



RURAL WOMEN PERCEPTION OF EFFECTS OF DEFORESTATION ON ECONOMIC ACTIVITIES IN ONDO STATE, NIGERIA

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ABSTRACT

This study was carried out to determine the perception of rural women on the effects of deforestation on economic activities in Ondo state, Nigeria. The specific objectives are to describe the socio-economic characteristics of the respondents, identify economic activities before and after deforestation, determine the perception of rural women towards the effects of deforestation on their economic activities, determine the extent of deforestation effects on rural women economic activities, and determine the strategies for ameliorating the effects of deforestation. The study was conducted among rural women in Ose and Odigbo Local Government Areas due to the prevalence forest activities in the areas. Data were collected from 80 respondents. Descriptive statistics, Likert- scale rating and Chi-square were used in analyzing the data. From the result, it was revealed that 41.3% of the respondents are still within the active age, 73.8% are married, 63.8% have no formal education. Result also shows that farming activities alongside gathering of fuel wood, and collection of snails as their major occupation. Majority of the respondents agrees that problems such as; reduction in soil fertility, scarcity of fuel wood, reduction in crop yield and soil erosion are the major perceived effects of deforestation. Furthermore, the chi-square result shows the significant relationship between the socio-economic characteristics of the respondents and their perception towards the effects of deforestation on economic activities in Ondo state.

Key Words: Perception, Deforestation, Women, Activities

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INTRODUCTION

Environmental resources are often the only resources available to the poor women of the rural tropics (Davidson, 2000). The fertile soil that women are able to cultivate on and what grows naturally are some of the resources available to them. On the larger scale these resources are the basis for the economic development of the agricultural nation. Deforestation is increasing worldwide due to commercial logging, agricultural development, migration, resettlement and demand for charcoal and fuelwood and this has environment consequences, which impinge directly on the lives of poor rural women (Fearnside, 2006). Their workloads are increased as they travel further to seek fodder, water and fuel, hence they have less time for income generation and other activities to improve their standards of living, to invest in natural living or to invest in natural resources management (August et al., 2005).



Deforestation, a process where vegetation is cut down without any simultaneous replanting for economic or social reasons has negative implications on the environment in terms of soil erosion, loss of biodiversity ecosystems, loss of wildlife and increased desertification among many other reasons. It has impacts on social aspects of the country, specifically regarding economic issues, agriculture, conflict and most importantly, quality of life.

Many reasons account for this, trees are cut down to be used or sold as fuel (sometimes in the form of charcoal) or timber, while cleared land is used as pasture for livestock, plantations of commodities and settlements. The removal of trees without sufficient reforestation has resulted in damage to habitat, biodiversity loss and aridity. It has adverse impacts on bio sequestration of atmospheric carbon dioxide and as at 2005 Nigeria has the highest rate of deforestation in the world according to the Food and Agriculture Organization of the United Nations (FAO). Between 2000 and 2005 the country lost 55.7% of its primary forests, and the rate of forest change increased by 31.2% to 3.12% per annum due to logging, timber export, subsistence agriculture and notably the collection of wood for fuel which remains problematic in western Africa. In 2005 12.2%, the equivalent of 11,089,000 hectares had been forested in Nigeria. Between 1990 and 2000, Nigeria lost an average of 409,700 hectares of forest every year equal to an average annual deforestation rate of 2.38%. Between 1990 and 2005, in total Nigeria lost 35.7% of its forest cover, or around 6,145,000 hectares. The Food and Agriculture Organization of the United Nations lists the requirements of sustainable forest management as: extent of forest resources, biological diversity, forest health and vitality, productive and protective functions of forest resources, socio-economic functions and a legal, policy and institutional framework. Many aspects of these are currently not being met due to deforestation and will continue to have detrimental effects if not quickly addressed. Therefore, there is the need for more research on the effects of deforestation on both production and economic activities.

OBJECTIVES

The major objective of this study is to determine rural women perception of the effects of deforestation on their economic activities. Other specific objectives are to:

- describe the socio-economic characteristics of respondents in the study area
- identify rural women economic activities before and after deforestation
- determine the perception of rural women towards the effects of deforestation on their economic activities
- determine the extent of deforestation effects on rural women economic activities
- determine the strategies for ameliorating the effects of deforestation.

The hypothesis tested is stated below:

Ho: There is no significant relationship between the socio-economic characteristics of the respondents and their perception of effects of deforestation on economic activities.

