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Community - Based Forest Management In Buru, Taraba State, Nigeria

Aderopo Akinsoji
Department of Botany, University of Lagos.
Email-<aderopoakinsoji@yahoo.com

Abstract
The Nigerian Conservation Foundation (NCF) in partnership with Royal Society for Protection of Birds (RSPB) mounted a 5-year (2005-2010) Participatory Forest Management Project in Buru community, a remote rural village in Kurmi Local Government of Taraba State, Nigeria.
The project was implemented through a series of environmental awareness campaigns, training workshops, lectures, seminars, stakeholder meetings and adult literacy programmes woven around three themes: Forest Governance, Improved livelihoods, Forest Patrol and Monitoring. The project established a working governance structure that ensured of all stakeholders including women to achieve the objectives of the project. Since inception, no commercial logging has occurred in Buru community forest while poaching has dramatically reduced. In some cases the patrol group had intercepted lorries carrying logs from surrounding forests and handed culprits over to the police for prosecution. The patrol group had been collecting data from forests about plant phenology and sighted animals. In one case they saw a dead bird that migrated from Finland to the forest. All participants recorded recorded improved livelihoods through increased household income from harvesting processing and selling forest products. Gender issues were taken care of as over 40% of the participants were women. This forest management model is recommended to Governments to adopt it as a state forestry policy and staff should be trained to monitor the programmes and ensure compliance with the agreed management plans.
Keywords: Nigeria, Buru, Community-based forest management, Conservation, Nigeria

1. Introduction.

Nigeria continues to lose her natural forests unabated because of unsustainable use and abuse due to the ineffective forest management policy(ies). Forest management has limited management to fortress conservation (Hulme and Murphree, 2001). It involves creation of protected areas, the exclusion of people as residents, the prevention of consumptive use and minimization of other forms of human impact (Adams and Hulme, 2001). The Government establishes protected areas from which people are not allowed to enter legally. If anybody trespasses and caught, he/she is arrested and prosecuted. In spite of these laws, forests continue to be degraded through forest clearing for farms, hunting, unsustainable fuel wood extraction, logging and charcoal production. The failure of this management policy can be attributed to, inadequate forest policies, inadequate training of the insufficient personnel, lack of motivation on the part of forestry officials, Government pressure on revenue generation without regard for biodiversity conservation, active collusion of forestry officers, politicians, village chiefs and merchant loggers in illegal logging and ultimately forest destruction. Forest destruction has been linked with economic decline of forest communities and global climate change hence it must be halted.
An alternative forest management approach which was introduced to Tanzania in 1980s is called Joint Forestry Management (JFM), Collaborative Forest Management (CFM) or Participatory Forest Management (PFM). This approach is based on the on the premise that forests are better managed if all stakeholders especially forest edge communities are involved in contributing to making decisions on policies concerning appropriate management protocols, monitoring and its impacts and resolving conflicts arising from management practices. It is also based on the premise that forest edge communities will be committed to conserving the forest realising that their livelihoods depend on forest products and that destroying the forests jeopardises their survival. This is essentially a community based forest management approach. Thus forest management must take into consideration human needs and sustainable harvest of forest products, particularly Non Timber Forest Products (NTFPs) for the forest edge communities. NTFPs play a significant role in livelihood strategies of forest edge communities especially youth and women..
The Guinea Forest biodiversity hotspot which extends from Sierra Leone to Congo is one of the most fragmented and endangered biodiversity hotspots in the world having only 10% of its original forest remaining. It is one of the 25 biodiversity hotspots of global significance for conservation priorities (Myers, 2002). It is of global conservation concern because of its high level of endemism. Over the years most of the forest tracts in Nigeria have been degraded and destroyed and the remaining forest formations left are in Cross River and Taraba States. Taraba State harbours lowland rainforests in Kurmi Local Government and montane forests in Sardauna and Gashaka Local Goverment areas. Buru Community Forest is part of the lowland rainforests in Kurmi LG which are known to be rich in biodiversity. They have been designated Important Bird Areas (Ezealor, 2002). They

