

**THE PERCEIVED CAUSES AND EFFECTS OF FOREST
RESOURCES DECLINE IN NGO COMMUNITY,
ANDONI LOCAL GOVERNMENT AREA OF
RIVERS STATE, NIGERIA.**

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Abstract

This study investigated the perceived causes and effects of forest decline in Ngo community, Andoni Local Government Area of Rivers State with the core drive to ascertain the natural and man-made impact on the ecosystem function of the study area. This research was guided by two (2) objectives with two (2) corresponding research questions. This work utilized the descriptive survey design. A population of 400,919 projected from the 2006 population figure (211,009) was utilized and a sample size of 400 (approximated) formed the sample size. This work used mean, standard deviation and rank order as the techniques for the analysis of the component questions in the questionnaires retrieved. The result indicated that cutting down of forest trees to create roads and route for oil and gas pipes, setting up forest fire, extraction of firewood, timber and non-timber resources increase forest, soil erosion, land pollution and sedimentation are the remote causes and effects of forest decline in the study area. The researcher, therefore, recommended that the State government should see the need to create awareness among individuate in the study area on the benefits of conserving forest resources in the study area.

Key Words: *Forest Decline and Extinction*

INTRODUCTION

A forest refers to thick vegetation cover having canopies that shade the soil from receiving direct sun rays from the stratospheres. A forest is structural, self-sustaining community characterized by vertical structure crested by the presence of trees. Trees are large, generally single stemmed woody plants. Forest can exist in many different regions under wide range of conditions but all true forest share these physical characteristics (Dhameja, 2009). Because forest is a natural community, no forest is static in times. This is because forest communities respond to outside influences, most forest are in a state of constant flux. A forest decline factors might include rainfall, fire, wind, glaciation, seismic activity, flooding, animal activity, insulation and so on. At any time, a forest is a collection of past responses to outside influences and internal competitive interactions. Therefore, the present status of any forest, indeed, of any natural community, reflects what has gone on before. In a nutshell, a forest is a biotic community predominantly of trees, shrubs and other woody vegetation usually with a closed canopy. Humans are indisputably a part of most forests. With the exception of extremely inaccessible forest lands, all forests present on the earth's surface today have been influenced by human beings for tens of thousands of years. In many cases, forest communities have never been without the influence of human activities (Olujobi, 2005).

Forest depletion in Nigerian States has negatively affected hundreds of endangered animal species and force some to migrate to other parts of the country. While some may argue that such idea to deplete our rainforest will ease our unemployment problem, they are ultimately unsustainable and in the past have been detrimental to both the people and the environment of the country at large. Misguided government policies did not tackle what was known to the State Government as an uncontrollable environmental problem that creates potential opportunity for conflict in the area. It enhanced illegal logging, promoted, and provided millions in government revenue to fund the irrelevant issues.

Statement of the Problem

Okpiliya, Effiong, Imoke, Enil and Eja (2013) who investigated on mangrove forest decline and ecosystem utilization: implication for occupational changes in Calabar South, Nigeria. The aim of this study was to examine the various ways in which mangrove forest ecosystem is being utilized and depleted and the implications for occupational changes in the area. Five communities based on observation that are actively involved in the mangrove exploitation were sampled for the study.

In order to determine the mangrove ecosystem depletion rate, the change intensity index was used. A multi-temporal image data of the mangrove vegetation covering areas overtime was acquired and processed. This include a Topo sheet derived from an aerial photo of 1970, land imagery 1970-2011 in a GIS environment.

Ogunwale (2015) carried out a study on deforestation and greening the Nigerian Environment. The objective of this study was to analyze the current deforestation status of the Nigerian economy and its capacity for depleting the green environment. The Results of the qualitative analysis shows that poverty, awareness and lack of enforcement of laws are important variables that affect greening the environment. The study concludes that the three levels of Government, communities and individuate can successfully manage forests in a sustainable way, when the appropriate policy actions are enforced.

