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RESEARCH ARTICLE

OVERVIEW OF THE POTENTIALS OF FORESTRY AND SUSTAINABLE ENVIRONMENT IN REDUCING POVERTY IN NIGERIA

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ABSTRACT

This paper examines the potentials of forestry and sustainable environment in reducing poverty among the people in Nigeria. Forestry and sustainable environment are described as critical sectors of the economy whose prospects are tied to the management and quality of renewable natural resources, particularly arable land, forest, water and biodiversity. Poverty reduction is briefly explained as collective responsibility of all and sundry to fight all avoidable forms of deprivation and this involves collaboration to make poor people less poor. The paper then assess how forestry and sustainable environment, as sectors, can help in reducing poverty in Nigeria through the provision of food, income generation and employment creation. Food that could be got from the forest and sustainable environment is either in the form of leafy vegetable such as Moringa Oleifera. Fruits such as Irvingia gabonensis or bush meat like thryonomys swinderianus (Grasscutter). The paper equally review the various ways participatory forestry management can help to ensure sustainable environment, sustainable forest management and development in Nigeria. It stresses that local communities have a mutual relationship with forests and sustainable environment could be partners in forest and sustainable development efforts if the needs, desires, aspirations and perceptions of the various participants are accommodated in the planning and decision-making process. It is posited here that no strategy to conserve or manage the forest ecosystem and sustainable environment on a sustained basis would be successful unless the needs of the least advantaged and most vulnerable sections of the society are considered.

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INTRODUCTION

Forestry and sustainable environment are critical economic sectors whose prospects are inextricably tied to the management and quality of renewable natural resources, particularly arable land, forest, water and biodiversity. These resources are capable of indefinite regeneration so long as the prevailing environmental, societal, political, and economic conditions permit. In Nigeria, poverty reduction hinges critically on renewable natural resources since they constitute the productive base of forestry upon which the livelihood, employment and incomes of large majority of Nigerians depend. More than 28% of the world's population, an estimate of 1.6 billion people, relies on forest resources for their livelihoods, and of these almost 1.2 billion live in extreme poverty (World Bank, 2011). Most of these people use trees on farms to generate food and cash. Moreover, many countries in the developing world, Nigeria inclusive, draw on fuelwood to meet as much as 90% of energy requirements (FAO, 2011).

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They contribute to national development, reduce poverty and enhance food security for vulnerable populations. For millions of people who live in poverty, forest and forest resources not only provide food fuel for cooking and heating, medicine, shelter and clothing, but they also function as safety nets in crisis or emergencies. For example, when crop fail as a result of prolonged drought or when head of households can no longer engage in productive activities because of high level of unemployment and through the sale of surplus goods and service, forest becomes the saving grace. Forest, in addition to timber, contains many useful goods and services of subsistence and commercial value called Non-Timber Forest Products (NTFPs), which sustain rural people and their economies. According to (Noubissie *et al.*, 2008) 75% of poor people in the world living in rural forest areas depend on NTFPs for their sustenance and 80% of forest people in the developing countries, like Nigeria, use non timber forest products (NTFPs) daily. They further stated that in Central Africa, 65 million people living in or around the rainforests depend on natural forest resources for their feeding. These natural forest resources called non timber forest products (NTFPs) include all forest goods and services, excluding

commercial timber (Eboh *et al.*, 2005). In this context, NTFPs include such- diverse products like animal parts, leaves, sticks, local building materials, edible fungi, medicinal plants, forest foods, sponges, chewing sticks, fibres, gums and rattan canes, among others. Development in forest management over the past decade have focused on the progress towards sustainable forest management (SFM) and sustainable environment, an approach that balances environmental, sociocultural and economic objectives of management in line with the forest participatory principle adopted at the United Nations Conference on Environment and Development (UNCED) in 1992. Sustainable environment, forest resources and forest lands should be sustainably managed to meet the socioeconomic, ecological, cultural and spiritual needs of present and future generations. These needs are for forest products and services such as wood and woods products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitat for wildlife, landscape diversity, carbon sinks and reservoirs and other forest products.