contain abundant resources that the indigenes can use for improvement of livelihood if used sustainably.
Buru Community Forest (Fig. 1) is located between 6^0.5'N - 7^0.05'N and $10^0$81'-10^0.96'E. at an altitude of 314 asl in the foothills of Mambilla Plateau. It covers an area about 10,800 ha 20 km from the Nigerian-Cameroon border. The area faces the rain laden wind from the Atlantic coast (Chapman and Chapman, 2001). The mean annual rainfall is 2490mm (Bawden and Tuley, 1969) with bimodal peaks in July and September. The dry season runs between November and March with a brief spell of dry and cold harmattan wind in December. The soil is predominantly of volcanic origin comprising various ratios of clay mixture hence the soil is characterized by hills and depressions making the terrain rough and rugged. The forest is stratified with extensive canopy coverage but where there are breaks in the canopy, lianas and other climbers are abundant. The presence of *Musanga cecropioides* and *Elaeis guineensis* is indicative of previous human intervention which makes the forest a secondary forest. However the forest is rich in biodiversity and contains endangered species such as *Khaya grandifoliola*, *Ricinodendron heudelotii* and I*rvingia gabonensis* and many IUCN red data list plants. Characteristic trees include E*ntadrophragma utile, Milicia excelsa, Terminalia superba, Afzelia bipinda, Ceiba pentandra, Cola gigantea* and *Khaya ivorensis*. Other species include *Piper guineensis, Xylopia aethiopica*, *Thaumatoccocus danielii, Megaphrynium macrostachys, Tetrapleura tetrapetra, Olax subscorpioidea, Garcinia kola* and *Zanthoxylum zanthoxyloides*. Many of these plants play a significant role in the daily

