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Review

Sustainable development in Cameroon's forestry sector: Progress, challenges, and strategies for improvement

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This paper examines initiatives formulated by the government of Cameroon to promote sustainable development within its forestry sector, and proffers a series of policy recommendations for advancing sustainable forest management in Cameroon. Since the enactment of Cameroon's comprehensive forestry law (Law N0. 94/01 of 20th January 1994), which regulated the forestry sector in the country, the government, in particular, the Ministry of Forests and Fauna, has made a series of efforts with relevant ministries, as well as civil society to promote sustainable forest practices within its forestry sector. However, careful evaluation reveals that while these efforts have led to some progress, the sector is still plagued with a series of socio-economic and ecological challenges namely, poverty, corruption, inadequate capital and technical expertise for producing value-added wood products, illegal logging, insufficient university input, inter institutional conflicts, and inadequate monitoring. The paper concludes by advancing a series of recommendations that could be used to promote sustainable forest management in Cameroon.

Key words: Sustainable development, forestry sector, sustainable forest management, Cameroon.

INTRODUCTION

In Cameroon, forestry has contributed considerably to the country's socio-economic arena. Forestry operations in Cameroon employ between 45,000 and 70,000 people and account for more than 10% of the country's GDP (Ameriei, 2005; Alemagi and Kozak, 2010; Alemagi, 2010a). Estimated at 19,631,000 hectares (Mbile et al., 2008), Cameroon forests - which contain high value tropical tree species like *Baillonella toxisperma* and *Milicia excels* - is part of the dense tropical rainforest of the Congo Basin (Figure 1) in Central Africa and products emanating from these forests contributed to 19.8% of Cameroon's merchandised exports between 1990 and 2000 (Lebedys, 2004; Alemagi and Kozak, 2010; Alemagi, 2010a). That said, forestry operations in Cameroon are associated with a plethora of problems. For instance, unabated logging irrespective of ecological degradation of forested ecosystems is common practice in the country. Socio-economically, despite these rich forests that contribute 10% of the country's GDP, most forest communities of Cameroon are poor. The benefits of these rich forests and forestry are not accrued to the local people.

In 1994, the government of Cameroon enacted a major forestry law (Law N0. 94/01 of 20th January 1994), and in the following year, a fundamental decree (Decree N0.95-531-PM of 23rd August 1995) was formulated and passed to facilitate the implementation of this law (Oyono, 2004; Alemagi and Kozak, 2010). The 1994 forestry law has been cited as the first attempt to decentralize forest management practices and address issues of sustainability and inequity in the Congo Basin (Oyono, 2004, Alemagi and Kozak, 2010). In fact, since the enactment of this law, efforts have been made by the government and civil society to improve the socio-economic and ecological sustainability of the forestry industry. However, from a review of the relevant literature, I argue that the efficacy of these initiatives has not been adequately addressed. In other words, while many authors have broached the topic of sustainable forest management in Cameroon (for example, Kouna,

