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## Deforestation in Nigeria and the Millennium Development Goals: Challenges and Prospects

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**Abstract:** Nigerians have always depend on the forest for their survival, economic development, as well as environmental amelioration. This quest for survival by man has severe impact on the environment and Millennium Development Goals. However, only half-hearted efforts have been made to control deforestation, leading to the almost total destruction of Nigerian forests. Therefore, sustainable development has become a central issue of discuss. It is against this backdrop that this study seeks to examine deforestation in Nigeria and the Millennium Development Goals: Challenges and Prospects. The paper being a qualitative study relied mostly on secondary sources which were subjected to content analysis. The study argued that most forest destructions in Nigeria is carried out by poor people, who were denied access to land and these people depend on the forest for their existence. Other causes include settlement expansion, large scale agricultural and development projects. The activities of man, through the act of deforestation affected the achievement of Millennium Development Goals in Nigeria. Based on the above findings, the study recommended among other things that Agricultural Science subject in Secondary Schools should be expanded to include relevant aspects of forestry, indigenous knowledge, rural development, agro-forestry and environmental sciences. Budgetary allocations to all the three tiers of government should be increased and released promptly for forestry operations. The private sector and NGO's should be encouraged to participate in biodiversity conservation through grants and tax rebates.

**Keywords:** Deforestation, Millennium Development Goals, Environment.

### Introduction

The soil plays an essential part in the nourishment of all living things. Land is a priceless natural resource, and it is crucial that both the land itself and the natural resources contained within it be preserved, as they are capable of providing enormous benefits to organisms and creatures that rely on it. Forests are crucial to human existence and prosperity. They serve as a source of raw materials, a source of income, a source of protection, and a supporter of biological diversity. Forests provide numerous services to ecosystems, including the storage and purification of drinking water, the mitigation of natural disasters such as floods, the sequestration of carbon and the mitigation of climate change, and the treatment of a variety of illnesses through the medicinal plants they harbor. Forests cover roughly 3.9 billion hectares of the earth's

land area. Initially, it was projected to be six billion hectares (Bryant, *et al.* 1997).

According to the European Forestry Commission, approximately 15 million hectares of forests are lost annually worldwide. The majority of modern deforestation occurs in developing nations, endangering millions of people who rely on forests for their livelihood and source of income. Between 2000 and 2010, Nigeria was one of the countries with the greatest annual net loss of forest area.

Deforestation and forest loss can have far-reaching effects on economies and individuals, ranging from habitat loss to poverty. Deforestation is one of the most significant environmental issues that the international community and state governments have attempted to address with appropriate measures. This is evidenced by the existence of laws designed to regulate activities responsible for deforestation, as well as measures to recover lost lands and promote the sustainable use of forests and forest resources.

Nigeria is one of the countries in West African region. The main latitude and longitude of Nigeria is, about 10° North and 8° East. Most of the forests in Nigeria are located in the southern axis of the country and these forests include: the Swamp forests, Tropical Rainforests, as well as the Wooded Savannah. The total land area of Nigeria is 91,077,000 Ha (910,770 km<sup>2</sup>) with a total forest area of 11,089,000 Ha (110,890 km<sup>2</sup>) representing 12.18% of forest cover.

There are about 1417 known species of amphibians, birds, mammals and reptiles in the country (UNEP - WCMC, 2004). The forests are dominated by trees in a complex ecological system and the crowns of these trees touch each other, as a result of the close growth. Trees are perennial woody plants usually with stems which supports branches and leaves. In any given locality, a tree reaches the height of at least 6 meters on maturity; however, some tree species get to the height of over 100 meters. Within the forests are herbs, shrubs, climbers, lianas and other plant species as well as assorted wildlife. On the forest floor are litter and soil microbes which render forest soils fertile for tropical farming. Park (1992) has stated that at least 60 percent of all known species of plants (about 155,000 out of 250,000), about 90 percent of all the world's non-human primates such as monkeys, about 40 percent of all the birds of prey and about 80 percent of all the insects live in the tropical rainforests of the world.