Participatory forestry management (PFM) and sustainable environment refer to processes and mechanisms which enable people with a direct stake in forest resources and environment to be part of decision-making in all aspects of forest management and sustainable environment, including policy formulation processes. Participatory Forest Management (PFM) and sustainable environment are used to describe systems in which communities (forest users and managers) and government services (Forest Department) work together to define rights of forest resource use, identify and develop forest management responsibilities, and agree on how forest benefits will be shared (Farmafrica.org, 2007; FARM-Africa annual review, 2007) Forests and trees provide a wide range of goods and services at all levels of society - including the millions of forest-dependent people living in or around forests; national governments; and the global community. There is need for Nigeria to develop and implement national forest and sustainable environment programmes that are broad-based, participatory and inclusive. The challenge is stopping and reversing the ongoing degradation of the forests of Nigeria (caused by increasing illegal logging, forest fires and insect damage) and to improve the welfare of people or enhancing lives of forest dwellers through the development of a model for local level forest ecosystem management. This can be achieved by involving people in the planning and management. Within the natural resource sector, the participatory-approach argument received an impetus following the Rio Earth Summit, where it was accepted as an integral part of the sustainable development process. (FARM-Africa and SOS Sahel Ethiopia, 2007) Participatory forestry, sustainable environment, and sustainable forest management (SFM) are crucial issues in forest conservation, climate change mitigation and environmental protection. It is an issue that have been advocated for by national and International organizations that our forest has' been devastated. Most of the forest resource would have been preserved if this measure has been introduced long ago, even to be in the National and International Policy. The whole World is worried about land degradation, climate change, extinction of wildlife animals and indigenous trees as a result of deforestation, indiscriminate hunting and logging (World Ban, 2013) The forest dwellers are after their livelihood and welfare since there are no favourable policies from the Government. It's like

government effort to preserve the forest is to no avail. The government rules and regulation are hanging because the rural people are not carried along. But with all the stakeholders' involvement, spelling out the benefits for each party, the forest and environment will be sustained and protected. The forest dwellers will see the resource as theirs, watch over it and manage it well. Even though, PFM have been practiced in parts of some countries of the World, in Nigeria, the practice is mostly limited to projects organized by environmental oriented NGOs and the World Bank in some areas like Ekiti, River State and Ngel Nyaki in Taraba State.

An important dimension of participatory resource management is the manner in which the rules governing resource utilization are formulated and the process organized. Considering the recognized dictum that organizations coordinate user's behaviour (Awe *et al.*, 2009b) Participatory resource management, thus, involves a process of organized management. Implicit in this is the manner in which institutional conditions shape and determine users' capacity as resource managers. There is an enormous body of empirical and theoretical literature examining institutional requirements for natural resource management and sustainable environment, which provide insights into the inter-relationships involved and the factors that condition participatory strategies, as reflected in the bibliography of Martin (1992), which alone holds 7250 citations. Emphasizing the role of transaction costs and property rights in shaping incentives and results in participatory resource management, studies posit that the crucial factor in changes is the net benefits perceived by the participants while using a community resource, which in turn guide their decisions in addressing the 'disequilibria' that stimulated the change (Alston *et al.*, 2007)

Poverty Reduction

Poverty reduction is defined as collective responsibility to fight all avoidable forms of deprivation. It involves collaboration to make poor people less poor; this is also referred to as poverty alleviation. Poverty reduction can also be described as enabling poor people to escape from poverty as well as building institutions and societies that prevent people from becoming poor or from slipping further into poverty (FAO, 2006) Poverty reduction refers to efforts ranging from the modest easing of some symptoms to the radical transformations that enable people to escape poverty altogether. Because the transition is seldom sudden, reducing poverty first means alleviating it by gradually addressing the severity of some components. This aspect of poverty reduction should not be confused with helping people to escape from poverty altogether or building a poverty -free society. Distinctions are sometimes made between practical and strategic approaches to poverty reduction. Practical changes tend to involve poor people at local levels to address the material aspects of poverty, mostly those related to subsistence needs, by changing the relations between humans and the non-human environment. Strategic changes, on the other hand, address the indirect causes of poverty at local levels and higher, involve non-poor as well as- poor people, and focus on social reform. Activities include building the organizational capacity of forest users groups, strengthening the rights of poor people to access, manage, use and sell forest products and changing attitudes, beliefs and institutions.