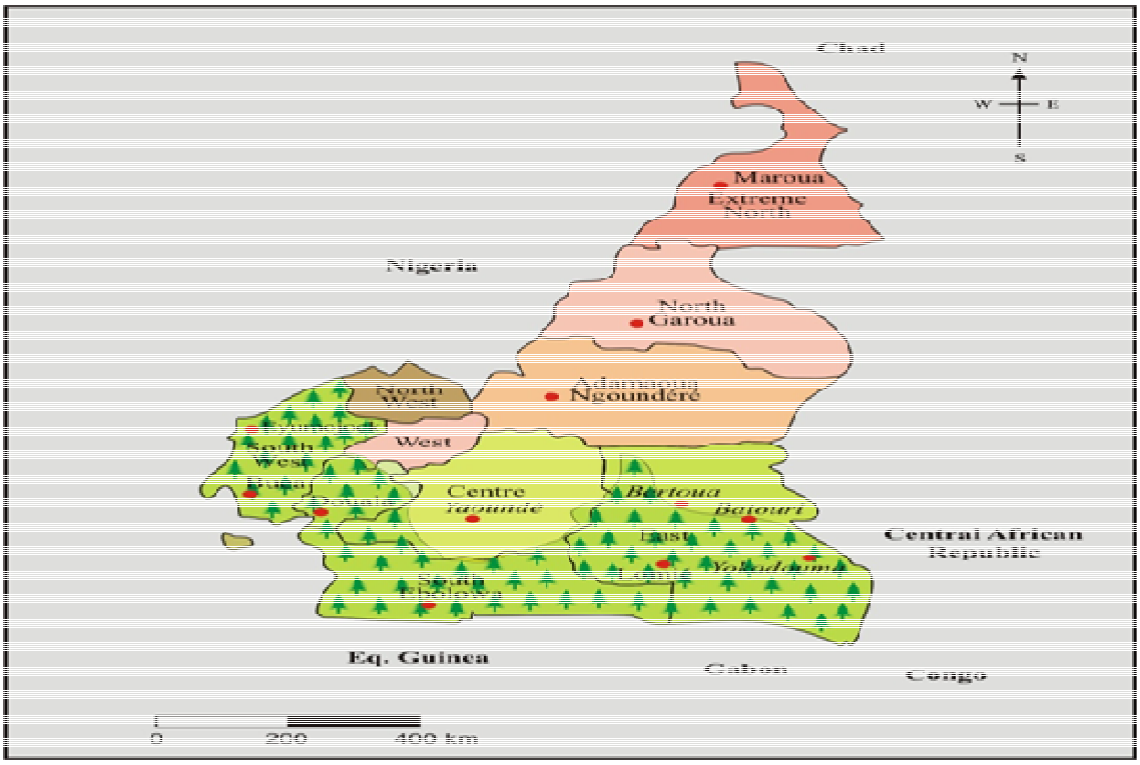

Figure 1. Map of Cameroon and its regions. Tree icons represent Cameroon's dense tropical rain forest of the Congo Basin. (*Source*: Adapted from Mertens et al., 2001).

2001; Efoua, 2001; Oyono, 2004; Oyono, 2005; Oyono et al., 2005; Cerutti et al., 2008; Clough et al., 2008; Cerutti et al., 2010), few have provided answers to the following fundamental questions:

(i) What are the impacts of initiatives formulated by the government of Cameroon to promote sustainable forest management, and are there any stakeholders that have been neglected in terms of assistance?
(ii) Is there any accountability and transparency in the management of forest resources?
(iii) Are there any conflicts between the relevant regulatory institutions?

Answers to these questions are central to advancing sustainable forest management in Cameroon.

The purpose of this paper, therefore, is to examine in detail the initiatives that have been formulated by the government of Cameroon to promote sustainable development in the forestry sector and to suggest a series of recommendations for advancing sustainable forest management. The study is based on a combination of exploratory interviews with forestry stakeholders, as well as a comprehensive literature review of relevant documentation. The paper provides an overview of the concept of sustainable development within the context of forestry in Cameroon and outlines some of the fundamental steps taken by the government and civil society to facilitate improved socio-economic and environmental management in the forestry sector. The discussion highlights some of the major hurdles to sustainable forest management in Cameroon. The paper concludes by prescribing recommendations that could be used to advance sustainable practices within Cameroon's forestry sector.

Profiling sustainable development in the context of forestry

The Brundtland report emphasises the need for industries to be responsible for their negative environmental impacts and offers a vision for sustainable development which is defined as a development that meets the needs of the present without jeopardizing the requirements of the future generation (WCED, 1987). In order to fully adhere to this definition, forests exploitation must not exceed production so that the forests continue to grow to have enough forest resources for future generations.

As quoted in Karsenty et al. (2008), the United Nations Forum for Forests defines sustainable forest management as the "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at

Table 1. Allocation of forested Lands in 2007 (Reproduced from Mbile et al., 2008).