Based on the above work carried out by various scholars, this present study bridged some gap in knowledge by looking at the perceived causes of forest resource decline and the effects of the decline in Ngo Andoni Local Government Area of Rivers State which was not mentioned in the previous studies stated earlier.

Aim and Objectives of the Study

The aim of this work was to explore the causes of forest resource decline and the effects of the decline in Ngo Andoni Local Government Area of Rivers State. Its specific objectives were to:

- i. Identify the perceived causes of forest resource decline in the study area;
- ii. Examine the effect of forest decline in Ngo Community forest

Research Questions

The following research questions were drawn to guide the study

1. What are the effects of forest resource decline in the study area?
2. Is there any perceived reduction in the ecosystem function in Ngo forest?
3. What are the remote causes of forest decline in Ngo community?

Research Design

The study adopted descriptive survey. The research process involve gathering, tabulating, describing, analyzing and interpretation of data.

Nature and Sources of Data

Data were collected from primary sources of data

Population of the Study

The population of the study consists of farmers, community elders, youth leaders of Ngo community.

The projected population of the study was determined using the formula:

$$P_t = (1+r)^n p$$

Therefore, the projected population of the study area for the period of (13) years was 400,919.

Sample and Sampling Techniques

The Taro Yamene technique was used to determine the sample size from the above population. Using Taro Yamene formular, the sample size was 400

Instrument for Data Collection

The instrument for data collection was a questionnaire titled: “Decline of forest resources and environmental sustainability in Ngo in Andoni Locai Government area of Rivers State (DFRESNALGRSQ). It was categorized into two sections namely A and B. Section A deals with the demographic data of respondents, while section B contains two parts A&B. Part A contains items that describe forest depletion and it is patterned according to the 4 point likert rating scale of “Agree(A), Strongly agree(SA), Disagree(D) and Strongly disagree(SD)”, based on the responses from the respondents.

Method of Data Analysis

Mean score and standard deviation was used for interpretation of data that was collected for this study, this was rated on Likert four points scale of Strongly Agree(SA), Agree(A) Strongly disagree(SD) Disagree(D). The weighted mean is $(4+3+2+1/4) = 2.50$ which were deemed fit as

the criterion mean for agreeing or disagreeing with the items of the questionnaire. Any item that has a mean score of 2.5 and above was agreed (accepted), then any item below 2.5 was disagreed (rejected).

Result and Discussion

Research Question One: What are the proximate causes of forest resource decline in the study area?

Table 1: Weighted Mean and Rank Order Scores of Male and Female Respondents on the Proximate Causes of Forest Resource Decline in the Study Area

S/N	Promixate Causes of Forest Resource Decline	Female (n=190)		Male (n=175)		Mean set (x2x2)	Rank Order	Remark
		X ₁	SD ₁	X ₂	SD ₂			
4	Setting up forest fires can cause millions of hectares of trees and vegetation covers wiped out.	3.44	0.98	2.84	1.09	3.14	2 nd	Agreed
5	Extraction of firewood, timber and non-timber resources increases forest decline.	3.22	0.49	2.82	0.96	3.02	3 rd	Agreed
6	Cutting down of forest trees to create roads and route for oil and gas pipes	3.46	0.98	3.22	1.11	3.34	1 st	Agreed
7	Soil erosion, land pollution and sedimentation are closely associated with forest degradation.	3.15	0.97	2.79	1.05	2.97	4 th	Agreed
Total Mean/Std. Deviation		13.27	3.42	11.67	4.21	12.47		
Total Average Mean/Std. Deviation		3.32	0.86	2.92	1.05	3.12	3.32	

Source: Researcher's Field Work, 2021



Table 1 shows the weighted mean and rank order scores of male and female respondents on the proximate causes of forest resource decline in the study area. Four questionnaire items addressed research question 2, in which item 4, 5,6 and 7 were accepted as proximate causes of forest decline in the study area as they had mean scores greater than the criterion mean of 2.50.