Within these species, about 1.2% are endemic, that is, they are found in no other country except Nigeria, while 3.5% are threatened. Nigeria is a habitat to at least 4715 species of vascular plants of which 4 are endemic. Also about 3.6% of Nigeria species is protected under IUCN category 1-V. Many fauna and flora species in the forests are threatened, endangered or extinct (Akachuwku, 2006).

Endangered plants include: *Afrormosia elata* (*Afrormosia*), *Irvingia* species (bush mango) and *Funtumia* species (native rubber). Endangered animals include: the Drills (*Papio leucophaeus*), Gorillas (*gorilla gorilla*), Chimpanzee (*pan troglodytes*), Elephants (*loxodonta africana*), Hippopotamus (*hippopotamus amphibious*), and Lions (*panther leo*), Leopard (*panther pardus*), Giraffe (*Giraffa Camelopardalis*), and Manatee (*Trichecus senegalensis*).

It should be noted that, Nigerians have always depended on the forest for their survival, economic development, as well as environmental amelioration. Based on visible results, so far only half-hearted efforts have been made to control deforestation, leading to the almost total destruction of Nigerian forests. Therefore, sustainable development is yet to be achieved. Nigeria has one of the world's highest rate of deforestation of primary forests, where more than 50% of such forests have been lost in the past decades through unsustainable logging, agriculture, as well as fuel wood collection (FAO, 2004). Issues on the encroachment of the logging industry on non-logged species and the socio-economic implications has been examined by Akintoye (2003). Notably, this paper discusses

1. The Millennium Development goals (MDGs) and itemized the targets,

2. The meaning of deforestation
3. Theories of deforestation
4. Causes of deforestation in Nigeria
5. Trend of deforestation in Nigeria
6. Consequences of deforestation
7. Problems associated with combating deforestation in Nigeria (
8. Efforts made to control deforestation in Nigeria
9. and it provides some conclusions and recommendations.

## Literature Review

### The Millennium Development Goals and the Forests

Wikipedia (2013) has explained that the Millennium Development Goals (MDGs) are in totality a number of eight mutually defined and agreed international development goals, which emerged officially, as an outcome of the milestone Millennium Summit of the United Nations in the year 2000, after the adoption of the United Nations Millennium Declaration.

A combination of the 189 United Nations member countries and around 23 international organizations have become signatories to the projected achievement of the highlighted goals by the year 2015. These goals include : the eradication of extreme poverty and hunger , the achievement of universal primary education, the promoting of gender equality and empowering women, the reduction of child mortality rates, the improvement of maternal health, the combating of HIV/AIDS, malaria, as well as other diseases, the ensuring of environmental sustainability , and the development of a global partnership for development.

Three major efforts and challenges to achieving each of the specified goals include the following:

1. Roles played by the G8 Finance Ministers in June 2005 aimed at providing adequate funds to the World Bank, the International Monetary Fund (IMF), and the African Development Bank (AFDB) , aimed at canceling debts including the sum of \$40 to \$55 billion in debt owed by members of the Heavily Indebted Poor Countries (HIPC). The intent is to enable poor countries to retain funds, which would have been used in forgiven debt servicing, and use same for social- economic development, including health and education, as well as alleviating poverty.
2. The ambiguity and widespread debates over the prioritization and subsequent adoption of the MDGs, as well as issues on the approach to measuring some of the set goals. Despite continuing increase in funds provided by developed countries aimed at achieving the MDGs , the major areas of disbursement to developing countries , have been largely for debt relief, natural disaster relief and military aids , aspects which shows no direct potentials for the highly desired rapid development.
3. Deforestation invariably is a major setback to achieving the MDGs in rural communities within forest regions in Nigeria, and in other parts of the forested and developing world. Forest people are invariably an integral part of the complex forest ecosystem, perfectly adapted to it (Rapaport, 1976 and Sioli, 1985 in Park, 1992:106).They depend on the forests for medicine, food, building materials, clothing, household income and so on. It's a major part of their lives.