Forested land use regime	Area (ha)	Percentage of total
Community forests	380764.5	1.9
Communal forests	413622.3	2.1
Forest licenses	6063457	30.9
Forest reserves	1541111	7.9
Forest management units	7066647	36.0
Sales by standing volume	379745.2	1.9
Protected areas	3785653	19.3
Total estimated forested land use regime	19631000	100

local, national, and global levels and that does not cause damage to other ecosystems". Thus, since sustainable development involves improvements in the socio-economic and ecological arena, there is a salient need for stakeholders (forest companies, government, and civil society) to be actively engaged in improving the living standards of the communities, as well as promoting the ecological integrity of the forests in which these communities are situated. As it is explained subsequently in this paper, since the enactment of the main legislative framework (Law N0. 94/01 of 20th January 1994) governing Cameroon's forestry sector, the sector has received increased oversight from the government, as well as national and international donor agencies.

Advancing socio-economic sustainability in Cameroon's forestry sector

Before proceeding with initiatives undertaken to advance socio-economic sustainability within the forestry sector in Cameroon, it is important to briefly discuss forest tenures and governance in Cameroon. The majority of Cameroon's forests occur on publicly held lands. Specifically, apart from community and communal forest, all forests in the country is owned and administered by the government (Table 1).

The Ministry of Forests and Fauna (MINFOF) is the governing body responsible for administering the sale of standing timber – up to a maximum area of 2,500 hectares over a three-year lease – to logging companies owned and operated by Cameroonian nationals (MINEF, 1996; Karsenty, 2007; Alemagi and Kozak, 2010; Alemagi, 2010a). In addition, it also oversees the granting of long-term tenures of fifteen years to large-scale logging companies, up to a maximum area of 200,000 ha (MINEF, 1996; Alemagi and Kozak, 2010; Alemagi, 2010a).

The responsibility for granting community forest licenses - which confer to local communities, the right to operate a maximum forest area of 5,000 ha with tenure durations of at least 25 years – is also vested in the hands of MINFOF (MINFOF, 2009). "As of 2008, there were 135 fully operational community forest licenses in Cameroon covering about 2% (621,245.4 ha) of the country's forest" (Mbile et al., 2008; Alemagi and Kozak, 2010; Alemagi, 2010a).

By legalizing forestry operations, the government of Cameroon has taken a fundamental step toward improving the socio-economic and ecological sustainability of its forestry sector. As Kishor and Rosenbaum (2003) pointed out, legalization is vital in mitigating unacceptable forest management practices. Indeed, effective and efficient implementation of forestry legislation is essential in eliminating operational hurdles that affect sound management and productivity.

Any person or party that is interested in forest exploitation (especially timber exploitation) in Cameroon must apply for a license. According to MINEF (1996), Alemagi and Kozak (2010), and Alemagi (2010a), for concession-based forestry, the process of acquiring a license starts with the prospective concessionaire (logging company) submitting a file containing ten copies of an administrative and technical bid, as well as a financial bid to the relevant authority in MINFOF, following a call for public tender by the government. The duration of this advertisement is forty-five days. A forest concession is awarded to the highest bidder by MINFOF after approval is granted by an Inter-Ministerial Committee. After the successful applicant has paid a caution fee into the state treasury within 45 days, an official order is issued that assigns the forest concession to the concessionaire. Apart from a few forest enterprises that are owned and operated by Cameroonian nationals, a majority of concessions in Cameroon belong to Asian and European companies from France, Italy, the Netherlands, Belgium, Malaysia, China, Hong-Kong, and Lebanon (Karsenty, 2007; Alemagi and Kozak, 2010; Alemagi, 2010a).

Concession-based forestry remains the dominant business model in Cameroon's forestry sector (Alemagi and Kozak, 2010). In order to further promote the socio-economic sustainability of this model, the provision of social services (like schools, hospitals, good roads, and electricity) to the communities in which their logging concessions are located is part of a contract that is negotiated by concessionaires and communities after the logging contract is awarded to a concessionaire by the

Table 2. Forest taxes since the creation of the forest revenues enhancement program (Reproduced from Tieguhong and Betti, 2008).

