant. According to the International Monetary Fund (IMF) statistics, the share of the forest sector to the Gross Domestic Product (GDP) has more than doubled between 1993 and 1996, increasing from

4.3% to 9.1%. The forest exports have reached the record figure of 47.4% of the total exports, except oil (petroleum), in 1999.

The forest provides farm lands and satisfies nutritional needs of the populations. It offers numerous farm jobs and protects land against erosion. It constitutes a shelter for cultures and plays a role as a barrier against landslide. It serves as settlement for wildlife. The forest also provides inputs to wood processing and forest industries, such as pulp industry or sawmills.

From the above development, it is certain that, nowadays, forests play an unquestionable role in the development of Cameroon. However, from the management viewpoint, one may well wonder if forests will still continue playing such an important role in the future. This is what explains our interest in inquiring on the sustainability of its exploitation. We shall attempt to measure that sustainability through its criteria, which are the inter-generational and intra-generational equity, from the point of view of forest management policy.

#### **Cameroon Management Policy of Forests**

The Cameroon management policy of forests is based on an internal policy, accompanied with research projects and on conventions (agreements).

#### **Conventions**

The forest policy of Cameroon is the result of several international, sub-regional and continental conventions. We can enumerate some of these conventions and indicate their objectives:

#### *International agreements:*

- The agreement on the protection of the Nature and Cultural Inheritage, signed in Paris on November 23<sup>rd</sup>, 1972.

- The agreement on the International Trade of endangered species, signed in Washington on March 3<sup>rd</sup>, 1973.
- The agreement on biological diversity, signed in Paris in October 1994.
- The cooperation agreements with international Non-Governmental Organisations (NGO), such as IUPN, WWF, ITTO, ATO.

The sub-regional and continental agreements:

- The agreement on the preservation of culture and natural resources, signed in Alger in 1968.
- The agreement on joint regulations of wildlife in the Lake Chad basin, signed in Enugu in December 1977.
- The agreement on cooperation and dialogue between the Central African
   States relative to the preservation of wildlife, signed in Libreville on April 16<sup>th</sup>, 1983.
- The Wood African Organisation (WAO).

*The objectives:* The main objectives of all these agreements are:

- To ensure the protection of the Cameroon forest heritage and participate in the safeguard of the environment, and to the preservation of the biodiversity in a sustainable manner.
- To increase the involvement of the local populations in the preservation and the management of the forest in view of contributing in the improvement of their standard of living.
- To develop forest resources in view of increasing the forest's contribution in the total GDP.
- To ensure the renewal of resources through regeneration and reafforestation to perpetuate the potentialities.

#### - To revitalise the silviculture sector.

The internal policy: The forest law of the January 20<sup>th</sup>, 1994 is the expression of the new forest policy of Cameroon. This law has raised a lot of controversies in its capability of ensuring a sustainable management of forests, and does not seem to reconcile economic interests – to raise funds for public treasuries in order to face financial difficulties – with the imperatives of sustainability and, therefore, confirms the urgent need of a new reappraisal (Nguiffo Tene, 1994). We are, subsequently, going to examine some arrangements of the said law and, in particular, the nature of some certificates of exploitation which do not tally with the imperative of sustainability.

To start forestry or lumbering, the law holds that the applicant should get a certificate of exploitation which depends on the type of forest solicited. The forests are classified into two types: permanent forests and non permanent forests.

The permanent forests: According to the new forest law, permanent forest domain is made up of lands definitely assigned to the forest and/or to the settlement of the fauna (section 20 (2)). Permanent or classified forests are subjected to a development plan. They are made up of national (state-owned forests) and local forests. National forests include protected areas for fauna and forest reserves. The local forests are made up of forests having been allocated to a community, or of forests having been planted by that community.

The exploitation certificates concerning the state-owned forests, in particular, do not generally tally with the imperatives of sustainability as we are going to prove in the subsequent paragraphs. It is, however, important to mention that these certificates are particularly "cutting sales" and "exploitation agreements".

