

Tropical Forest Conservation Strategies and Degradation

Egbuche Christian Tooche*

*Department of Forestry and Wildlife Technology, School of Agriculture and Agricultural Technology, Federal University of Technology Owerri, Imo State, Nigeria.

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INTRODUCTION

There has been a greater concern for rapid deteriorating issues of forest conservation in the aspects of exploitation in forest ecosystem especially in the developing world. The scramble for fuel wood and timber has increased. Forest regeneration, natural regeneration, industrial plantation and wasteful logging have been identified as critical problems. All these have led to over exploitation and misuse of forest resources thereby no policy for the maintenance and sustainability of ever growing complex ecosystem rather increase exploitation and poor conservation approach especially forest and forest resources. Global change ecology and forest degradation results to diminishing of resources as well as poor forest management strategies leaving increased exploitation over wild scale land use and forest resources.

FOREST DESTRUCTION

Documented evidences shows that shifting cultivation is age long predominant agricultural system practices in Africa which has been associated in felling and burning of vegetation of the natural forest, secondary and savannah woodlands. The destruction of soil and climate dependent is another serious issue in forest deterioration. However, some literature evidences claimed shifting cultivation to be effective in environmental restoration but most diminishing factor is the soil environmental biodiversity (soil-micro fauna wild life vegetation matrix). The soil environmental biodiversity is known to protect sensitive ecosystems though the clearing effect may result to irreversibility. Generally, some unsustainable farming practices need to be replaced considering its agro ecological and environmental concept because it is categorized as a degrading farming practice.

Main factors of forest degradation

- a. Degradation is a consequences arising from shifting cultivation leading to erosion and gullies in sensitive forest sites.
- b. Frequent fire results to the destruction of fire-sensitive species of trees and shrubs and soil fauna thereby may set in some favorable conditions for the invasion of

grass species. It is scientifically accepted that protracted cultivation may result to vulnerability of bare ground and wind, soil and water erosion.

- c. The scrambling for wood and forest resources in the content of fuel wood and charcoal production as well as non-wood resources account over 90% of wood consumption around the globe. Most ecological zones have been exploited either under consumption pattern and misuse of forest resources. Urbanization also has attracted wide use of forest resources even in the concept of environmental needs and services of urban vegetation/forestry needs.
- d. The need for charcoal and energy sources has corresponding effect on global forest and vegetation, that is to say, it has effect on soil nutrients. This leads to wider deforestation of global forests.
- e. Poor household and local agricultural practices especially in the developing world has also posed serious consequences on forestry standard and ratings.
- f. Lack of appropriate technology and investment in the natural forest and forest ecosystem management adversely leads to forest degradation. This implies that forest degradation may correspondingly contribute to deterioration of quality of life in both urban forestry needs and other human needs globally.
- g. Forest degradation influences the earth's climatic factors such as wind reduction, albedo and other forest ecosystem feedback mechanisms in which some influences may results to irreversible climatologically

Corresponding author: Egbuche Christian Tooche, Department of Forestry and Wildlife Technology, School of Agriculture and Agricultural Technology, Federal University of Technology Owerri, Imo State, Nigeria, E-mail: ctoochei@yahoo.co.uk

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factors from human inducement (Figures 1 and 2).

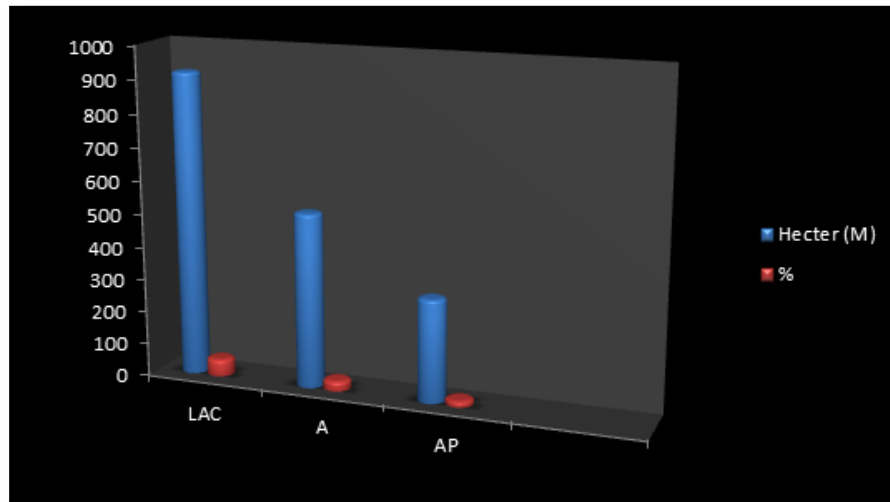


Figure 1. Tropical forest cover (million hectares) and percentage - Largest extent of forest cover.