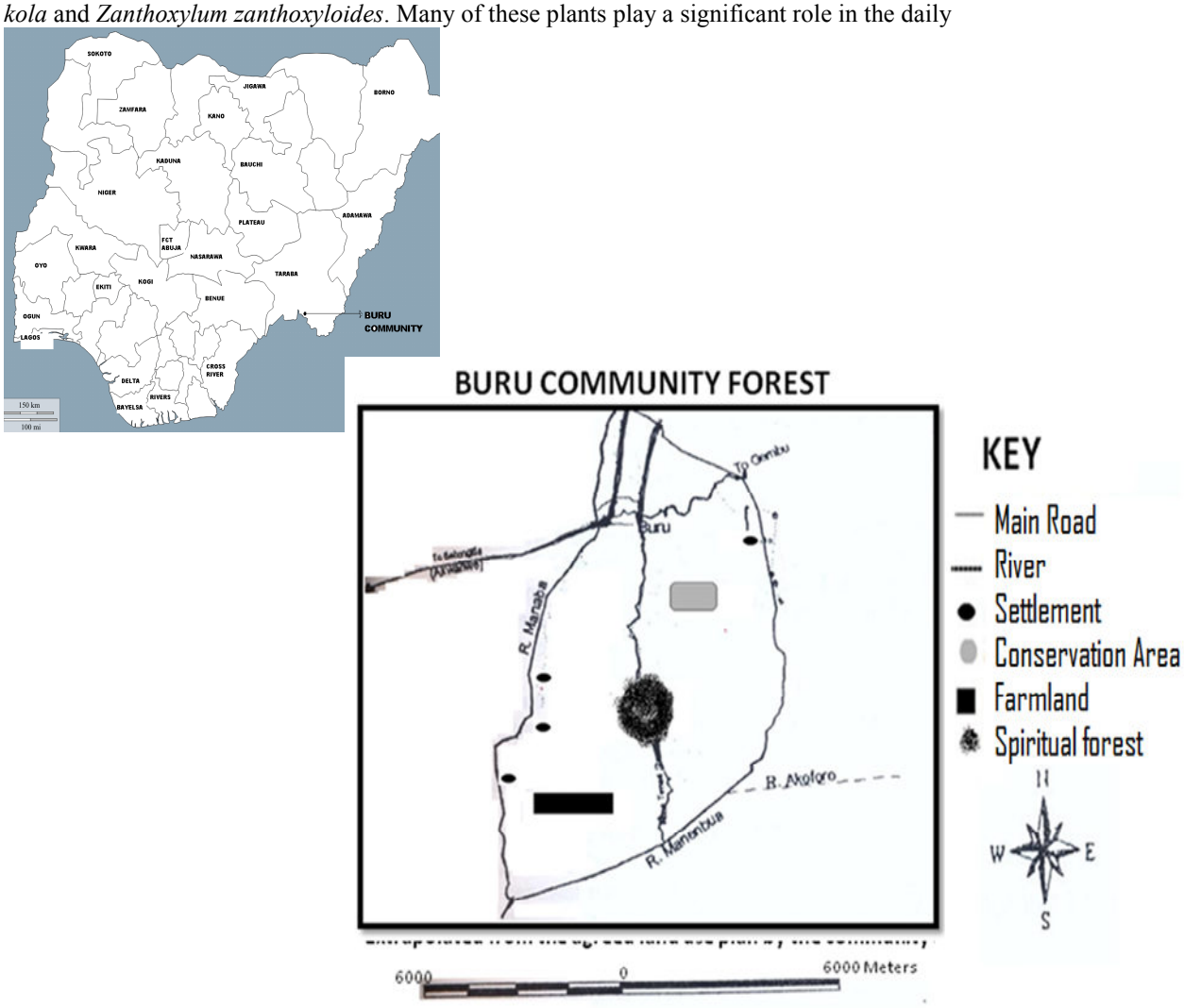

Fig. 1. Buru Community Forest (Top is map of Nigeria showing location of Buru)

livelihoods of the communities as plants' parts are collected for food, medicine/ religious practices and construction. .
Buru community is located at the edge of the forest (Plate 1). It has a population of about 600 people majority of which is Tigun ethnic group who are the land owners. The others are Ndolas, Mambilla and Kakas who are immigrant farmers who came from areas where farmland is scarce. The main occupation is farming and income from farming is supplemented with income from harvesting and sale of NTFPs. NTFPs account for 80% of Buru community income (Obot and Inahoro, 2004). However, the activities of

PLATE 1. Buru Village

hunters had depleted the fauna diversity that by 2004, 90% of the wildlife populations had been lost (Obot and Inahoro, 2004). The increasing demand for farmland and recent introduction of cash crop farming has been putting a lot of pressure on the forest and if no action is taken to check these activities the forest will face an imminent destruction and degradation.

The need to halt the forest loss in the State prompted the Nigeria Conservation Foundation (NCF) and the Royal Society for Protection of Birds (RSPB) with funds from Department for International Development (DFID) and Darwin Initiative (DI) (both British Government Agencies) to mount a 5-year Participatory Forest Management Project in Buru Community in partnership with Taraba State Government.

Prior to the inception of this project, NCF had been working with Taraba State Government on biodiversity conservation in the state. At the instance of NCF, an agreement was signed by the State Government and the community. By this agreement, the State transferred the ownership and management of the Buru Community Forest to the Community and a management plan was drawn up for managing Buru Community Forest. As part of the plan, Buru Community Forest was divided into 3 compartments. The first compartment is the Spiritual Forest which serves as a religious and ancestral worship. The second compartment is the conservation area which is given total protection and the third compartment is for farming. It is this agreement that the NCF/RSPB Participatory Forest Management Project was to implement over a period of five years.

2. Materials And Methods.

The project implementation commenced with capacity - building activities for all stakeholders to enable them participate meaningfully in project implementation. The activities were carried out through environmental awareness campaigns, training workshops demonstration exercises, lectures and adult literacy programmes. Further activities which included various stakeholders' meetings, training programmes and lectures were carried out to achieve three main themes: (1). Establishment of Forest Governance Structure, (2). Improved Livelihood programmes and (3) Forest Patrol and Monitoring.

3. Results

FOREST GOVERNANCE STRUCTURE.

The Forest Governance Structure was put in place to enhance operation and smooth running of the forest management as stipulated in the management plan. Fig. 2 shows the organogram. At the base of the organogram are the Forest User Groups (FUGs). A Forest User Group comprises individuals who use forest resources in a similar manner. For example, members of the Beekeepers' Group place their hives in the forest and tend the hives until the time for honey harvest. Hunters' Group comprises traditional hunters who had in the past poached in the forest. They had almost exhausted the animals particularly the primates and the endangered animals. Special programmes were mounted to educate them on the effects of their activities on the biodiversity of the forest. The hunters were persuaded to regulate hunting and alternative income generating activities were mounted for them. Members of the hunters' group formed the nuclei of the rabbit rearing, piggery, sheep rearing

and small scale poultry groups. Income from these activities was meant to substitute the income derivable from bush meat. To enhance participation of women, women group was formed and members engaged in collection and marketing of NTFPs. FUGs met regularly to discuss their affairs and any problems that arose which could not be solved were referred to the Forest Management Committee. The affairs of an FUG were coordinated by an executive committee comprising a chairperson, secretary and treasurer.