The cutting sales: According to the law, a cutting sale is an authorization to exploit for a maximum period of one year non-renewable, a precise volume of wood (sold when the tree is not cut yet), which can not exceed the annual volume of cutting. They are only attributed to people with the Cameroonian nationality and are like other certificates, non-transferable and individual. Dictated by the necessity to protect national farmers, the cutting sale constitutes a serious threat for the national forest heritage. As a matter of fact, small Cameroonian farmers generally sell their certificates to the big foreign farmers. These foreign farmers put too much pressure on the portion of forest which is granted to them, for they know that the contract is non-renewable after one year and that they can not come back to that very portion. They are, therefore, not concerned or less concerned about the preservation of young species. In trying to give greater importance to Cameroonians to the detriment of foreigners in that activity through the creation and the delivery of exploitation certificates, which tally with the means of the formers, the law tends to accelerate the destruction of the national forest heritage.

The exploitation conventions: The convention of exploitation is concluded between the state and a forest farmer for 15 years renewable. It is appraised every three years in order to check whether the activities of exploitation are conformed to the plan of development. It gives the right to the owner to exploit a certain volume of wood from a given forest and to supply it in the long term to processing units. The concessionaire can not take more than 200,000 hectares of forest and prior to the signature of the final convention, he must sign with the state a three year temporary agreement. During these three years, he has among other obligations, the duty of putting in place a wood processing industry unit.

The bill submitted to the Cameroon National Assembly allowed the possibility of granting bigger concessions of about 500,000 hectares and for a maximum period of 25

years with an appraisal every five years. The World Bank, the initiator of the project, in view of releasing a structural adjustment loan to Cameroon, hoped to guarantee the security of farmers in granting them concessions with longer duration. By so doing, the World Bank hoped to encourage farmers to invest more in the region, the duration of 25 years being necessary to allow them to acquire modern machines for their processing industries. The World Bank also hoped to encourage the forest farmers to manage on a long term basis their concessions, being quite sure that they can still come back to these ones.

The non-permanent forests: The non-permanent forest domain is made up of forest lands susceptible of being allocated to other uses than the forest uses. The non-permanent forests, also called non-classified forests, comprise forests of the national domain, the community forests, and forests of individuals. The forests of national domain are those which do not belong to the categories of state-owned forests, local forests, and forests of individuals. The community forests are those which are managed by village residents. Forests of individuals are composed of forests which are planted by physical or moral individuals, and are based in acquired domains in accordance with the regulation and the legislation in force.

The exploitation certificates for the non-permanent forests do not tally with the imperatives of sustainability. These certificates are "cutting sales", "exploitation permits", and "individual cutting authorizations".

The cutting sales: The cutting sale is an authorization to exploit an area of at least 2,500 hectares, a precise volume of wood (sold when trees are not cut yet). The cutting sales are authorized by the Minister in charge of forests, after the advice of a competent committee for the duration of three years renewable.

The exploitation permits: There are authorizations to exploit or to harvest definite quantities of forest products in a given zone. Exploitation permits are attributed to people with Cameroonian nationality by the Minister in charge of forests after the advice of a competent board or by mutual agreement.

Individual cutting authorizations: The individual cutting authorization is an authorization issued by mutual agreement for a period of three months non-renewable to an individual of Cameroonian nationality, taking for a non-profitable personal use, a volume of wood which does not exceed thirty cubic metres.

This internal policy is accompanied with a certain number of projects:

The forest research projects: We have been able to identify, on the national basis, more than twenty projects:

- The Tiger-Forest project Environment financed by Great Britain and located in the reserve forest of Mbalmayo and of Dja.
- The project of ECOFAC, financed by the European Union (EU) and based in the forest reserve of Dja.
- The project Tropenbos Cameroon, financed by the Netherlands, the International Organisation of Tropical Forests (IOTF), the European Union, covering the following towns: Kribi, Lolodorf, Akom II, Bipindi and Ebolowa.
- The Mont-Cameroon project, financed by DFID (Great Britain), GTZ, and GEF, covering the towns of Limbé and Buea.
- The project of Preservation and Management of the Biodiversity of Cameroon, financed by FEM, RFA, CF, NDL, EU, BIRDLIPE/DFID, WWF, covering the towns of Yaoundé, Garoua, Limbe, Iku, Myassosso, Yokadouma, Campo Ma'an, and the Adamaoua province.

