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COMMUNITY BASED FOREST MANAGEMENT AS A TOOL FOR SUSTAINABLE FOREST MANAGEMENT IN CROSS RIVER STATE, NIGERIA

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ABSTRACT

Community-Based Forest Management (CBFM) in Cross River State (CRS) was investigated with a view to understanding its efficiency and effectiveness as a tool for sustainable forest management in the State. Four sets of questionnaire were administered to forestry officials; forest edge communities; timber dealers/sawmillers; and relevant Non-Governmental Organizations (NGOs).Three-stage sampling technique was adopted to sample six communities. The stages of sampling included: senatorial districts, Local Government Areas and communities. Data collected were analysed using descriptive statistics. The performance of CBFM was assessed against the ATO/ITTO's Criteria and Indicators for the Sustainable Management of African Natural Tropical Forests. Results show that the average size of community forests was between 101 and over 1000 ha per community. The level of awareness about community forest management was about 96% while 86% of the respondents participated in CBFM activities. The most significant gain of CBFM has been the meaningful partnership between the Cross River State Forestry Commission (CRSFC) and the forest edge communities in protecting and managing the forest resources. The existing benefit- sharing formula of CBFM proceeds is 1:4 in favour of government for government-established plantations, while communities have 7:3 of proceeds derived from community forests. The current sharing formula for the products obtained from reserved natural forests is 1:1. We suggest that a mutually acceptable formula should be worked out among the stakeholders. Some of the problems and challenges confronting the implementation of CBFM in the state include: inadequate encouragement and cooperation among some members of the communities; inadequate incentives (seedlings, etc) and equipment (farm tools, etc); and capacity building; insufficient monitoring and evaluation by the relevant staff of the Forestry Commission. CBFM has done fairly well in certain aspects of sustainable forest management. However, aspects of maintenance of multiple functions of forests; creation of enabling environment; state economic and fiscal policies, policy to encourage forestry enterprises; effective monitoring and evaluation of forest management policy and adequate mechanisms for law enforcement have to be taken more seriously if CBFM would serve as a veritable tool for sustainable forest management in Cross river State, Nigeria

Key words: Stakeholders' participation, benefit sharing, forest resources, sustainability

INTRODUCTION

There is a universal concern about the global ecosystem in relation to deforestation, desertification, all forms of pollution, global warming and the general unsustainable management of natural resources particularly, the tropical high forest (THF) (Amika, 1994).

Between 1972 and 1991, the THF cover of Cross River State, Nigeria experienced significant losses. The reality is that the state-owned forest reserves have been treated primarily as a source of revenue and sometimes as a source of private profit rather than a valuable resource to be managed sustainably. Kio *et al.* (1993) drew attention to the need to safeguard the future of the forest reserves (FRs), and to ensure that they are managed on a sustainable basis.

The idea that community participation is central to effective natural resources management has been recognized in a number of international environmental conventions. It was given a prominent place in the 1992 Rio Earth Summit and the 1994 UN Convention to Combat Desertification. It was embraced in 1997 by the United Nations Intergovernmental Panel on Forests Proposals for Action, which called for the establishment of participatory mechanisms to involve all interested parties, including local communities and indigenous people, in policy development and implementation (Amanor, 2003).

Most West African States have initiated decentralization programs, with devolution of natural resources management as an important component. Most national forestry services in the region now recognize the importance of community forestry, collaborative forestry, or joint forest management (Vabi *et al.*, 2000; Amanor, 2003); as a tool for sustainable forest management.

Following the designation by the Federal Government of Nigeria of about two thirds of the reserved high forest areas in Cross River State as the Cross River National Park (CRNP), it became obvious that sustainable management of the remaining one third was crucial. Thus in partnership with the United Kingdom (UK) Department for International Development (DFID), a robust Community- based forest management programme was put in place for the sustainable management of the remaining parts of the tropical high forest of the state. In 1999, DFID began a 3 – year funding for Cross River State Community Forestry Project (CRSCFP) following the final reports of the EU/ODA/NCF/WWF-UK Cross River National Park projects. The major objectives of the project were: to build the capacity of communities to manage their forests and derive livelihood benefits; and to build the capacity of the Cross River State Forestry Department to support the communities. The Cross River State Forestry Commission (CRSFC) under the Ministry of Agriculture and Natural Resources has the mandate to conserve, develop, and manage the states' forest resources (CRSFC Annual Report, 2006). Although the project has been discontinued following the disengagement of DFID in 2001, CBFM is still the main approach being used for forest management in Cross River State. There is a dearth of information on how well the project has met its set objectives. Such information would serve as a veritable guide for

future forestry development programmes in the State and elsewhere in the country. This study was therefore carried out to evaluate the contributions of CBFM to sustainable management of the State's forests as well as forest communities' livelihoods