## Deforestation

Deforestation results from the removal of trees without sufficient replacement, which leads to reduction in habitat, biodiversity as well as wood and quality of life. The use of the term "Deforestation" at times is associated with distortion of forestry issues. It is used to denote activities that use the forest, for instance, felling of wood for fuel, commercial logging and activities associated with temporary removal of forest cover such as slash and burn technique, which is a major component of shifting cultivation agricultural systems or clear cutting. It is equally used to describe clearing of forest for grazing or ranching. Also, an activity such as the establishment of industrial plantations may be considered as deforestation by some people while others will view it as afforestation. Accordingly, it is imperative for one to specify what is meant by deforestation in order to reduce all forms of ambiguity. Therefore, much specific terms such as forest decline, forest fragmentation and degradation, loss of forest cover and land-use conversions, should be used (Wikipedia, 2008). The consequences of deforestation is so massive, that between 1990 and 2005, Nigeria has lost a staggering 79% of its old-growth forests (Rainforests & Mangabay, 2007)

## Theories of Deforestation

There are three major schools of thought associated with the causes of deforestation. The first is the Impoverishment school which is of the opinion that, the major cause of deforestation is the increase in the number of poor people; that is small holders are the principal agents of deforestation. The second school is the neoclassical group which believes that, deforestation is caused by open access property rights. That is, there are various agents with respect to deforestation. The third school is the political-ecology group which believes that, deforestation is caused by capitalist entrepreneurs (Ukuta, & Akintoye, 2018) who strive to cultivate the enormous forest resources for their individualistic interest.

## Causes of Deforestation in Nigeria

The causes of deforestation in Nigeria are groups as:

**Climatic agents include:** Sunlight, Water and Wind

**Biotic agents:** These include microbes, animals, plants, and Man

Among the agents of deforestation, the impact of man is the greatest and without the interference of man, the forest would have been intact. The impact of man may be subdivided into agriculture, logging, grazing, urbanization and industrialization, fire, mining petroleum extraction, fuel wood. Agriculture, Urbanization and industrialization, Logging, grazing Fire Mining and petroleum extraction Fuel wood collection are other causes of deforestation

## Deforestation Trends in Nigeria

information from British colonial forest in Nigeria indicates that, the southern part of the country with the exception of towns such as Benin, Ibadan and Calabar was densely covered by rainforest by the year 1500 AD (Akachuku, 2006). Between 1500 and 1900, the rain forest was seriously reduced as a result of the demand for wood by the colonial masters. Also, between 1900 and 1960 - the year of Nigerian independence from Britain, the remaining rainforest was reduced into two large blocks with scattered fragments. Between 1960 and 1981, the remaining blocks were tremendously degraded such that, by 1991, very few considerable patches of the rainforest were left in some forest reserves and national parks for protection. In the year 2013, the damage to forests in Nigeria invariably has become tremendous.

Nigeria has eight national parks (Kainji Lake - 5341 km, Cross River - 3720km, Gashaka Gumti - 6670km, YanJkari - 2244.1km, Chad Basin - 225 8km<sup>2</sup>, old Oyo - 2512km<sup>2</sup>, Okomu - 112km<sup>2</sup> and Kamuku - 1127 km<sup>2</sup>). There are 1,160 constituted forest reserves in Nigeria covering an area of 107,

527.02knC (Formecu, 1996). This figure represents about 11% of the total land area of the country. These forest reserves vary in sizes and are located in 362 local government areas in the 36 states of the country. Borgu forest reserve in new Bussan Local Government Area of Niger state, north central Nigeria is the largest with an area of 3,786.58km<sup>2</sup> while Lewechi forest reserve in Okigwe, Imo state, south eastern Nigeria is the smallest with an area of 0.047km<sup>2</sup> (Ogundele, *et al.* 2016).

These forest reserves have over the decades been the major theatre of target scale anthropogenic activities, with dire consequences on flora and fauna, despite efforts by governments, to tackle emerging problems.