- The Mounts Killum and Idjim project, financed by WWF (Netherlands), and the GEF. This project covers the towns of Bui, Boyo, and Bamenda in the North-West of the country.
- The KORUP project, financed by GTZ, WWF, DFID, NCI, US, KFW (Germany), the European Economic Community (EEC), covering the localities of Mudemba, Ndian, Kupe Manengumba, and Manyu.
- The project of the Preservation and sustainable use of the biological diversity
  of the fauna reserve of Dja, financed by the Netherlands and located in the
  region of Lomié.
- The National Programme of the Management of the Cameroon Environment project (NPME), financed by the UNDP, the World Bank, Cameroon, UNSO, USAID, and ACDI, based in Yaoundé.
- The project for Support to the Planning and Participative Management of the whole forest sector. This project is financed by the UNDP and is based in Yaoundé.
- The Integrated Pilot Planning project (IPP) of Dimako, financed by the FACK's funds and France, based in the Kadei and Dimako regions.
- The Pilot Planning of the South Bakundu forest Reserve project, financed by the International Organization of Tropical Forests (IOTF) and based in Kumba.
- The Forest Regeneration and Planning project of Mbalmayo, financed by the United Kingdom (UK) (DFID), and based in Mbalmayo.
- The Sustainable Planning project of the So'o Lala reserve, financed by the International Organisation of Tropical Forests, and based in Akonolinga.

- The National Directive Development project for sustainable planning of tropical natural forests of Cameroon, financed by IOTF and based in Yaoundé.
- The sustainable Exploitation project of the Sikop forest region, financed by IOTF and which covers the Ndom and Ngambe regions.
- The transitory phase forest support project, financed by ACDI. It covers the South province, the North province, the Far North province, the Adamaoua province and the Lokoundje-Nyong region.
- The TGEF/Small Grant project, financed by UNDP and USAID, based in Yaoundé.
- The Sustainable Management of Cameroonian Forests project (SMCF), financed by ACDI and based in Yaoundé.
- The Community Forest Development Project, financed by DFID, based in Yaoundé.
- The Support Project of the World Food Programme (WFP) or "PAFT", financed by WFP and based in Yaoundé. It covers the whole national territory.

In an investigation that was done in 2003 at the Ministry of Forests and Environment, out of the 21 forest research projects registered, only 13 were achieved.

The objective of these projects is to participate in a close collaboration with the competent administrations in the definition of the modalities and conditions of a sustainable management of forest resources. However, in spite of the underlying generosity of this objective, some of these projects are subjected to too much suspicion in the Cameroonian ecological milieus. They are for instance accused of supporting scientifically the pillaging of resources perpetrated by firms working with the initiators of the projects. For instance the "API" project would have been transformed in a real forest

development company; the good species of the establishment zone are exploited and forwarded to the "SFID".

With the forest management policy having been presented, it becomes necessary now to examine whether it meets with the sustainability criteria.

### **Sustainability and Forest Management**

We understand by sustainability, the capacity of the forest management policy to ensure inter-generational and intra-generational equity.

Intra-generational equity and forest management: The contribution of the forest sector is very vital to the Cameroon economy. The production of wood, the main product of lumbering, has increased since 1992 due to the economic crisis, the CFA franc (the currency used in formerly French-ruled African countries) devaluation, and the increment in the external demand.