Year/Period	Amount of revenue (in billions of FCFA)	% increase over 1999 Figure
1999	11	-
2000-2001	27	145
2001-2002	38	245
2002-2003	39	255

state (Karsenty, 2007; Karsenty et al., 2008). In addition, as a means of providing local employment, concessionaires are also obliged to set up timber processing units within each forest concession (Siebock, 2002).

Law N0. 94/01 of 20th January 1994 ordains that a proportion of royalties collected from logging companies are to be set aside for community development. Allocation of these royalties is done in the following manner (Oyono, 2005; Alemagi and Kozak, 2010; Alemagi, 2010a): 50% to the state; 40% to the rural council within which the concession is located; and 10% to the neighbouring village communities that accommodates the logging company. Furthermore, forest companies are also obliged to pay an "ecotax" of US$1.5 per cubic meter of timber to forest communities in which their concession is situated (Milol and Pierre, 2001; Oyono, 2005). Some concessionaires have gone a step further by paying neighbouring communities a voluntary contribution of US$ 1.20–1.60 per cubic-meter of wood that is harvested and sold (Massoukou, 2007; Karsenty et al. 2008).

A fundamental obligation of order No. 00122/MINEFI/MINAT of 29th April 1998 is the establishment of a management committee responsible for managing forest royalties in all sub-divisions and villages where forest concessions are situated (Alemagi and Kozak, 2010). A management committee at the subdivision level is supervised by two administrative authorities (the "sous-prefet" and mayor), while at the level of villages, the committee is headed by a chairman and four to five local residents (Oyono et al., 2005; Alemagi and Kozak, 2010).

As a means of combating corruption, generating higher revenue, obtaining greater efficiency, and promoting competition among logging companies, Tieguhong and Betti, (2008) report that logging concessions are allocated through a competitive bidding process. They assert that in a bid to increase the contribution of forest revenue to the country's national budget, the government created the Forest Revenue Enhancement Program in 1999. As a result of implementing this program, there was a significant increase in the amount of forest revenues (Table 2) from 11 billion FCA in 1999 to 39 billion FCFA in the 2002-2003 fiscal year (Tieguhong and Betti, 2008).

With respect to community forestry, the licensing procedure for establishing a community forest in Cameroon is as follows: MINFOF (2009) states that any prospective applicant must submit an application file to the Divisional delegate responsible for forestry in the area concerned.

The file must contain a stamped application that is endorsed by the relevant authority and should layout the objectives ascribed to the proposed forest. In addition, the file must also include a plan revealing the location of the forest, the name of the community forest, a description of previous activities undertaken in the forest, a probationary management agreement form for the forest, a certificate detailing the surface area of the forest and the minutes from public consultation meetings. Should this plan be endorsed, a probationary license is issued which permit the applicant to manage the forest for a three year period. After this period, the applicant must submit a simple management plan for review and approval before a permanent license is issued. This license is valid for at least 25 years.

Section 37 (3) of Law N0. 94/01 of 20th January 1994 stipulates that, in a community forest, timber, non timber forest products, wildlife and fishery resources (except those forbidden by law) belong to the communities (MINFOF 2009). Thus, communities have the right to exploit these resources and use the proceeds for community development. Besides, all activities in a community forest must comply with the provisions of a simple management plan. The plan among other things documents the resources available in the forest, the activities that are envisaged in the forest and the contribution of the forest to socio-economic development within the community in which the forest is located (MINFOF, 2009).

Mbile et al. (2008) report that international funding agencies like the British Department of International Development (DFID), the Netherlands Development Agency (SNV), and other locally-based Non Governmental Organizations (NGOs) have developed capacity building projects to facilitate the effective implementation of community forest projects in Cameroon.

They note that the efforts of these international donor agencies have been impressive, particularly in Lomié (Southeast Cameroon), where there is a strong network of local NGOs (like CAFT – Trinational Agroforestry Cooperative) that are guiding and training villagers in community forest management.

