

**SUSTAINABLE FOREST
MANAGEMENT IN NIGERIA:
LESSONS AND PROSPECTS**

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NON-TIMBER FOREST PRODUCTS AND SUSTAINABLE FOREST MANAGEMENT IN NIGERIA

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Abstract

The paper examines the potential roles of non-timber forest products in sustainable forest management in Nigeria. It is observed that there are numerous non-timber forest products in the various ecological zones of the country. Presently the situation of the nations' forests is far from being sustainable. Cases of illegal felling, forest encroachment, poaching and outright de-reservation of gazetted forest reserves are very rampant. The forest reserve communities have become very hostile and uncooperative towards forest management and conservation programmes. Multiple-use forest management has been found very useful in achieving sustainable forest management in many parts of the world. The country's rich biodiversity, prevalence of consequences of environmental mismanagement, insecurity of forest properties, and the nature of traditional indigenous land resources management systems in the country all provide a useful platform upon which the development of multiple-use forest management could be built. Since Multiple-use forest management involves the management of forests such that all its resources are considered in planning the management, it is obvious that non-timber forest products have a crucial role to play in sustaining the resources of our forests. To make progress in this direction, it is necessary to first carry out a needs survey of forest communities, undertake detailed resource inventory, hold stakeholders' meetings and engage in both socio-economic and ecological studies so as to evolve a socially acceptable, economically viable and ecologically sound management technique.

Introduction

There are many ways the people from different parts of Nigeria utilise their surrounding forests and fallow lands. Some of the common items obtained from different forest ecosystems in the country include: food, medicines, bush

meat, household utensils, building materials, industrial raw materials, local wines, fibers and agricultural tool handles. In the past, forest management emphasis in the country had been on timber products, which were considered to be of significant industrial and export importance. This defective approach to forest management has contributed in no small measure to forest degradation and even total loss of forestland in many cases. As a result of this, forest managers should no longer be concerned solely with timber production if the lofty objective of sustainable forest management is to be achieved. The growing realization of the importance of non-timber forest products (NTFPs.) has brought about a gradual change in the focus of forest management in many countries (Kotey et al 1998; Barham et al., 1999; Ruiz et al., 1999; and Cavendish, 2001). Many authors have variously defined the term "non-timber forest products". Some of these include:

"A vast number of edible and non-edible products gathered from the forest by forest-edge people or a team of urban people for subsistence or for local and external trade (Okafor, 1978; Falconer, 1990 and 1991)" "those forest products including medicinal plants, fibers, resins, latex, fruits, food and construction materials other than timber that are sourced from forest ecosystems by forest user groups (Laird and Sarah, 1995; Paudock and de Jong, 1995)". Cavendish (2001) defines NTFPs as the wide range of species, both flora and fauna, that are produced by (or exist in) forests and woodlands and which are available to human for uses other than commercial timber. Thus, wood products harvested for generating energy i.e. fuel wood, for carving art works; walking sticks; pestle and mortar and also for conversion into consumer goods such as chewing sticks, sponge, rattans/canes for furniture etc. are all considered to be non-timber forest products in this paper. Apparently, managing the forest for the full compliment of goods and services derivable from them would contribute to the sustainability of the forest ecosystem. This paper is an attempt to highlight the significant contributions, which non-timber forest products could make to sustainable forest management in Nigeria.

Sustainability in Forest Resources Management

The first key statement of sustainable development was the Brundtland's Report of 1987. This marked the political baseline upon which subsequent debates were based. The United Nations Conference on Environment and Development

(UNCED) commonly known as Rio Summit of 1992 is a follow up to the Brundtland's Report and in fact seeks to achieve the aim set out in the report. According to Holmberg and Sandbrook (1992), seventy definitions are currently being used to express sustainable development, the most quoted of which is that of Brundtland (Kirky *et al.* 1995). This expresses sustainable development as that which meets the need of the present without compromising the ability of future generations to meet their needs. Many of the numerous definitions are mere variants of the Brundtland's viewpoint.