Forest Management Committee (FMC) was headed by Mai Angwar (the village head) and comprised chairpersons and secretaries of all FUGs. It is responsible for the overall maintenance of the forest. Their functions included: settling of disputes brought by FUGs, settling of disputes within the community concerning forest use, maintaining the control of volunteer patrol group, ensuring that laws and agreements with the State Government are not breached and when laws are broken offenders are promptly sanctioned as prescribed by the management plan, control the custody and disbursing of revenues accruing from forest use judiciously. The FMC met once a month.

The Forest Advisory Committee comprises the Mai Angwar, Secretary of FMC, Natural Resources Officer for the Kurmi LG, State Director of Forestry or his representative and a representative of the NGO. The role of the Committee is to liase between the community and Government. They discuss issues brought from the community and

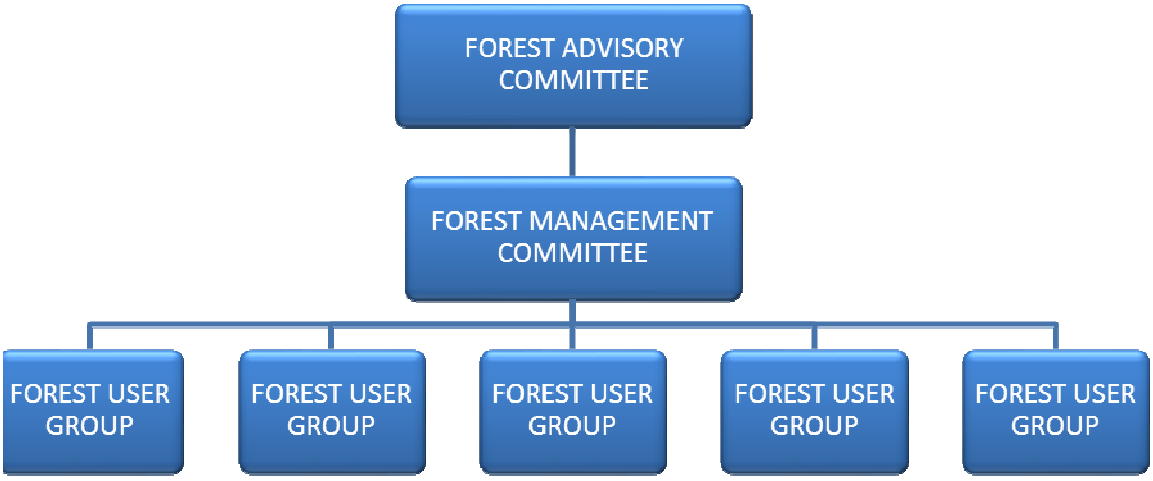

Fig. 2. The Forest Management Structure of Buru Community Forest

proffer solutions to problems arising from forest management. The community uses this opportunity to make Government aware of her infrastructural needs like roads, bridges, schools and clinics. The advisory committee meets once a quarter. This allows the State Forestry Department to monitor the activities of the community and to ensure that the community is managing the forest along the guidelines stipulated by the agreement between the community and the Government.

This structure ensures that forest management involves the forest edge community. They participated in decision making and they knew that conserving the forest ensures their perpetual use of the forest for their economic benefits. This elevated their level of commitment to conserving the forest.

LIVELIHOOD IMPROVEMENT.

If the forest edge communities derive economic benefits from using the forest resources sustainably, they are likely to be inclined to conserve the forest. The objective of this component of management is to build the capacity of members in activities that can enhance the economic benefits derived from forest products and improve their livelihoods. This objective was achieved by mounting a series of training programmes for community members in Income Generating Activities (IGAs). IGAs have been identified as Forest based and non forest base IGAs. Non forest –based IGAs are designed to draw people away from exploiting the forest by engaging them in other activities that do not involve forest products but can enhance their economic potentials through other means.