Advancing ecological sustainability in Cameroon's forestry sector

With assistance and administrative leadership from organizations like Global Witness, MINFOF has established an Urgent Action Program (UAP) and the National Brigade for the Control of Forests and Wildlife which is responsible for monitoring and regulating illegal logging in forest concessions (Tieguhong and Betti, 2008; Alemagi and Kozak, 2010). On May 6 2010, the government of Cameroon also signed a voluntary partnership agreement with the European Union (EU) that aims to ensure that legal harvested timber is sold in Cameroonian markets, as well as other EU countries when it is exported (FERN, 2010). More to the point, there are other legal instruments designed by international bodies to fight illegal logging in Cameroon like the Forest Law Enforcement Governance and Trade (FLEGT) action plan of the EU.

Efforts have also been made by civil society nationwide to reduce the problem of illegal logging in Cameroon. A classical example is the application of satellite imageries and the geographic information system (GIS) to identify illicit operations within forest concessions in the Southeast Region of Cameroon by the German agency for technical cooperation (GTZ) (Pandya, 2002, Alemagi and Kozak, 2010). Additionally, the government has instituted an assortment of supporting and monitoring services like verification points on roads and regular auditing and monitoring at sawmills to tract down illegal logging operations (Pandya, 2002).

After a forest concession is allocated to the highest bidding company, the company is given three years to prepare a forest management plan (FMP), and once approved, the plan must be revised after every five years (MINEF, 1996; Cerutti et al., 2008; Alemagi, 2010a). As Cerutti et al. (2008) explains, a FMP is a comprehensive document in which the potentials of forest resources are assessed, trade-offs among the ecological and socio-economic aspects of forest management are evaluated, and equitable solutions are proferred. As of 2007, about 3.5 million hectares of forests in Cameroon were managed using approved FMP (MINFOF, 2007; Cerutti et al., 2008; Alemagi, 2010a). It is also important to note that procedures for preparing a FMP are prescribed in Order N^0 0222/A/MINEF of 25th May 2001(Alemagi, 2010a). More importantly, article 33 of this law stipulates that the commission that is responsible for assessing FMP must confirm and validate a logging company's choice regarding (i) tree species identified for management (ii) the logging cycle, and (iii) calculations used to determine the annual allowable cut (MINEF, 2001).

The use of a simple management plan to promote replanting of havested tree species within community forests is recommended in the manual of the procedures for the attribution, and norms for the management of community forests in Cameroon. Specifically, section 7.9 of the manual reads:

"While implementing a simple management plan, the community must undertake operations aiming at ensuring the maintenance of the ecological potential of their forest. Such actions, namely conservation and regeneration activities, must be in line with a simple management plan" (MINFOF, 2009)."

Monitoring is also necessary to ensure legal compliance. In Cameroon, local communities and MINFOF share the responsibility for monitoring illicit activities within community forests (Alemagi, 2010b). Finally, other important efforts that have been made by the government to promote biodiversity conservation within the forestry sector include the creation of nature reserves, national parks, and zoological gardens. By 2008, the government had created 14 national parks, 7 wildlife reserves, 3 zoological gardens, and 1 gorilla sanctuary (Tieguhong and Betti, 2008).

DISCUSSION

Given all the initiatives undertaken by the government to advance socio-economic and ecological sustainability in the forestry sector, it might be tempting to conclude that these actions have been successful in achieving significant socio-economic and ecological outcomes in the forestry sector. In fact, such a conclusion would be fundamentally flawed. As detailed in this sector of the paper, a considerable number of challenges to sustainable forest management still prevail within Cameroon's forestry sector.

