

Review

Forest regeneration, dereservation and management in Edo State, Nigeria

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In Edo State, Nigeria, forest dereservation is increasing, regeneration is neglected and management is not able to cope with the problem due to inadequate staffing and other logistics. The review therefore concluded that the role of the forests which cut across many areas of human endeavour seem not to be appreciated enough by the populace. Forest regeneration after harvest or deforestation is thus neglected. As a consequence the endemic forest species are faced with possible extinction. Enlightenment campaigns to educate the populace on the values of the forests and intensified efforts on national tree planting as an annual event are suggested. Furthermore, very serious commitment on the part of government to ensure adequate funding of forest regeneration, abrogation of forest dereservation, increased forest reservation and sustainable management of the forests are recommended.

Key words: Forest regeneration, taungya, dereservation, tree nursery.

INTRODUCTION

Forest regeneration is the replacement of the plants after harvest. Coreman and David (1999) described forest regeneration as enhancing the growth of existing timber stands, ensuring adequate regeneration following harvest and important forest management activities, which can increase total timber supply and profits. Reforestation methods used to maximize the probability are relatively simple in concept but often difficult to execute (Thomas, 1999). In an attempt to regenerate forests in Nigeria various methods were used. These included line planting, group planting, taungya system and direct plantation method. These methods were not successful and were abandoned in favour of direct forest plantations, with the involvement of donor agencies like the World Bank, particularly, in the pulp and paper forest plantations. However, exotic forest tree species like *Gmelina aborea*, *Tectona grandis* etc were mainly planted to the neglect of the endemic taxa (Ehiagbonare, 2005). The disadvantage in this practice is that the ethnological uses of the endemic plants may be lost with the plants being extinct if not domesticated.

Other factors reducing the forest ecosystems under scientific management are deforestation, forest dereservation, wild forest fires, illegal forest exploitation, undue political influence, non incorporation of members of local communities into management systems, poor

tree nursery stock to non existence of tree nurseries, inadequate professional and technical staff for the various forest operations, and inadequate funding of forest operations.

Considering the importance of the forest in environmental stability, conservation, economic contribution to Edo State economy, its role in phytomedicine and health care delivery system, this paper reviewed forest regeneration, dereservation and management.

TAUNGYA SYSTEM

Taungya or agroforestry is a system that combines the practices of agriculture and forestry. The basic objectives of an agroforestry system are to optimize production and economic returns per unit area in a given period of time. Alison et al. (1986) reported that taungya as an agroforestry system could be an effective and cost saving method of forest plantation establishment. The drawback of the system is that in most cases the endemic forest species are not replanted.

Evidence from Table 1 showed that zones A and B devegetated and kept under regular cultivation had low natural regeneration while zone C which was opened up and abandoned had higher regeneration. The implication

Table 1. Natural regeneration of endemic species 3 years after de-vegetation.

Zones	Plots			Total	Mean number of regeneration
	1	2	3		
A	20	15	12	47	15.66
B	10	20	15	45	15.00
C	30	40	28	103	34.33
Control	30	20	22	67	22.33

Source: Ehiagbonare 2006.

of this is that if the devegetated areas are not planted up but allowed to fallow sufficiently, a possible return to forest state is possible. However, Ehiagbonare (2006) reported that not all endemic species are capable of regenerating after deforestation. Deforestation and re-planting should only be embarked upon if conservation, ecotype protection and sustainable management could be attained.

Taungya system of forest regeneration as it is practiced now in Edo State, Nigeria does not support regeneration of endemic taxa. A number of factors are identified to be responsible for it among which are insufficient funding, inadequate tree nurseries to raise seedlings for planting, irregular phenology, and low viability of tropical tree seeds. Funding of forest regenerations is poor (Figure 1). The 10% revenue cannot effectively cater for the needed level of manpower, logistics, and patrol duties to prevent forest offences. What is needed and recommended is increased funding since the forest contributes significantly to the economy of the state, protects the environment and provide basin for tropical forest research and training.

TREE NURSERIES

The current number of tree nurseries in the state is not adequate. The problem became magnified due to the rationalization of the work force in 1975 and 2000. Those highly efficient tree nursery management staff were removed in the exercise. Planting stock production thus became reduced to a very low level. Endemic forest species regeneration under natural conditions is very poor (Ehiagbonare, 2004). Richards (1952) and Hopkins (1974) observed that tropical tree seeds lose viability easily and thus may account for poor regeneration under natural conditions. To ensure survival of endemic species forest plantation of the species is advocated (Allison et al., 1986). In addition to this the State and Federal Governments as a matter of priority should increase allocation of funds to forest regeneration, nursery establishment to raise needed quality seedlings for reforestation and restoration of degraded areas. Although raising seedlings from seeds may pose some difficulties due to the fact that tropical forest tree seeds are short lived, seedlings can be raised from cuttings.