Forest –Based IGAs

These involve harvesting of NTFPs and processing them for markets. The plants from which products are harvested are listed in Table 1. Members were trained in non-destructive harvesting methods processing and marketing strategies to maximize income. They were then assisted to establish market chains that explored ways of carrying their products not just to local market but to bigger markets outside the area (eg, Jalingo, the State capital) so as to earn bigger income.

Non Forest –Based IGAs

These are activities through which individuals can derive income without recourse to the forest. Some of the non forest-based IGAs exploited included: confectionery (this includes baking and frying of flour products for sale in schools, local markets and within the community), small scale poultry, rabbit rearing, sheep and goat rearing, piggery and raising of seedlings (particularly *Gmelina arborea* and *Tectona grandis* (teak) which are used for afforestation in the drier areas of the State). Experts were invited to the community to train individuals who are interested in these activities.

After acquiring the skills, a revolving loan scheme was established to enable individuals use the skills acquired to improve their earning capacity. After the scheme was practised for about six months and some indications that conditions were improving for the participants, FUGs were organized into cooperative societies and registered with the State Government. This enabled participants to benefit from State-sponsored microcredit scheme. They were now able to secure bigger loans to run their businesses.

Both forest-based and non forest-based IGAs increased their earning capacities, increased household income and improved their livelihoods. The evidence for this is indirect because individuals were reluctant to give information about their exact incomes. The indirect evidence was provided by observation of their life styles. Some built new homes, some changed thatched roofs to zinc roofs, some bought motorcycles and generating sets and one person built a viewing centre for watching the English Premiership league games and charged people money to watch the matches. School enrolment also increased.

Table 1. Plants from which NTFPs are harvested in Buru Community Forest.

SPECIES	PART/S OF PLANTS	USES
Brachystegia eurycoma	seed	food
Elaies guineensis	leaf/ fruit/ seed	craft/food
Eremospatha (rattan)	trunk	craft/furniture
Irvingia gabonensis	seed	food
Lichens (fructose)	whole	food
Mushrooms (various spp)	whole	food
Piper guineense	leaf/seed	food
Ricinodendron heudelotii	seed	food
Tetrapleura tetrapetra	fruit/seed	food/medicine
Xylopia aethiopica	fruit/seed	medicine
Various plants (for honey)	flower nectar	food/medicine

FOREST PROTECTION AND MONITORING.

Interested youth members were organized into a Volunteer Patrol Group to patrol the forest and monitor biodiversity.

They were given light training in patrol techniques. They did not carry fire arms but they were kitted with uniforms and boots. They were not given salaries but were given stipends and food ration any time they went on patrol. Fund for maintaining the patrol group was provided by the FMC. The FMC sources fund from fees collected from forest users and from fine imposed on members who breaches the regulations. They were to arrest poachers, loggers and those collecting NTFPs without registering with FMC and not paying prescribed fees. Anybody arrested is brought to the village head who is responsible for taking the culprit to the police or Forestry officers who have powers to prosecute. Patrollers also collected information on plants and animals. They observed and recorded plants that were flowering or fruiting, animals seen and what they were doing. Such records were kept for the use of Forest Officers and Researchers.

Since the inception of the project, there has been no commercial logging in Buru Forest whereas there has been increase in family income due to harvesting and sale of non- timber forest resources. The patrol group not only prevented logging and poaching in Buru Forest but also made arrests of people who logged in the surrounding forests. On one occasion, the group recorded a dead migrant bird from Europe. The people of Buru have come to realise that in the long run income from commercial logging is less than that from harvest and sale of non-timber forest products.

4. CONCLUSION

This project has demonstrated that indigenous people living adjacent to forests are important stakeholders in forest conservation and that they protect forests better than State forestry officials. They realise that their livelihood derive from forest resources and that it is in their own interest to protect the forest. This model of forest management is recommended for all Federal and State forest reserves and the States should gradually revert these forest reserves to forest adjacent communities after proper orientation. They should relegate the functions of government to monitoring and ensure compliance of agreements in the management plan. There

should also be proper training and retraining of forestry officers to enable them properly monitor community-based forest conservation.

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