Most concessionaires in Cameroon are foreign-owned (Karsenty, 2007; Alemagi, 2010a; Alemagi and Kozak, 2010). To this end, very little of the enormous wealth that they do generate is used in the establishment of social services in the communities in which they are operating (The rainforests foundation and forests monitor, 2007; Alemagi, 2010a). Many have noted that the two main beneficiaries of these revenues are the government and the forest products firms (Oyono, 2005; Njoh, 2007; Alemagi, 2010a). As a result, poverty remains endemic in most forest communities that accommodate logging concessions belonging to these firms. "During field visits to some of these communities in the Southwest and East Region of the country in March 2009, it was noticed that basic social amenities like schools, hospitals, electricity and good roads are fundamentally lacking" (Alemagi, 2010a). In addition, during field visits to the Southwest Region of Cameroon in March 2009, it was also witnessed that although two large-scale forest products companies controlled logging concessions in the communities of Kembong, Ewelle I and II, Ajayukndip, Ossing, Talangaye, Okoroba, Mbinda, and Bakogo neither actually operated sawmills in the communities implying that they provided little in the way of local

employment,

Two principal reasons underpin the forest-poverty trap in Cameroon. First, many concessionaires may not be meeting their obligations with respect to corporate social responsibility (Alemagi, 2010a). For example, Mindourou – a town in the East Region of the country- lacks electricity, while nearby concessionaires have access to private electricity (Alemagi, 2010a; Alemagi and Kozak, 2010). Second, even though the prevailing legal disposition mandates that 10% of forest royalties be apportioned to forest communities within which forest concessions are situated (Oyono, 2005; Alemagi, 2010a; Alemagi and Kozak, 2010), the communities contend that this proportion is inadequate (Oyono et al. 2005; Alemagi, 2010a; Alemagi and Kozak, 2010) and cannot provide the infrastructure required for sustainable societal development. A head of civil society in an Aboriginal community in the East Region of the country provided a more accurate account of this problem during a personal discussion: "After all these tours you can see for yourself that these forest-dependent communities are poor. Look at the type of houses where people are living in.... these are rather huts and not houses... in all the communities that we have visted there is no electricity as you have seen, look at how bad the roads are.. in the raining season it is horrible ... it is true that the council has used some of the money from the government to build schools in some of these villages but this money is surely not enough and not well spend ..... otherwise there will be signs of development in these communities...." Furthermore, it is reported that corruption and embezzlement of forest royalties by members of the sub-division and village management committees situated in the East Region of Cameroon are common (Assembe, 2001; Efoua, 2001; Kouna, 2001; Oyono, 2001; Oyono et al., 2005; Alemagi, 2010a; Alemagi and Kozak, 2010).

In a report entitled "A forest policy context and case study analysis to support alternative tenure and enterprise options for trees and forest resources management in Cameroon" written by Mbile et al. (2008) for Rights and Resources Initiative, it is reported that the major problems faced by community forest operations (CFOs) in Cameroon include, *inter alia*, limited size for community forests, inefficient equipment and machinery, insufficient working capital, insecurity in prices of forest products, and inadequate technical expertise. However, inadequate working capital and technical expertise for producing value-added wood products is the main concern. During personal discussions with heads of civil society in the East, Southwest, and Littoral regions of the country, it was revealed that because of inadequate expertise and financial resources, most CFOs are unable to add value to timber and non-timber forest products. The importance of valued-added wood products as a means of achieving socio-economic and ecological sustainability cannot be over emphasized. As Kozak (2007) explains, by producing value-added wood products, more jobs are created per unit of wood harvested and this constitutes a robust strategy for striking a fair balance between socio-economic well-being and ecological sustainability.

It was also interesting to note that the University of Dschang- the only University in Cameroon that offers forestry- has minimal involvement in research in the forestry sector. During personal communications with personnel at this university in March 2009, it was reported that most of the few research projects in the university are crafted and masterminded by faculty and students with minimal assistance from the government and the forest products companies. In reality, the University of Dschang like any other local university in the country competes with industries and civil society for limited funds from the government. As a result, this institution is underfunded and lacks the state-of-the-art facilities for undertaking forestry research.