MATERIALS AND METHODS

Study Area

Cross River State is one of the 36 states of the Federal Republic of Nigeria. It is located within the tropical rain forest zone, lying between latitudes 4^0 28' and $6^0$50'North and; longitudes 7^0 48' and 9^0 28' East. It shares common boundaries with the Republic of Cameroon in the East, Benue State in the North, Ebonyi and Abia States in the West, Akwa Ibom State in the South West and the Atlantic Ocean in the South, with a total land mass of about 9800 km^2. The state is composed of three senatorial districts, the Northern, Central and Southern senatorial districts. There are eighteen Local Government Areas in the State The vegetation of the state ranges from the mangrove and swamp forests in the coastal south to tropical rain forests in land and the savanna woodland in the Northern part of the state. The state has 15 forest reserves with a total area of about 2,974km.

Data Collection

Data were collected from primary and secondary sources. The primary data were collected through the use of questionnaires administered to: community/rural dwellers, timber dealers/saw millers, Non-Governmental organizations (NGOS), and Forestry Officials. Three-stage sampling technique was employed for the study. Thus for each of the three senatorial districts in the state, two Local Government Areas (LGAs) were sampled. Six communities were sampled from each LGA and twenty five questionnaires were administered in each of the six communities making a total of 150 but only 111 were retrieved. The questionnaires were administered on 11 forestry officials (50% of staff strength) including directors and forest officers of the Forestry Commission; and thirty to timber-dealers/saw millers from the three senatorial districts. Oral interview was also used to supplement the information collected through the above method. The secondary data were collected from diverse documents such as: technical and occasional papers, government publications, annual reports and feasibility studies' reports. Information was obtained from the eight NGOs working in partnership with the Cross River State Forestry Commission. The data collected were analysed using a combination of simple percentages, frequencies, and charts. Selected indicators of sustainability were assessed against the provisions of the "ATO/ITTO Criteria and Indicators" for the Sustainable Management of African Natural Tropical Forests.

RESULTS AND DISCUSSIONS

Demographic and Socio -Economic Characteristics of Community/Rural Dwellers

About eighty three percent (82.9%) of the respondents were males while only 17.1% were females. Household size ranged between 1 and 10 for about 78% of the respondents. This is quite large and may portray high use pressure on the forest; though it also indicates ready availability of forest labour. The average annual income per household from the forest for about half of the community ranged from N101, 000 - ₦500, 000. This is also high and may indicate the profitability but not sustainability of community benefits from the forest.

Status of the Forest Estates around the CBFM Communities

About 96.4% of the respondents submitted that most of the communities they know in the State still have reasonable expanse of forestland, averaging between 101 and over 1000 hectares for each community (Table1). Aggregating the various community forests in the state together, the forest area coverage is large and contributes to the sustainability of forest management both at the state and forest management unit levels. This is in tandem with indicator 1.1.5 of Principle 1 of the African Timber Organization/ International Timber Organization National Level Principles, Criteria and Indicators for the Sustainable Management of African Natural Forest which states that "permanent forest estate must exist as a result of negotiation between different stakeholders within the framework of a procedure of coordinated planning for land-use allocation which must be consistent with the objectives of the forest laws". In this case of Cross River State, a permanent forest estate exists, a larger chunk of which arose from stakeholders' consultations. Though this is a very negligible component of the many indicators of sustainable forest management, we may safely say that there is hope for sustainable forest management based on this indicator.

Membership of social groups/associations in CBFM communities

About 78% of the communities surveyed have social groups (Table 2). Among the Associations which constitute CBFM, Ekuri Initiative and FMCs ranked highest with 67.6%, followed by Abu-Emeh Youth Association with 18.9%, while timber dealers/saw millers had 5.4%. These groups/Associations play vital roles in forest protection and conservation (45.0%), revenue generation (26.1%), patrol duties/protection (19.8%), awareness campaign and community mobilization (9.0%).

Table 1: Status of Community Forest Estates in Cross River State

S/N	Variables	Frequency	Percentage
1	**Does your community still have a forest?**		
	- Yes	107	96.4
	- No	4	3.6
	Total	**111**	**100**
2	**How large is your community forest?**		
	- ≤ 100 (ha)	36	32.4
	- 101 – 1,000 (ha)	27	24.3
	- 1000+ (ha)	48	43.2
	Total	**111**	**100**

The existence of social groups could be a positive contribution to sustainable forest management as it makes dissemination of information and community mobilization for forest management activities a lot easier. This relates to indicator 1.2.4 of the ATO/ITTO Criteria and Indicators for the Sustainable Management of African Natural Tropical Forests which, states that "Mechanisms must exist to promote the participation of different stakeholders, particularly the communities, in the management of forests".