The performance of the forest sector: The IMF's statistics show that the total revenue gained from wood exports amounts to 261 billions of CFA francs in 1999, against 127 billions of CFA francs in 1998, and 231 billions of CFA francs in 2000. The share of the forest sector to the GDP growth and to the total exports is remarkable, as shown by the figures in the following table:

Table 1: The Contribution of the Forest Sector to the GDP Growth and to that of Exports (expressed in percentage)

Share	1993	1994	1995	1996	1997	1998	1999	2000	2001
GDP of the forest sector									
*Total GDP	4.3	8.0	8.5	9.1	8.9	8.6	8.8	9.1	9.2
Forest exports									
*Total exports	12.4	14.3	10.6	10.3	11.4	13.1	30.3	18.9	16.0
*Exports without oil	23.4	24.7	16.2	15.3	18.8	15.3	47.4	40.5	37.2
Forest total revenue									
*GDP	0.0	0.3	0.5	0.5	0.5	0.6	0.5	0.4	0.3
*GDP of the forest sector	1.1	3.2	5.9	5.1	5.6	7.3	6.0	4.0	3.5
*Total revenue	0.4	2.5	3.9	3.2	3.3	3.9	3.4	2.0	1.5
Forest exports taxes									
*Forest exports	0.3	7.4	20.2	18.5	15.2	18.9	7.0	5.4	2.6

Source: The IMF and the Cameroonian authorities (1992, 2000, 2002).

From the above table, it is evident that the share of the forest sector GDP to the total GDP has almost doubled significantly between 1993 and 1996, increasing from 4.3% to 9.1%. It decreased between 1997 and 1998, and has increased once more between 1999 and 2001.

The contribution of the forest exports in the total exports has been important during the 1993-2001 period, but has been more important between 1998 and 1999, where it more than doubled within one year, increasing from 13% to more than 30%.

The contribution of forest revenues to the GDP has remained practically stable within the period, with a slight increase of 0.1% in 1998 and a drop of the same percentage between 1993 and 2001. When referring to the total revenue, the share of the forest sector revenues increased between 1993 and 1998, except in 1996 where there was a slight decrease of 0.7%.

Moreover, the increase of the production and exports in volume, as well as in value is remarkable enough as indicated in the table below:

**Table 2: Some Indicators of the Cameroon Forest Sector** 

Period	Produc	tion (1)	Exports			
	Block of wood	Lumbered wood	In value (2)	In volume (3)		
1993	1809	1247	54	593		
1994	2430	1004	89	617		
1995	2520	904	91	599		
1996	2803	1187	91	606		
1998	3406	1678	127	970		
1999	3500	2400	261	1422		
2000	2900	2700	231	1018		
2001	2250	-	217	745		

Source: By the authors from the IMF and Cameroonian authorities' statistics.

From the above table, we can see that there is a tendency of increment of the production of blocks of wood or billets between 1993 and 1999. This production has

<sup>(1)</sup> in thousands of cubic metres; (2) in billions of Cfa Francs; (3) in thousands of tons; (-) non available.

more than doubled in six years increasing from 1,809,000 m<sup>3</sup> in 1993 to 3,500,000 m<sup>3</sup> in 1999.

The exports in value have also increased significantly between 1993 and 1999, with a slight stability in 1995 and 1996, and then a drop in 2000 and 2001. In volume, the exports have evenly increased between 1993 and 1998, before increasing sharply from 970,000 tons to 1,422,000 tons.

As to lumbered wood, we rather observe a reduction between 1993 and 1995, due probably to the weak local processing level, then between 1996 and 2000, we observe a climb. The weakness of the local processing level remains perceptible with regard to the billets production. However, from the year 2000, we observe a certain convergence between the production of blocks of wood and that of lumbered wood. According to Assiga Ateba (2002), this should probably be a consequence of the arrangements made by Cameroon authorities to prohibit billets exports on the horizon 2000; but at the same time, he emphasizes the unrealistic character of such a measure. This measure is all the more unrealistic that the export of the blocks of wood is still occurring and will probably continue if the country does not succeed in solving its economic problems.