Conflicts are prevalent in Cameroon and have eventually led to unsustainable forest management. To say the least, conflicts do not help in promoting sustainable forest practices. In Cameroon, "the Ministry of Environment and Nature Protection (MINEP) has the mandate to articulate, execute, and assess the government's policy in relation to the environment" (Republic of Cameroon, 2005; Alemagi and Kozak, 2010). However, as Alemagi and Kozak (2010) explain, the forestry sector and its policy is enacted, assessed, and implemented by a different ministry, MINFOF. Clearly, there is an overlap in the functions of these ministries as both compete to implement Cameroon's environmental policies. This has resulted in inter-ministerial conflicts between these two ministries. As quoted in Alemagi and Kozak (2010), one government official in MINFOF explained that: "We are trying to stop this illegal logging, but still, we have conflicts at times with another ministry like MINEP, especially when you look at the problem of environmental impact assessment (EIA) in the forestry area that is validated by MINEP and not us. This is a problem."

Nguemdjom (2006) notes that timber extraction from most forest concessions in Cameroon is unsustainable from an ecological point of view, with estimates of the annual forest loss of Cameroon forests being 1%. Additionally, it is reported that illegal logging is common within most concessions belonging to large-scale logging companies in Cameroon (Amariei, 2005; Clough et al., 2008; Alemagi and Kozak, 2010). The fundamental rationale behind this ecological issue is that the MINFOF which is responsible for monitoring illegal operations within Cameroon's forests is faced with logistical issues. Specifically, during field visits to Eyumojock subdivision in the Southwest region of the country in March 2009, it was noted during a personal conversation with the traditional head of a village community that the whole of this subdivision was staffed with only one permanent forestry personnel. Additionally, in another personal discussion

with an authority at the Regional Delegation of Forests and Fauna in Buea - capital of the Southwest region- it was understood that the divisional delegate of forests and Fauna for Fako division did not have a service car.

RECOMMENDATIONS AND CONCLUSIONS

The foregoing section has identified and discussed the major challenges to sustainable forest management in Cameroon. Recognizing these dilemmas, this section of the paper proffers some important recommendations for policy makers to consider as they attempt to advance sustainable forest management in the country.

1) To tackle corrupt practices in the forestry sector, accountability, transparency, and democracy must be promoted and employed in managing forest resources and the royalties obtained from them (Alemagi, 2010; Alemagi and Kozak, 2010).

2) Results of this study also point to a pressing need for the government to be more proactive in making sure that the social and environmental obligations of forestry companies are fulfilled for the benefit of the communities in which they are located. As Alemagi (2010a) opine, this could be achieved by promoting the importance of checks and balances in the enforcement of responsible corporate practices**.**

3) The government and civil society should provide support to business operations that are engaged in the production of value-added wood products. Indeed, support could be in the form of financial incentives, training and education with regards to the sustainability of value-added wood products.

4) This paper also presses the need for the government to promote fundamental and strategic research in local universities, especially research geared towards developing improved socio-economic and environmental management practices within the forestry sector. More specifically, relevant ministries like MINFOF and MINEP should form forestry research partnerships with the University of Dschang.

5) Adequate monitoring is highly recommended if sustainable forest management is to be achieved in Cameroon. Indeed, in the absence of sufficient monitoring, enforcement of laws geared at promoting sustainable forest management is difficult.

6) It is time to re-examine the responsibilities of the relevant ministries that are responsible for forest management in Cameroon to ensure that conflicting responsibilities are streamlined in order to eradicate the current overlaps.

7) Immediately suspend or revoke forestry licenses given to forest product firms that violate forestry regulations. This will serve as a deterrent to defaulters and will help to ensure that communities obtain a fair share of proceeds emanating from forestry operations.

In summary, the promotion of transparency and local democracy in the management of forests resources, support for value-added wood manufacturing, research contribution from local universities, adequate monitoring, a redress of conflicting institutional responsibilities, and a suspension or revocation of licenses belonging to defaulting forestry companies are keys to advancing sustainable development in Cameroon's forestry sector. A series of fundamental initiatives have already been undertaken by the government to advance socio-economic and ecological sustainability in the forestry sector. However, implementation of the aforementioned recommendations by all the relevant stakeholders will certainly go a long way to promote sustainable forest management in Cameroon.

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