METHODOLOGY

The study area for this project is Ondo State. The research work was conducted among rural women in Odigbo and Ose Local Government areas. A multi stage sampling technique was used for data collection from the identified population of rural women. A purposive sampling was carried out due to forest activities known for those areas. Two rural communities was randomly selected and forty (40) respondents was sampled in each local government area making a total of eighty (80) respondents. The communities selected in Ose Local Government area are Ifon and Elegbeka communities and communities selected in Odigbo Local Government area are Ore and communities. Data for this research work were collected majorly from primary sources using a well-structured



questionnaire. The descriptive analysis such as frequency distribution and percentages were employed to show the pattern of socio-economic characteristics of rural women. A 5-point Likert-scale was used to determine the effect of deforestation and the perception of rural women towards the effects of deforestation on economic activities. Chi-square statistic (χ^2) was used to determine if there is significant relationship between the socio-economic characteristics of the respondents and their perception on the effects of deforestation in their local government areas .i.e if the variables are statistically independent .i.e if they are associated. The formula for calculating Chi-square is specified as follows:

$$\chi^2 = \frac{\sum(O-e)^2}{e}$$

χ^2 = Chi-square

\sum = summation

O = observe frequency

e = expected frequency

RESULTS AND DISCUSSION

The socio-economic characteristics presented include age, marital status, educational level, occupation and discussed in this section. The percentage of respondents between the ages of 50-59 years was 41.3%. This is followed by those between the ages of 60 years and above (28.8%). Those who fall between the ages of 40-49 years accounted for 18.8% of the respondents. This implies that majority of the respondents in the study area are still strong and agile, full of strength and vigor to carry out the laborious activities involved in agriculture. 28.8% of the respondents which are 60 years and above will not be expected to be productive as a result of their old age. The remaining respondents who are less than 40 years of age accounted for just 11.3% which suggests that youths in the rural areas are not actively involved in farming and other agricultural activities. Reasons for this might be attributed to the rural-urban migration of the youths for white collar jobs in the urban areas. It was revealed that 73.8% of the rural women are married, 18.8% are widowed and the divorced constitute just 7.5%. The marital status distribution in the study area indicates that majority of the respondents are married. A very low percentage of divorced and widowed statuses in the study area might be attributed to strong moral values attached to marriage institution among people of the study area. This agrees with the findings of Alfred, (2012) who reported in his findings that majority of the respondents are married in South West, Nigeria. Majority (63.8%) of the respondents had no formal education, 20% had primary education while those who had secondary education constitute 12.5%. The result therefore shows that majority of the respondents are not literate since they had no formal education. This implies that most of the rural dwellers do not proceed to tertiary institutions. This may be due to inadequate funds or not been able to meet the required qualifications of entering the university. The high level of illiteracy rate among women in the study area has a positive relationship with the type of economic activities undertaken by the women. Majority (81.3 %) indicated farming as their major occupation. This is followed by the traders who accounted for 16.3% while the teachers and the civil servants were 1.3% each. This implies that majority of the respondents are farmers.

Economic Activities of the Respondents before deforestation

The result of the analysis reveals that farming activities, gathering of fuel wood, and collection of snails were their major activities as indicated by 93.8%, 70%, 57.5% and 56.3% respectively. Others include collection of vegetables, collection and gathering of medicinal plants, collection of mushrooms, root and tubers. Study also revealed that majority of respondents 91.2%, 83.7%, 77.5% 72.5%, and 71.2% respectively engaged in gathering of



fodder, marketing of bush meat, gathering of leaves, collection of wild fruits and nuts and collection of mushrooms, roots and tubers as minor occupation.

Economic Activities of the Respondents after deforestation

Study revealed that 57.5% of the rural women are traders selling smoked fish, kerosene, provisions etc. 30% claimed that rural women had moved to the city to stay with their children and 51.3% revealed that some women are still living in rural areas but working as laborers, 26.3% of rural women had rented shops in nearby markets as middlemen between producers and consumers. This finding agrees with ODA (1994) that in the forest regions under tropical rain, soil erosion has greatly limited farm size and the amount of land available to rural for farming.

Respondents' Perception on the Effects of Deforestation on Economic Activities

The result reveals 93.8% of the respondents claimed that reduction in soil fertility with the highest mean score of 4.48 was the major problem they perceived with deforestation. According to Mumoki (2006) reduction in soil fertility makes land less productive for agriculture, creates new deserts, pollutes waterways and alters how water flows through the landscape, potentially making flooding more common. Also 71.3% of the respondents claimed that reduction in crop yield as a result of soil infertility was a problem they perceived with deforestation. About 75.1% of the respondents indicated scarcity of fuelwood as the problem they perceived with deforestation. This finding agrees with Nagbrahman (2003) who reported that firewood is now scarce that even a small weed on the road side is collected and women spend long hours before obtaining firewood. Large percentage (76.3%) indicated soil erosion as a problem of deforestation because it exposes forests soil to direct contact with the rain and this enhances the free flow of run-off that causes soil erosion with mean score of 4.14 in this study. WWF (2014) reported that deforestation generally increases rates of soil erosion by increasing the amount of run-off and reducing the protection of the soil from tree litter. Sixty percent of the respondents also claimed that scarcity of bush meat was a problem of deforestation, even the few ones gotten are not been sold as a result of recent crisis of Ebola. According to WHO (2014) human consumption of bush meat has been linked to animal-to-human transmission of diseases including Ebola and this has affected their income as marketing of bush meat was a major source of income to them. Sixty- two percent of the respondents also indicated scarcity of snails as another problem of deforestation having a mean score of 3.67 which comes as a result of the destruction of their habitat. This findings agrees with WWF (2006) estimated that over 90% of the natural vegetation and other forest resources already been cleared in Nigeria. Okafor (1980) also, stated that deforestation is now resulting in substantial loss of plant diversity of indigenous germplasm. Respondents were however undecided in their perception of deforestation causing the problem of shortage of fodder, disappearance of wild vegetable, disappearance of wild fruits, extinction of mushroom and scarcity of water.