Awareness and Level of Participation of the Respondents in CBFM

Table 3 shows that 96% of respondents were aware of and had heard about CBFM while 86% participated in CBFM activities. The respondents were involved in forest protection, plantation establishment and decision- making. The respondents' reasons for getting involved in CBFM practices included benefit sharing, community development and forest conservation (27%); Awareness on the need for sustainable forest management (18%); Economic empowerment (18%) and knowledge on how to protect the ecosystem and bring the people close to the forest (20.7%). There are indications that the people of Cross River State are reasonably informed about community –based forest management as indicated in our results above. As a matter of fact, Cross River State is currently in the vanguard of participatory forest management in Nigeria. This may be as a result of the various interventions by international Donor agencies in forest resources conservation and management in the state. Some of these include: the Ekuri initiative, the NCF-WWF initiative of 1990- 2000; the ODA/DFID initiative of 1999-2001; the Living Earth Nigeria Foundation Initiative which commenced in 1998 among several others (Morakinyo, 1994;

Anukwa, 2007). This is also a good platform upon which sustainable forest management could be built provided other factors are also taken seriously.

Table 2: Membership of Social Groups/Associations in CBFM Communities

S/N	Variables	Frequency	Percent
1	**Membership of social group or Association**		
	- Yes	87	78.4
	- No	24	21.6
	Sub-total	**111**	**100**
2	**Involvement of Association in CBFM activities**		
	- Ekuri initiative and Forest Management Committees (FMCs)	75	67.6
	- Abo-Emeh Youth Association	21	18.9
	- Abo-Emeh Timber Dealers Association	6	5.4
	- Age-grade	9	8.1
	Sub-total	**111**	**100**
3	**Roles played by the Associations in Forest Management**		
	- Forest protection and conservation	50	45.0
	- Awareness campaign	10	9.0
	- Patrol to check exploitation	22	19.8
	- Revenue generation for royalty	29	26.1
	Sub-total	**111**	**100**

The awareness generated by the various past projects no doubt has helped in forest conservation in the state. The various communities had regenerated 5 to 250 ha or more of forest. This is in agreement with CRSFC (2001) that the area of community forests in the state was about 1632.75km^2 constituting about 22% of total high forest area of the State. The situation though not perfect is far better than those of many other states in Nigeria especially as it has been reported that the state contains the largest contiguous and well preserved stands of original forest in Nigeria (Beak-FRS, 1999; CRSFC, 2006).

The results also show that members of the communities were involved in forest management decision-making (Table 3) through their Community Forest Management Committees. This again is an element of sustainable forest management

Table 3: Awareness and Level of Participation of the Respondents in CBFM in Cross River State

S/N	Variables	Frequency	Percent
1	**Awareness of CBFM by respondents**		
	- Yes	107	96.4
	- No	4	3.6
	Sub-total	**111**	**100**
2	**Participation in CBFM**		
	- Yes	95	85.6
	- No	16	14.4
	Sub-total	**111**	**100**
3	**Forms of community participation in CBFM**		
	- No response		
	- Forest protection	1	0. 9
	- Establishment of plantation	9	8.1
	- Decision making	1	0.9
	- Forest protection & plantation establish	39	35.1
	- Forest protection & decision making	2	1.8
	- Forest protection, Plantation Establishment and Decision- making	43 16	38.7 14.4
	Sub-total	**111**	**100**
4	**Factors motivating community involvement in CBFM**		
	- No response	1	0.9
	- Forest protection, benefit- sharing and development of community	30	27.0
	- Awareness of the need for sustainable forest management.	18	16.2
	- Conservation and sustainability	20	18.0
	- Economic Empowerment	1	0.9
	- Knowledge on how to save the ecosystem and to bring the people closer to the forest		
	Sub-total	23	20.7
		111	**100**
5	**Areas of land regenerated in communities through CBFM**		
	- No response	43	38.7
	- 1-50 ha	23	20.7
	- 51-100 ha	12	10.8
	- 101-200 ha	29	26.1
	- ≥250 ha	4	3.6
	Sub-total	**111**	**100**

Community Development Projects carried out with Proceeds of CBFM

In addition to the crucial issue of sustainable management of the state's forests, findings also indicate that the participating communities have benefitted immensely in terms of funding of community development projects which in some cases were as high as 100% of the total project costs (Table 4). Some of the projects funded in the various communities from the proceeds of Community Forest Management included: health centres, schools, town hall, bridge/culvert, boreholes, skill-acquisition centres and award of scholarship to indigenes. About 45% of the respondents executed health centres and school projects, while only 4.5% set up skill acquisition development centres.