Forests and trees outside forests play a significant role in all aspects of poverty reduction as they make people less poor, enable them to escape from poverty and prevent those on the margin from becoming poor. Better forest management and processing of specific products can increase incomes or improve the health of poor people even if those goods do not lift them out of poverty. Improvements in forestry and environment can also be central to a more ambitious strategy for helping people to move out of poverty. For instance, clarification of tenure rights can be combined with improving skills and knowledge and strengthening market access for forest products.

Forests and Poverty Reduction

Forests provide a variety of goods and services to different user groups. Therefore, their importance to each must be clearly understood before making interventions. Natural forests and sustainable environment not only act as a savings account for people living in and around them, but they also provide a range of products for subsistence. Before people decide to harvest valuable timber species, they should assess the potential of the resources that will remain as these resources provide food, medicines and wood fuel to resident's especially poor people. Forest can be used for the industrial production of wood, fibre or non wood forest products, all of which help in reducing poverty among the people. Besides, the production of wood from the forests, other forest resources known as non timber forest products (NTFPs) are also obtained from the forests and these NTFPs play significant roles in reducing poverty among the people, especially people in rural areas of Nigeria, through the provision of food as well as income and employment generation.

Forests as Source of Food

The significant role of forest and sustainable environment in reducing poverty and hunger in Nigeria cannot be underestimated. Different resources or products are obtained from the forest by households, especially rural households. These include goods such as fruits, vegetables, resins, fibres, fuel wood, charcoal, bush meat and medicinal plants which could be good sources of income or consumed at the household level. Many forest products which are of animal and plant origin are eaten by man either directly as food or as supplements to other food products. Some are consumed in raw form without cooking, boiling or processing while others are only eaten after processing. However, in whichever form the products are consumed, they play important roles in supplementing household food intake, particularly during the period of scarcity of food when the previous years' crops are exhausted, and new crops are yet to mature. A large number of plants obtained from the forest contribute to food security and they may come in form of leafy vegetables or fruits. Those that come in leafy vegetable form include *Vitex doniana*, *Sesamium radiatum*, *Lactuca taraxaxifolia*, *Gnetum africanum* and *Moringa oleifera*, (Awe *et al.*, 2009) These vegetables are available at the time most cultivated vegetables are off-season. They therefore come handy when they are most needed. Those that come in the form of fruits are *Irvingia gabonensis*, *Treculia africana*, *Carica papaya*, *Adansonia digitata*, *Dacryoides eduli* and *Phoenix reclinata* which are either eaten as full meal or as snacks to ease hunger while on the farm

before the actual meal is ready. Other species in this category include bushmeat and fish which also contribute to household food security. Honey which is an age long food, has retained its prime position in both rural and urban diets and has recently become more important in the diets of diabetic and hypertensive patients who use it in place of table sugar. The major sources of animal protein in the rural areas are bushmeat and fish. Hoskins (1990) wrote that 80% of animal proteins consumed by rural Nigerians in forest adjoining communities in varied forms- cooked, boiled, sundried or smoked come from bushmeat. Insects and birds are also consumed in many parts of the country. Insects such as palm worm, flight termites, grasshoppers and crickets are consumed in various parts of the country and they contribute meaningfully to food intake. Condiments and flavour plants also play a prominent role in household dietary supplements. Species like *Allium sativum*, *Occimum gratissimum*, *Xylopia aethiopica*, *Pipper guineense*, *Parkia biglobosa*, *Aframomum meligueta* and *Tetrapleura tetraptera* are added to food to impart certain characteristic aroma or taste on the food.