This definition includes basic needs such as nutrition, health, shelter etc. The concern to balance the present interest with that of the future generations is rather an ethical issue. Some schools of thought are of the opinion that it is presumptuous to make assumptions about future human needs beyond the simple biological ones. It is however pertinent to point out that biological systems do not operate in a vacuum. Other, abiotic components of the environment such as land, mineral resources, the atmosphere etc. should be adequately catered for, when sustainability of earth's environment is discussed. Hence, sustainable forest management is the contribution of forestry to sustainable development.

The idea of sustainable management of forests for the production of wood and other outputs is deep rooted in the history of forestry. For instance, the initial objective of forest management in Europe was to preserve forests for game hunting by kings and ruling classes. This later graduated to the sustainable management of forests for timber production through the balancing of wood harvest with the projected growth increment from regeneration and planting. Hence, the concept of sustainability is not a new development in forestry. However, as observed by FAO (1993), the old approach of merely balancing timber harvest with yields is rather deceptive and simplistic as it focuses on the production of wood without addressing the wider issues of the ecological and social functions of forests, with which timber may or may not be compatible. The concept of sustainable forest management has therefore, evolved to encompass these wider issues and values. It is now seen as the multipurpose management of the forest such that its overall capacity to provide goods and services is not diminished. Sustainable forest management is today known to be the management of the forest such that it is environmentally sound, economically viable and socially acceptable and which balances the present and future needs.

The Relevance of Non-Timber Forest Products in Sustainable Forest Management.

Both natural and plantation forests are a rich source of non-timber forest products; but unfortunately, their relevance had been overshadowed by the over-concentration on the timber component to the detriment of the other components of the forest ecosystem, which function together to maintain the equilibrium of the system. The consequence of this has included forest degradation with the attendant loss of biodiversity. As a result of this, forest managers should no longer be concerned solely with timber production. Several approaches are practicable for the above suggestion, the forest communities are either left all alone to continue to manage the resources in the same way they have sustained their productivity till now without any government intervention or we should involve them in a mutually beneficial participatory arrangement. The former is exemplified by the forest dwelling communities of Amazonia and the Kayapo Amerindians from Gorotive village in southern para state of Brazil where 98% of the 120 species identified from clumps of woody vegetation within the local savannah were being used Wickens(1994). The latter approach involves a joint Government community management whereby the government in conjunction with the local communities manage the forest resources together. This is exemplified by the management of Korup National Park, Cameroon; Biwindi impenetrable National Park, Uganda and the Yapo National Forest in southern Cote d'Ivoire which consists both plantations and natural forests. The other extreme is the management of forests solely by governments and government's institutions alone. This is the kind of practice that is prevalent in many African countries including Nigeria. In this arrangement, timber is often the sole focus thereby leaving the other components of the forest ecosystem at the mercy of harvesters who often care little about the continuity of resource supplies.

The integration of non-timber forest products with timber production can provide local benefits and make timber extraction more environmentally sustainable and economically viable. Caldecotten (1988) suggested that the production of non-timber forest products may be increased with an increase in the length of felling cycle for timber and low harvesting intensity. The revenue thus lost from low harvesting intensity and longer felling cycles could be recovered from the sales of non-timber forest products. For example, Falconer (1990) reported that US\$26,000 were realised from the sale of non-timber forest products from

the Yapo National forest in Southern Cote d'Ivoire in 1987 and this was used to defray management costs.

Maintaining the diversity of the forest ecosystem through multiple-use management will contribute to the resilience of the ecosystem, which is the ability of the system to recover from disturbance, which will in turn contribute to resource sustainability (Dasmann *et al.*, 1973).

The different sustainable management techniques being practised by different indigenous communities elsewhere in the world is a challenge to Nigerian foresters to ensure that our indigenous techniques which have survived over the years are carefully studied and experimented to possibly modify and adopt those practices suitable for our own peculiar social, economic and ecological situation. It is obvious that most indigenous management practices see the forest as a reservoir from which different goods and services could be drawn and they often have inbuilt mechanisms that ensures the continuity of the system. These may be in the form of taboos, sacrileges, and traditional laws. Indigenous communities' practices are thus, based on a principle of multiple-use of forest resources. Recent developments in modern forest management have also emphasised the need for managing the forest resources in an integrated manner with full participation of local indigenous communities, if the resources are to be sustainably managed (FORMECU, 1999; Evans, 2001). The next section therefore takes a look at the opportunities for sustainable multiple use forest management in Nigeria.