All in all, the contribution of the forest sector to the national economy is remarkable enough. The financial revenues derived from the lumbering are made up of the trading licence, of the annual forest tax based on the surface, of cutting down tax of the forest products (that is the value by specie), the volume, weight and length of the progressive surtax for the unconverted forest products, and of the contribution to the realisation of company benefit schemes. The exploitation-by-exploitation certificate and individual authorization of cutting allows for perception of sale prices of forest products. The exploitation of forest products of any stated-owned forest allows the state to perceive the corresponding charges.

This forest manna is shared between the state (50%), the commune (40%), and the resident communities (10%). It is, therefore, undeniable that forestry contributes very well in the satisfaction of the present generation and so ensures intra-generational equity even if the resident populations rightly consider that they are marginalized and do not gain – at least directly – from the forest manna.

The marginalization of the resident populations: The marginalisation of the local populations dates from the colonial period (1890-1960). It has continued, even after the independences in 1960, with the adoption of several texts which led to maintain the marginalization of the local populations from the forest management (Bingombe Logo & Nkoum–Me–Ntseny, 1998). Even the new forest law, which is considered by some people as a revolutionary law in the development of forests (Djeumo, 2001), probably because it takes into consideration the existence of community forests, does not seem to take into account the local populations interests in the forest management.

Some government representatives, using their influence, submit fake applications in order to get community forests without the agreement of the villagers who, however, have a legal right to these forests (Brunner & Ekoko, 2000; Oyono et al., 2005). These populations always complain of not benefiting from the outcome of lumbering and also affirm living in a situation of severe poverty in these rich forests (Peluso, 1992).

The villagers are often annoyed with the fact that the 10% of the forest dues, which are collected and meant to go to the resident populations, are used for personal purposes (Brunner & Ekolo, 2000; Kouna, 2001). A peasant of Koumandjap in the Central Province declares:

"I think that the law, which gives to the communes the dues, is a good thing. But the truth is that we are not informed when the money is available. Here, one is a mayor for his family and relatives and not for the village. When you arrived in villages, people lack drinking water, schools, health centres, but you learn that millions of Cfa Francs have been collected as forest dues. This is meant for what?"

The lumbering satisfies the needs of the present generations through its important contribution to the national economy even if the resident populations do not directly benefit from this manna. But at the rate of its exploitation, will the forest still permit the future generations to satisfy their needs?

Inter-generational equity and forest management: As we have shown it in the first part of this study, some arrangements of the new forest law of January 20, 1994 have in them the seeds of destruction of our forests. It is, in particular, a question of the duration of concessions and some illegal practices, such as the "farm rent", which consists for the national small farmers of selling or subletting their exploitation certificates to big foreign farmers. It is a very current practice in Cameroon (Brunner & Ekoko, 2000). Moreover, the forestry methods used in Cameroon do not favor the preservation of the forest heritage.

Legal exploitation of forests: Seven millions hectares of forest, out of the 22 millions that the country has, are legally exploited today. Though legal, forestry, as it is practised, does not ensure the preservation of resources. A study done by Fanny Pigeaud (<a href="www.tela-botanica.org">www.tela-botanica.org</a>) reveals that 42 forest development companies, out of a sample of 58, violated the forest law in 2002-2003. The Cameroonian company "SEFN" is top of the group. It has cut 3,573 trees instead of the 1,442 allowed. The company "Pallisco" has overstepped the planned volume by 40%. The company "Cambois" has overstepped the bounds by cutting 293 extra "Ayous" (the most precious wood of Cameroon).

Farmers generally use two methods of exploitation, which are selective exploitation (or skimming) and the non-selective exploitation (or "white cutting").

The selective exploitation: For any forest farmer, the selective exploitation consists of choosing trees of great values. Cameroon has about 600 woody species, among which 300 are tradable. Three species out of all these species represents 60% of wood exports. There are: "Ayous" (25%), "Sapelli" (25%), and "Azobé" (10%) (Gartlan, 1989). The overexploitation of these resources constitutes a serious threat for their survival and compromises the satisfaction of the needs of future generations.