### **The Effect of Human Activities on Deforestation**

Deforestation is directly caused by human activity. Population growth, especially in metropolitan areas, results in an increase in human activities that cause deforestation. Population growth places stress on the natural resources found in such areas, which are typically insufficient to meet the demands of the inhabitants. Population growth results in an increase in the demand for housing, which results in the clearance of forests for the building of housing projects without the planting of replacement trees. Where population expands, there will be a greater need for infrastructures required to meet the needs of the expanding population. The rise of commerce and the construction of roads, railways, bridges, airports, and buildings bring an increasing human population closer to woods. The site of the Ajaokuta steel plant, for example, claimed 18,390 hectares of the Ajaokuta forest reserve in the old Kwara State, whilst the Federal Capital Territory claimed around 27,330 hectares of forest reserves (Mfon, 2014). Additionally, economic activities will need to be developed to support the rising population. This may be accomplished by the sale or export of forest resources or the conversion of forest reserves into industrial, recreational, or residential development. Additionally, demand will increase in the extractive and manufacturing industries. Mining is a valuable industry that can promote development, support and attract population growth, and hence cause deforestation. Loss of forest cover in the southern portion of the country has been attributed to petroleum prospecting and oil spills (Mfon, 2014). About 10 percent of deforestation in Africa is due to mining (Pearce & Brown, 1994).

### **Consequences of Deforestation in Nigeria,**

Deforestation in Nigeria has tremendously threatened, depleted or endangered biodiversity of the forest ecosystem. It also has negative ecological, genetic and socio-economic impact on the environment. Details of these consequences are as follows: Loss of biodiversity, Depletion of Soil and Water Resources, Atmospheric Pollution, Environmental Calamities (Acid rain, Desertification and Flood)

### **Problems Associated with Combating Deforestation in Nigeria**

It should be noted that, environmental problems are never localized as a problem caused in one part of the nation may adversely affect the other part. Accordingly, all hands should be on deck to combat problems associated with deforestation, some of these problems include; Several Opposing Demands on Trees, Disagreement with Respect to the Accounting System on Forest Value, Inadequate Funding of Afforestation Programmes by Developed Countries, Long Period of Maturity, Insufficient Care for Planted Seedlings and Lack of Substitute for Trees and Uses of Loans by Government.

### **Efforts Made to Control Deforestation in Nigeria**

Efforts made to Control Deforestation in Nigeria, include: Creation of Forest Reserves, management of in-situ conservation processes, Legislation, Rainforest Management and Afforestation Programmes



## Conclusion

Conclusively, it could be stated that most forest destructions in Nigeria is carried out by poor people, who are denied access to land and these people depend on the forest for their existence. Other causes include settlement expansion, large scale agricultural and development projects. The Nigerian rainforest has been seriously encroached upon and afforestation programmes. Also, most Nigerians are not aware of the consequences of deforestation; accordingly, awareness should be created. The achievement of the MDGs in the rural areas depend largely on the potentials of the flora and fauna species, some of which have not yet been discovered and documented by researchers. Women and their households' dependence on NTFPs, medicinal preparations, indigenous knowledge, building materials, good soils for agriculture, fresh water, industrial raw materials, erosion control, and new crops for domestication and so on, which in turn depends on the preservation of the forests.

## Recommendations

In view of the importance of forests and the consequences of deforestation, the under listed recommendations, which undeniably will help in the realization of the MDGs are made:

1. Agricultural science subject in secondary schools should be expanded to include relevant aspects of forestry, indigenous knowledge, rural development, agro-forestry and environmental sciences.
2. Budgetary allocations to all the three tiers of government should be increased and released promptly for forestry operations.
3. The private sector and NGO's should be encouraged to participate in biodiversity conservation through grants and tax rebates.
4. Forest reserves should be established in mangrove ecosystem for in-situ conservation.
5. Researches should be embarked upon by foresters with the view to developing fast growing tree species as well as those resistant to fires and pathogenic attacks.
6. Rich and developed countries should fund afforestation programmes in Nigeria. Nigeria should stop gas flaring, rather the gas should be bottled and the cost subsidized for rural people in order to reduce the pressure on fuel wood.
7. Environmental laws should be fully enforced and implemented in order to serve as deterrent to defaulters. Efforts should be made to domesticate some wild animals in order to reduce bush burning and hunting
8. Intensive agriculture whereby droppings of animals are used to fertilize the soil, thereby, utilizing a particular area for a long period should be encouraged. This will reduce the practice of shifting cultivation. Also, agro forestry and mixed cropping leading to the multiple use of the land should be encouraged.
9. Bush burning should be discouraged and where it is unavoidable, fire tracing should be embarked upon to prevent the fire from spreading beyond the proposed area.
10. Appropriate sanctions should be applied to defaulters. This will deter the act of cutting down economic trees in Nigeria

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