Opportunities For Sustainable Multiple-use Forest Management in Nigeria.

FAO (1995) defines multiple use forest management as a form of management, which combines harvesting of a non-timber product either with other NTFPs or with timber harvests so as to optimize overall forest output. This type of multiple and diversified uses, traditionally practiced by some forest dwellers, can ease the economic pressures on both wood and non-wood forest resources. In Nigeria, loss of forest can be attributed mostly to land clearing for agriculture and urban development. The forces that cause these losses will also resist the establishment of tree crops on agricultural lands unless tree crops can be managed in such a way that they have benefits to agriculture and other competitors for land. Multiple-use forest managers strive to manage the forest to fulfill the needs of the society. Some of the problems of sustainable forest

management in Nigeria are traceable to the failure of the management policy to adequately address the need of the society in the management plans. Fortunately, opportunities abound for the successful implementation of multiple-use forest management in the country. Some of these opportunities are therefore highlighted in the next section.

The various opportunities for managing the Nigerian forests to meet the needs of the society arise from the diverse goods and services obtainable from the various eco-geographical zones and the prevailing socioeconomic situation in the country. These include:

Rich Biodiversity

Popoola and Oluwalana (1998) suggested that there may be over 6000 NTFP species in Nigeria, Okafor (1991) listed 170 species in Southern Nigeria, Egunjobi (1996), studied the development potentials of 39 NTFPS, species in Omo forest reserve while Jimoh (2002) identified 35 species of local importance in Shasha forest reserve in Southwestern Nigeria. There are also many species of animals and birds distributed across the various ecological zones of the country. These numerous species satisfy the needs of different user groups both around and far away from the forest reserve. The implication of this is that the struggle for the retention and sustainable management of forest resources will no longer be left to foresters and environmentalists alone, every stakeholder who benefits from the forest would join in the fight.

Environmental Degradation

Consequences of unsustainable forest management such as erosion, flooding, and desertification, siltation of dams and streams and disappearance of forest cover are already staring us in the face in Nigeria. This constitutes a challenge to foresters to re-appraise the traditional timber-first approach to management in the country and to develop a system, which simulates the natural forest both in structure and function. Such approach should be able to serve economic, social and ecological functions by producing multiple outputs, which are capable of meeting these criteria. For instance, the stands of *Khaya senegalensis* and *Azadirachta indica* planted along the streets of major cities of northern Nigeria do not only serve environmental protection functions, they are timber as well as medicinal plant species. Production of various compatible outputs from our forest reserve has thus, become a reality, which Nigerian forest managers must

face if our forest would withstand the demand pressures from other land-use options.

Insecurity of Forest Properties

Cases of forest offences such as encroachment, illegal felling and poaching have become very rampant in the country in the last two decades. This development is attributable to local communities' disenchantment, lack of commitment on the part of policy makers and economic pressures. Managing the forests for multiple outputs may help to stem this tide because the forest will thus be managed such that it contributes to the economic development of stakeholders, generates employment and provides other benefits to the forest communities and hence, win their support for its retention. Policy-makers may also be encouraged to invest more in forestry development projects since this will increase the total economic value of the forests.

Traditional/ Indigenous Natural Resources Management Technique

According to Shea (1993) multiple-use forest management is not a new idea in land resources management. In Nigeria, the forest policy statement had included the management of the forest for improved water supply, maintenance of soil stability, provision of grazing and recreational use in addition to the "vital" aim of wood production right from the on-set (Adeyoju, 1975). The *taungya* practice, which was introduced by J.D. Kennedy and W.D. Macgregor at Sakpoba, Edo State and Olokemeji, Oyo/Ogun States respectively, was an early formal attempt at integrated forest management in Nigeria. According to Kio (2002), the attempt failed because it did not meet the needs and aspirations of the local communities. In most indigenous management practices, the forest is considered as a reservoir from which different goods and services could be drawn and they often have inbuilt mechanisms that ensures the continuity of the system. These may be in the form of taboos, sacrileges, and traditional laws. Indigenous communities practices are thus based on a principle of multiple-use of forest resources. Recent developments in modern forest management have also emphasised the need for managing the forest resources in an integrated manner with full participation of local indigenous communities, if the resources are to be sustainably managed (FORMECU, 1999; Evans, 2001).