Forests as Source of Income and Employment Generation

Apart from the fact that a larger proportion of rural households depend on forest products to meet some of their nutritional needs, a considerable number of households obtain part of their income from the sale of tree products. Forest and tree products are important sources of cash income and employment for the rural poor. A great number of wood and non-wood forest products, including sawn wood, building materials, wood-based fibres, furniture, food stuffs, medicines, household utensils (e.g. baskets, mats, dyes) and agricultural implements are sold on the local, national and in some cases even international markets. An estimated 15 million people in sub-Saharan Africa earn cash income from forest related activities (FAO, 2006). Several million people derive their main source of income from forest based micro-enterprises such as fuel wood sales, charcoal making, small-scale saw milling, carpentry, furniture making, handicrafts and commercial hunting. For example in South Africa, the commercial forest sector employs directly or indirectly some 135,000 people, while commercial logging and saw milling companies in the rest of the Sub-Saharan Africa provide some 200,000- 300,000 jobs, with a similar number provided by activities associated with the forestry industry (FAO, 2006) According to Arnold (1994), employment and income from small-scale non farm enterprise activities are nearly everywhere, therefore, it is becoming increasingly important in the rural economy. Rural non farm work often provides 20- 45% of rural household income (Noubissie *et al.*, 2008). In the high forest zone of southern Ghana, discovered that 68% of the households surveyed are employed in small-scale forest-based industries. Forest based activities are usually seasonal and often depend on the seasonality of farming, wage labour and other activities as well as fluctuations in the availability of labour. Most of such activities thus decline at the peak of farming activities or are sometime intentionally planned to take place during the slack periods. Others are caused by seasonally induced cash needs such as school fees, traditional or religious festivals" In southern Cameroon, a study conducted in the tropical rainforests revealed that local communities rely heavily on the use of forest products for

their sustenance, with more than 500 plant species and 280 animal species used in one way or the other. About 20 NTFPs make it to the local markets and contribute significantly to the income of rural people (Noubissie *et al.*, 2008). Though individual contributions of each NTFP may be little, collectively, they contribute immensely to the rural economy and can add to export revenues. Several income generating activities in the rural areas are particularly based on NTFPs. Fruits, seeds and stems of different types all contribute significantly to the financial security of rural households especially during the emergency periods. Bushmeat, snail and fish harvesting and marketing are a main income generating activity in the high forest zones of eastern and western Nigeria. And these activities are carried out almost all year round. While in the 'savanna zone of the central and northern Nigeria, honey, fuel wood, locust bean and charcoal production generate a lot of income for the rural inhabitants. Hence, it is very important that the potentials of NTFPs in alleviating rural poverty in the country should be highly appreciated.

The Need for the Development of Forestry Sector in Nigeria

Recent Nigeria Living Standard Survey (NLSS) reveals that poverty in Nigeria was 54.4% in 2004, down from 65.7% in 1996. The national poverty rate marks sharp differences in poverty profiles across states, with poverty incidence above 70% in parts of the Northwest and Northeast compared to less than 30% in parts of the Southeast.⁽⁹⁾ The regional variations in poverty are linked to conditions of the renewable natural resource base. Per capita Gross Domestic Product (GDP) was static from 1996-2004, but poverty increased in 10 states from 1996 to 2004. With one exception these increases were all in the Northwest, Northeast and North central regions that are characterized by lower rainfall, lower agricultural crop yields and lower rangeland productivity than in the south. The northern regions also experienced the most serious losses in vegetation density from 1976/78 to 1993/95. All this may contribute to the high poverty incidence and its increase in many of the states in those regions. It is worthy of note that the forestry sector is central to Nigeria's realization of the Millennium Development Goals (MDGs) of halving poverty by 2015.

Currently, forestry and agriculture has the highest poverty incidence (67%) among all economic sectors and about 62% of Nigeria's poor are in agriculture. (Eboh *et al.*, 2005) The rural sector, according (Eboh, 2005) contributes 65% to national poverty and 86% of households who engaged in agriculture live in rural areas. Hence, growth in the forest sector (and in the rural areas) will prove essential for improving the welfare of the vast majority of Nigeria's poor. Significant reductions in poverty will therefore, to a large extent, depend on the success of the federal and state governments in stimulating broad-based and sustainable growth of the forestry sector and sustainable environment.

Reasons for Participatory Sustainable Forest Management and environment

First, forests are home to and sustenance for, hundreds of millions of people, including some of the world's poorest.