On the ranking of the proximate causes of forest resource decline in the study area, Cutting down of forest trees to create roads and route for oil and gas pipes came first, followed by setting up forest fires, Extraction of firewood, timber and non-timber resources increases forest decline and soil erosion, land pollution and sedimentation with mean scores of 3.34, 3.14, 3.02, and 2.97 respectively.

Research Question Two: What are the effects of forest resource decline in the study area?

Table 2: Weighted Mean and Rank Order Scores of Male and Female Respondents on the effects of forest resource decline in the study area

S/N	The Effects of Forest Resource Decline	Female (n=190)		Male (n=175)		Mean set (x2x2)	Rank Order	Remark
		X ₁	SD ₁	X ₂	SD ₂			
8	Lack of amelioration of erosion, no surface litter cover and under story vegetation in the study area	3.30	1.12	2.95	0.47	3.13	4 th	Agreed
9	Lack of maintenance or decrease of organic matter and diversity, through continuous degeneration of roots and non-decomposition of litter; nitrogen fixation in the study area.	3.36	0.87	3.39	0.53	3.38	2 nd	Agreed
10	No enhancement of physical properties such as soil structure, porosity, and lack of moisture retention through the extensive root system and canopy cover in the study area	3.22	0.71	3.42	0.74	3.32	3 rd	Agreed
11	Reduction in the efficiency of nutrient use because the-tree-	3.55	0.89	3.51	0.63	3.53	1 st	Agreed

root system cannot intercept, absorb and recycle nutrients in the soil that would otherwise be lost through leaching					
Total Mean/Std. Deviation	13.43	3.59	13.27	2.37	13.35
Total Average Mean/Std. Deviation	3.36	0.90	3.32	0.60	3.34

Source: Researcher’s Field Work, 2019

Table 2 shows the weighted mean and rank order scores of male and female respondents on the effects of forest resource decline in the study area. Four questionnaire items addressed research question 3 which all item were accepted as the effects of forest resource decline in the study area as they had mean scores greater than the criterion mean of 2.50. On the ranking of the effects of forest resource decline in the study area, item 11 which stated that reduction in the efficiency of nutrient use because the-tree-root system cannot intercept, absorb and recycle nutrients in the soil that would otherwise be lost through leaching came first, followed by item 9 which States that Lack of maintenance or decrease of organic matter and diversity, through continuous degeneration of roots and non-decomposition of litter; nitrogen fixation in the study area, item 10 which States that no enhancement of physical properties such as soil structure, porosity, and lack of moisture retention through the extensive root system and canopy cover in the study area and item 8 which States that lack of amelioration of erosion, no surface litter cover and under story vegetation in the study area with mean scores of 3.53, 3.38, 3.32 and 3.13 respectively.

Discussion of Findings

Table 1 shows the weighted mean and rank order scores of male and female respondents on the proximate causes of forest resource decline in the study area. Four questionnaire items addressed research question 2, in which item 4, 5, 6 and 7 were accepted as proximate causes of forest decline in the study area as they had mean scores greater than the criterion mean of 2.50.

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soil erosion, land pollution and sedimentation with mean scores of 3.34, 3.14, 3.02, and 2.97 respectively.

This finding is in line with the findings of Wilson (1990), which stated that fires tremendously change the composition and structure of the forests, they turn the burned areas vulnerable to invasion of alien species. Forest fires do endanger biological diversity and affect the local communities and farmers around the area.

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Conclusion

This study revealed that cutting down of forest trees to create roads and route for oil and gas pipes, setting up forest fires, extraction of firewood, timber and non-timber resources increases forest,

soil erosion, land pollution and sedimentation are the emote causes of forest decline in the study area.

Recommendation

Based on the study findings, the following are hereby recommended:

1. The government should come up with plans and innovations to enhance forest resource in the study area.
2. The State government should see the need to create awareness among individuals in the study area on the benefits of conserving forest resource in the study area.
3. The Government should also harness and channel properly to famers, elders and youths in the study area those factors that caused forest decline as it will spur them to develop more interest conserving their forest resource.

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