From the foregoing, it is obvious that the adoption of multiple-use forest management in the country will not be difficult given the commitment of all stakeholders.

The Way Forward Policy and Legal Reforms

The first step to be taken is to review our forest policy and laws in order to make provision for diversification of forest management objectives. To this end, Nigerian foresters must work hard to see that the new National forest policy under processing is accelerated and passed into law in order to give legal backing to its provisions.

Identification of Societies' Needs and Aspirations

Multiple-use forest management implies managing the forest for the people and with their full participation. There is therefore, a need to embark on need surveys of forest communities and other forest stakeholders in order to establish these needs. Such surveys would be carried out with full participation of the beneficiaries such that the outcome would be mutually acceptable. It is from the outcome of these surveys that the management objectives will be determined.

Resource Inventory

The implementation of multiple-use forest management in natural forests involves the determination of levels of demand for particular uses and an attempt to reconcile the demand with the capacity of the forest to supply these needs at a sustainable level. (Shea, 1993). There is also the need to identify areas within the forest where the various uses are allocated priority. Forests may be managed to provide the general public with fish and wildlife; leafy vegetables; firewood, medicine; outdoor recreation, forage, environmental amenities, water and timber. Each of these uses is advocated by diverse constituencies and this has necessitated the planning of forests in such a way that they will be able to accommodate within the carrying capacity of the ecosystem most or all of society's demands.

According to Stephen (1996), a multifunctional forest management requires optimization in the planning process and monitoring of the effects of management. This involves collection of data on the forest and its dynamics. Stock taking

involving a multi-objective survey is thus a crucial precondition in multiple-use forest management.

Stakeholders' Involvement

This implies the involvement of the various interest groups in the planning and execution of a development or conservation project. Many of the planning disasters of the past are now attributed to a failure to understand the prevailing economic and political context in developing countries. According to Feeny (1998), ignorance of local conditions leads to a lack of commitment on the part of the intended beneficiaries. The success of any development project is now hinged on the ability of the planners to carry along the intended beneficiaries right from the stage of project identification, to the planning and execution stages. Though, issues of stakeholders' identification, benefit sharing, communal land disputes and high level of illiteracy have in some cases been contentious particularly in forestry projects. This should not discourage foresters, as there have been many successful mutual agreements on these issues in many other countries. The Cross River State initiative in Nigeria is a positive indicator that the system could be successful in the country. We only need to study very carefully the peculiar socioeconomic situations of each community in order to evolve a suitable participatory arrangement.

Research Intervention

The implementation of multiple-use forest management demands rigorous socioeconomic studies in order to fully understand the economic interests, culture, traditions, norms and taboos of each community as related to natural resources management and utilization. This will help in developing a socially acceptable and economically viable management technique. Equally important is the ecological study, which involves the determination of sustainable harvesting levels for both the timber and non-timber components of the forest. It is also important to research into the dynamics of the ecosystem and to evaluate the impacts of utilization on the system. With this we shall be able to decide on the utilization regimes and patterns for the resources.

Conclusion

Sustainability is currently a crucial global issue in development planning. Though the idea is deeply rooted in forestry, its implementation in Nigeria had been largely restricted to mere balancing of timber harvesting with the projected

growth from regeneration and planting. This approach has proved inadequate in achieving the sustainability of our forests. Foresters in many parts of the world now manage their forests to provide multiple outputs, which may or may not include timber. Forest management in Nigeria is today plagued with various problems such as resource insecurity, abuses, de-reservation, poor funding and pressures from alternative land uses. Nigerian forests are rich in various non-timber forest goods and services, which satisfy myriads of human wants both around and far away from the forest environment. This and other socioeconomic and ecological factors present a good platform for the adoption of sustainably multiple-use forest management in the country. To achieve this, there is need to review our forest policy and laws, carry out detail socioeconomic and ecological surveys, encourage the forest communities through a mutually acceptable stakeholders' participation arrangement and research into the compatibility and sustainability of management objectives. The potential problems of identification of the genuine stakeholders, benefit-sharing arrangement, communal land disputes and widespread illiteracy are surmountable through a careful understanding of the peculiar socioeconomic cultural and traditional norms and taboos of each community and wide consultation among all concerned.

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