(FAO reports) Latin America and Caribbean (918 million ha: 52% of the total tropical forest area), Africa (528 million ha: 30% Asia and Pacific (311 million ha: 18%)

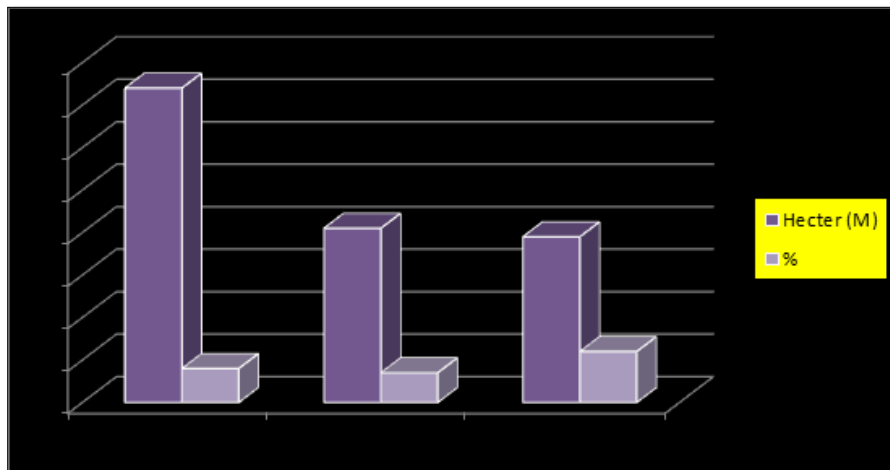


Figure 2. Tropical forest cover - The annual region loss of forest cover.

(FAO reports) Latin America and Caribbean 7.4 million ha (0.8%), Asia and Pacific 3.9 million ha (1.2%), Africa 4.1 million ha (0.7%)

Deforestation

Deforestation processes include loss of forest by change by physiognomic characteristics thereby changing forest to shrubs and establishment (common in Africa) of traditional short time fallow in agricultural practice. Deforestation in loss of woody biomass which results to destruction of forest to non-wooded areas which identifies extreme level of degradation (denuded land) leaving the areas into permanent agriculture status.

TROPICAL FOREST CONSERVATION STRATEGIES

Conservation of tropical forests are concerted efforts designed to sustain and maximize the care and reduction of

the damage, sustain greater number of forest species while maintaining more species in the value for forest conservation purposes. This concept considers larger the original area of the forest, the greater the number of species within more diverse the topography and soil, the greater the number of species. This is to say, that different topographical area may contain endemic species for the attainment of valuable species (forest products). Conservation means the need for protection while conserving a viable species population in the maintenance of a sufficient essential forest area and for all types of forest preservation. **Table 1** below outlines some major tropical forest conservation strategies that can be acceptable and of global application [1-6].

Table 1. Major tropical forest conservation strategies.

| Classified target area | Conservation application |
|-------------------------------------|---|
| International | Internationally co-ordinated programmes of control and amelioration |
| Agro forestry | Practice of agro-forestry |
| Population | Human population reduction and demand |
| Land use | Control and improvement in land use aspects |
| Forest management | Forest management efficacy and improvement |
| Institution/policy | Institutional changes in public policies for forests |
| Forest/land protection | Forest and forest land protection |
| Agricultural/lands/productivity | Improvement of agricultural methods and productivity |
| Forest economy/legal systems | Modification of economic and legal systems |
| Socio-economic | Reduction of social and economic imbalances |
| Anthropogenic effects | Reduction of anthropogenic effects on forests |
| Indigenous knowledge | Utilization of indigenous species for resources |
| National centres/endangered species | Establishment of national centers for the conservation of threatened and endangered species |
| Research | Increase in basic research on tropical rainforests |
| Forest preservation/Economy | Tropical rainforest preservation as an asset in economic calculations |
| Institution | Institution of economic measures favorable to rainforest preservation |
| Reformation/policies | Reformation of trade policies |
| Community-based education | Community-based" conservation and improved environmental education |
| Poverty/urban rural | Reduction of poverty, both urban and rural as well as waste reduction |
| Peoples rights | Promotion of the rights of indigenous peoples on forest and resources |
| International and market | Increase in international pressures and wood market demand |
| Resource reformation | Reduction of forest demand and forest resource market reform |
| Forestry scale | Care of secondary forests and large scale forestry development |

Modified from FAO forestry documentation (1988, 1982, 1985, 1988, 1989)

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