Second, deforestation results in severe local and global environmental damage. Third, controlled/sustainable commercial exploitation of forest products could contribute to economic growth. However, the intrinsic characteristics of forests make sustainable management a challenge. The positive externalities that forests provide are uncertain, diffuse, and hard to value. When ignored by decision-makers, the magnitude of private net benefits of deforestation can seem to outweigh the public benefits of conservation or sustainable management. As a result, deforestation and degradation continue without much compensating gain for economic development or poverty reduction (World Bank, 2013)

The World Bank Group's Revised Forest Strategy (2002)

The challenges and opportunities of sustainable forest management are recognized in the World Bank Group's revised (2002) Forest Strategy, Sustaining Forests - A Development Strategy. This strategy incorporated many of the findings and recommendations of the Independent Evaluation Group's (IEG's) review of the implementation of the Bank's 1991 Forest Strategy (2000). The World Bank approved 289 forest sector-related projects between July 2002 and June 2011 (FY03-FY11) in 75 countries valued at \$2.6 billion. World Bank forest sector projects can and often include several forest-related interventions that are designed to be in line with one or more of the Strategy pillar aims. Forest Strategy included support for: (i) Protected Areas; (ii) Payments for Environment Services; (iii) Sustainable Land and Watershed Management; (iv) Participatory Forest Management; (v) Key legal and institutional reforms across three different forest types: in Brazil to support the enabling environment and enforcement regimes and in Central and West Africa to help reform the industrial timber concession regimes; in temperate and boreal forests where the Bank has provided institutional and policy support for countries in transition; in the dry forests and woodlands of the Sahel where support for decentralized policy reforms is intricately linked to forest rights, equity, access and sustainable management; and for (vi) carbon-financed activities (the Bio-Carbon Fund and the Forest Carbon Partnership Facility). Crosscutting issues were also considered throughout the review, including forest governance, climate change, capacity building, and gender (World Bank, 2013)

The Community Forestry Development Process involves the following activities

- Site selection
- Participatory rural assessment
- Community Organisation
- Forest resources mapping
- Participatory resource assessment
- Forest management planning VIZ: forest development, use, protection and monitoring
- Implementation of forest management
- Participatory monitoring and evaluation (World Bank, 2013)

Forest and sustainable environment stakeholders

It is essential to understand the different interest groups and resource user groups who should be involved in sustainable

forest management and sustainable environment. These groups are referred to as stakeholders. The principle of inclusive management depends on an understanding of the different stakeholders and the institutions that they represent. There is a need to clearly understand who could gain or lose by changes in resource management systems. Identifying how people perceive their own rights and responsibilities, as well as those of others, is a crucial starting point in initiating discussions over who should have which rights and responsibilities in the management system (Farmafrica.org, 2007; Awe *et al.*, 2009b)

Recommendation

The implementation and integration of participatory forestry and sustainable environment in rural development in pilot areas through capacity building of the main stakeholders and through the development of enabling institutional frameworks at local, regional and national levels are very important". The FAO approach shows that rehabilitation of degraded environment and conservation of biodiversity cannot be achieved without the involvement of the local population who live in and depends on the resources of these areas. It also emphasizes that local populations in ecologically threatened areas will not contribute to the conservation of the resources in the long run unless they benefit from conservation efforts, especially through increased income from managed resources (MCC, 2010) The best solution is a win-win system of participatory community-based forest resources management, in which the communities are regarded as stakeholders rather than as threats. In which case the communities were trained in establishment and management of forest plantations with readily available market for their timber; employment for some of the community youths as well as community development projects. This paper calls for the adoption of this system in our protected areas in Nigeria, while the Government should provide basic amenities for the communities as alternatives to those forest products. Participatory Sustainable Forest Management and sustainable environment should be made at this time a National Policy in Nigeria not just a project in selected forest areas.

Conclusion

The process of poverty reduction clearly requires prioritization of the activities and identification of the people whose livelihoods mostly depends on the utilization of the a sustainable environment, forest and its resources. Therefore, there is a need to clearly link sustainable environment and National Forest programmes to Poverty Reduction Strategies. All these initiative's would be meaningful if a strong bond can be developed between national planning institutions and sectoral planning ministries, such as federal and state ministries of environment under which forestry department falls. Therefore, the overall strategy for development in Nigeria should include a national forest and sustainable environment plan that fits into the poverty reduction strategy, since most countries (like Malawi and Mozambique) have adopted poverty reduction strategies as their main planning tool. The international community on their part should also play its vital role in service delivery as well as in developing national forest and sustainable environment plans.

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