The non-selective exploitation: In the non-selective exploitation, the forest farmer cuts all the trees of the concession (or plot), whatever their age. In this respect, the World Bank points out that an exploitation certificate in a secondary forest, giving right to the felling of 500 m³ of wood, often leads the forest farmers to cut a hundred times more than what was planned (Brunner & Ekoko, 2000). This anarchic exploitation of wood, which cannot ensure inter-generational equity, is explained by the liberalization of foreign trade, which is considered by the multilateral financial backers as a growth inductive factor (Assiga Ateba, 2002). As we have already mentioned above, it is equally explained by the economic crisis that Cameroon is facing (since 1987) the devaluation of the CFA Franc and the increase of external demand of wood, in particular, in the Asian countries.

The illegal exploitation: The illegal exploitation constitutes one of the causes of forest degradation (O'Halloran & Ferrer, 1997). It is difficult to calculate, however, according to Gartlan (1987), it would affect 360,000 hectares of forest in the Central, South-West, and Littoral provinces. The CAID estimated forest degradation at 650,000 m<sup>3</sup> of wood in 1995/1996. The illegal exploitation would represent a production reaching 50% of the official production, and is quickly developing with the advent of the cross-cut saw (also called chain saws). The population growth in towns goes along with an important trade of wood. The wood represents the main source of energy – 80 to 90% of energetic needs – and is the cheapest and most abundant energy source. The consumption

of wood energy is estimated at about 8 billions of m<sup>3</sup> per annum for a market price value of 35 to 40 billions of CFA Francs (Tamba & Monette, 1994).

According to Brunner and Ekoko (2000), the new forest law has two measures which increase the illegal exploitation of forests; high taxes for surface and the recognition of community forests. As regards the high taxes for surface, the forest farmers do not care anymore about the preservation of forest resources, since they pay a high price. As to community forests, Brunner and Ekoko mentioned that some government members, using their influence, submit fake applications to get community forests without the agreement of the villagers who have the legal right to them.

#### Conclusion

This study tried to show that if forestry enables the present generations to satisfy their needs, it will probably not enable the future generations to satisfy theirs. It, then, appears unsustainable. It is probably the reason why the World Bank has predicted, in 1989, the exhaustion of Cameroon forest resources in 20 or 30 years; and we can rightly observe the disappearance of a certain number of resources. The "pumus Africana", which has been recognized for therapeutic properties, is threatened of dying out (Nguiffo Tene, 1994). The gorilla, the elephant, the chimpanzee, and other mammals are endangered animals. We observe an inter-generational disequilibrium of access to forest resources: in the Akok area (South-West province), the previous generations have exploited 36% of the resources, the present generations 45%, and remains only 19% for the future generations (Oyono et al., 2005). In the Koli-Ngoumou areas (Central province), these percentages are 30%, 56%, and 14%, respectively. This disequilibrium is reinforced by the lack of a regeneration policy. Since the independence of Cameroon in 1960, we only observe some trials of forest regeneration. In turn, we have experienced the

Green Sahel Operation in the 70's, to the creation of a number of organizations, such as the Forest National Office of Regeneration (FNOR), the National Office of Forests Development (NOFD), and the Support National Agency for Forests Development (SNAFD), which were recently created with no convincing results.

The management policy of Cameroonian forests can only be sustainable if it goes along with a regeneration policy, consisting of replanting another tree once one is cut (Faucheux & Noël, 1995).

Our interest in this study has focused on the wood which constitutes, as we rightly mentioned above, the main resource of lumbering. But there are some other forest resources than the wood today which are more and more important. Some studies have shown that in some cases, the production value of non-woody products is greater than that of wood (Repetto, 1990). It is, then, important to speed up the process of recognition of these resources in order to start a global policy of sustainable management.

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