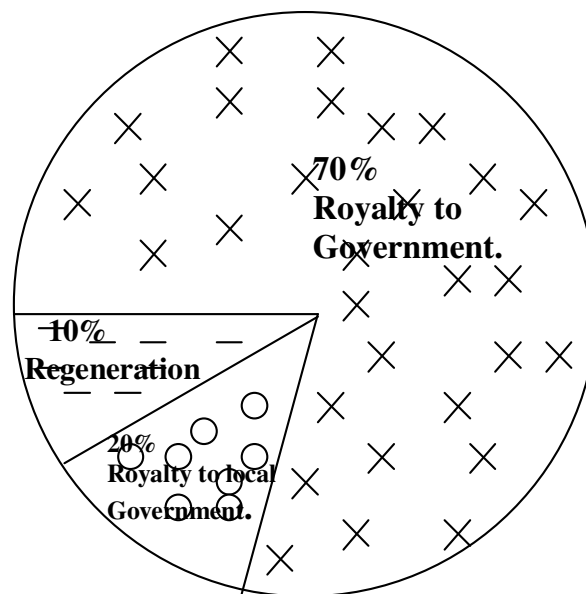


Figure 1. Edo State Forest Revenue Allocation. Source: Ehiagbonare, 2006.

WILD FOREST FIRES

Wild fires which are noticed to occur in the dry season destroy young forest plantations and some species of the natural forest ecosystems. This has negative effect on vegetation (Perieto-Fernandez et al., 1998). These fires can be prevented by adequate fire traces round these managed forest ecosystems. When such fires are prevented the forest ecosystems are thus conserved in realization of the set objectives or policy for their management.

FOREST DERESERVATION/UNDUE POLITICAL INFLUENCE

Forest dereservation could be defined as the deliberate government decision removal of a part of protected and scientifically managed forest ecosystem for individual purpose(s). The original purposes of conservation as entrenched in the policy ceases to exist for the area so

Table 2. Broad staff categories for forest management in Edo State.

Category	Qualification	Main function
Professionals	University degree	Administrative and unit heads
Technical	HND/OND	Technical duties surveys, demarcation inventories
Uniformed Staff (police of the forest)	Lower than HND/OND	Patrols, detection of offences, prosecution of forest offences in court of law

Source: Forestry Department M.A.N.R. Benin City, Edo State, Nigeria.

removed. Many disadvantages are noticed with this process.

Reduction in the size of managed forest ecosystem rather than increase what has been conserved in pre-Nigeria independence period, it is decreased even in the face of increasing population. Political pressures have been identified as one of the controlling factors responsible for the action of the control agencies granting forest dereservation. There is no evidence of new areas being constituted into new forest reserves. The dereserved areas are cleared off the forest, abandoned and thus lead to environmental deterioration. These destroyed natural plants have been known as the sources of medicinal agents (Kivananc and Akgul, 1986; Dorman and Deans, 2000). There has been no serious effort to domesticate endemic taxa.

The reversal of political direction in this matter is critical in solving dereservation, deforestation and regeneration problems. More forest reserves should be created, forest dereservation abrogated and enough funds committed to forest regeneration. Furthermore, representative members of the forested areas should be members of the forest management team. This is in consonance with agenda 21 of the United Nations that communities should participate in forest management.

FOREST MANAGEMENT

The broad categories of staff used in forest management are shown in Table 2. Although the control agency has reported insufficient number of staff to cope with her enormous duties, illegal felling of timber and procurement of non forest timber produce is on the increase. To compound the problem, the non professional bodies (ad hoc committees) mainly of political loyalists set up by government have been accused of aiding illegal forest tree fellers. However, the government can reverse the trend by making professionals to head such bodies. In this way forest conservation, effective monitoring, forest regeneration, environmental conservation can be appreciably handled.

CONCLUSION

The role of the forests which spans across many areas of human endeavour seems not to be appreciated

enough by the populace. Forest regeneration after harvest or deforestation is thus neglected. As a consequence the endemic forest species are faced with possible extinction, environmental deterioration, and lost of value to state and National economy. Enlightenment campaigns to educate the populace on the values of the forests and intensified effort on national tree planting as an annual event are suggested. Furthermore, very serious commitment on the part of government to ensure adequate funding for forest regeneration, abrogation of forest dereservation, increased reservation and sustainable management of the forests are recommended.

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