In Ekuri, a sum of ₦630,000 accruing from CBFM proceeds was spent on the construction of school buildings covering the total cost of the school project. The total costs (100%) for projects such as skills-acquisition center, gender promotion programme, and scholarship awards were also met from proceeds of CBFM. In Abo-Ebam community, the construction of a community town hall had the highest share of fund (₦500,000) from CBFM project. The total costs for each of the other projects were also met from the proceeds of CBFM. In Gabu community, the roofing of a primary school got the highest contribution from CBFM amounting to ₦88,000. The provision of furniture for primary schools and church, and the construction of a local bridge were completely funded from the proceeds of CBFM. In Abu-Emeh community, the highest contribution of CBFM to community development projects was in the renovation of a five classroom block which amounted to ₦800, 000. Other projects like construction of civic center and bus-stop were funded wholly from CBFM proceeds.

Table 4: Summary of contributions of proceeds from CBFM to Community development projects in Cross River State, Nigeria

S/N	Community	Total project cost per community (₦)	Total contribution of CBFM to project cost per community (₦)	Relative Percentage contribution of CBFM
1	Ekuri	2,409,000	1,371,000	56.9
2	Abo-Ebam	990,000	990,000	100
3	Gabu	388,000	302,000	77.8
4	Okorshie	20,000	15,000	75.0
5	Abu-Emeh	1,450,000	1,450,000	100
	Total	5,257,000	4,128,000	78.6

Benefit Sharing Formula in Cross River State

The subsisting benefit sharing formula is1:1(community: government) for forest products from forest reserves, 20%: 80% in favour of government for government plantations, while communities have 70%: 30% for products from community forest (Table 5). However, many of the respondents (32.4%) proposed an alternative formula of 60%: 40% in favour of community for products from the forest reserve.

Table 5: Subsisting benefit Sharing formula

Types of forest	Community Share	Government Share
Forest reserve	50%	50%
Plantation	20%	80%
Community forest	70%	30%

Benefit- sharing is a knotty issue in community forest management. Therefore, we are unable to make any categorical statement on an agreeable formula. We believe it should be a mutual decision among the various stakeholders.

Forest Protection

Records show that, in 2006 alone, a total of 129 forest offences were detected throughout the state, and this declined to 47 cases in 2007. The sum of ₦2. 313,000.00 was realized from these offences (CRSFC Annual Report. 2006 & 2007).

Challenges of CBFM in Cross River State

Among the challenges of CBFM in Cross River State; insufficient funds ranked highest (26.1%) followed by lack of encouragement (20.7%) and lack of cooperation (19.8%). Other notable challenges of CBFM in the state included inadequate incentives and equipment, inadequate capacity building, inadequacy of stakeholders' meetings, and insufficient patrol and monitoring by the forestry commission (Table 6).

Placing the performance of Community Based Forest Management in the state side by side with The ATO/ITTO Criteria and Indicators for sustainable forest management: it was observed that maintenance of multiple functions of forests; creation of enabling environment; state economic and fiscal policies, policy to encourage forestry enterprises; effective monitoring and evaluation of forest management policy and adequate mechanisms for law enforcement did not measure up to the expected standard.

Table 6: Challenges of CBFM in Cross River State

S/N	Problems and challenges of CBFM	Frequency	Percent
1	No response	5	4.5
2	Insufficient funds	29	26.1
3	Inadequate cooperation	22	19.8
4	Patrol difficulties	16	14.4
5	No incentives	9	8.1
6	No equipment	7	6.3
7	Inadequate encouragement	23	20.7
	Total	**111**	**100**

CONCLUSION

The introduction of CBFM has led to better protection of the forests as all the stakeholders are involved in the detection of forest offences which was not the case before 1991 when the programme was introduced.

It is obvious that Community Forest Management has contributed immensely to rural communities' livelihood in the study area. This fulfils Principle 4. Criterion 4.1 and some of its indicators as stated by ATO/ITTO 2003's Criteria and Indicators for the Sustainable Management of African Natural Tropical Forests; which states in part as follows" ...,the Forest Management Unit manager contributes to the improvement of the economic and social well-being of workers and local populations". We may therefore conclude that CBFM has fulfilled some livelihood enhancement aspects of sustainable forest management criteria.

Community based forest management (CBFM) has done fairly well in certain aspects of sustainable forest management. However, aspects of maintenance of multiple functions of forests; creation of enabling environment; state economic and fiscal policies; policy to encourage forestry enterprises; capacity building, effective monitoring and evaluation of forest management policy and adequate mechanisms for law enforcement have to be taken more seriously if CBFM would serve as a veritable tool for sustainable forest management in Cross River State, Nigeria.

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