Findings from the field revealed that, quality of firewood too has reduce, trees no longer matured on the field before women begin to cut them for use. Some respondents reported that a bundle of firewood that is being used for two (2) days now could be used for more than seven (7) days in the past due to increase in population, age and the texture of the woods. Also, the cost of a bundle of firewood has changed from what it used to be in the past. Construction of buildings had led to reduction in farm size, deforestation had led to serious effect on nutritional intake, reduced water availability for agriculture and natural habitat (table 1). Renu (2000) established that the maintenance of present levels of food production is difficult and that the impact the crisis has on nutrition and health is devastating and poor families have often had to cut down from three to two or one major meals a day.



Table 1: Respondents' Perception of Effects of Deforestation on Economic Activities

Problems of deforestation	SA	A	U	D	SD	MEAN	Remark
Reduction in Soil Fertility	50(62.5)	25(31.3)	0(0)	3(3.8)	2(2.8)	4.48	A
Scarcity of fuel wood	19(23.8)	41(51.3)	5(6.3)	13(16.3)	2(2.5)	3.80	A
Scarcity of bush meat	16(20)	32(40)	12(15)	20(25)	0(0)	3.60	A
Shortage of fodder	1(1.3)	15(18.8)	41(51.3)	21(26.3)	2(2.3)	2.90	U
Disappearance of wild vegetable	6(7.5)	28(35)	13(16.3)	29(36.3)	4(5)	3.00	U
Reduction of crop yield	18(22.5)	39(48.8)	14(17.5)	8(10)	1(1.25)	3.81	A
Disappearance of wild fruits	6(7.5)	26(32.5)	31(38.8)	16(20)	1(1.25)	3.25	U
Extinction of mushrooms	8(10)	20(25)	29(36.3)	22(27.5)	1(1.25)	3.15	U
Scarcity of snails	14(17.5)	44(55)	6(7.5)	13(16.3)	3(3.75)	3.67	A
Soil erosion	37(46.3)	24(30)	13(16.3)	5(6.3)	1(1.25)	4.14	A
Scarcity of water	4(5)	28(35)	13(16.3)	18(22.5)	17(21.3)	2.80	U

Source: Author's Computation, 2014

<1.5= strongly disagreed; 1.5-2.49 = disagreed; 2.5-3.49 = undecided; 3.5-4.49 = agreed; 4.5-5 = strongly agreed

Respondents' Perception of Strategies for Ameliorating the Effects of Deforestation

The perception of the rural women toward strategies for ameliorating the effects of deforestation is displayed in table 2. The result shows that 92.5% of the respondents indicated that promulgation of government policy on forest is the method to stream deforestation effects on rural women economic activities, 90.1% of the respondents claimed that it is the formulation of policy that should involve women on environmental sustainability issues. Government policy on forests should emphasize the need for rural women education on how to practice afforestation and agroforestry in order to improve and maintain their farm land including soil fertility which could be done by organizing seminars and extension training. Also 75.1% of the respondents claimed that ban on setting forests on fire also known as avoidance of bush burning which occurs because most fires are caused either deliberately or by accidents which destroys trees of all sizes including seedlings is a way of ameliorating the effects of deforestation.

Raymond (1992) corroborates this findings that balance conservation and development goals, aimed at sustainable development protects the interest of current and future generations in the use of forest resources and links consumption needs to the society. Some sustainable development requires reduction in population growth and poverty, particularly in areas where natural resources and environment are already under stress. However, ban on illegal mining in the forest and women full involvement in the formulation of policy on forest fencing of forest land with mean scores of 3.49 each indicates that the respondents were undecided whether they are strategies for ameliorating the effects of deforestation in the study area.

Table 2: Respondents' Perception of Strategies for Ameliorating the Effects of Deforestation

Ameliorating Methods	SA	A	U	D	SD	MEAN	REMARK
Government policy on forest	36(45)	38(47.5)	2(2.5)	4(5)	0(0)	4.33	A
Environmental sustainability	37(46.3)	35(43.8)	8(10)	0(0)	0(0)	4.36	A



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Afforestation and Agroforestry	44(55)	30(37.5)	6(7.5)	0(0)	0(0)	4.48	A
Ban on setting forest on fire	37(46.3)	23(28.8)	17(21.3)	2(2.5)	1(1.3)	4.16	U
Ban on illegal mining in the forest	16(20)	17(21.3)	38(47.5)	8(10)	1(1.3)	3.49	U
Women involvement in the formulation of policy on forest land in the area	17(21.3)	20(25)	29(36.3)	13(16.3)	1(1.3)	3.49	A
Organize conferences and seminars	28(35)	41(51.3)	11(13.8)	0(0)	0(0)	4.21	A

Source: Author's Computation, 2014

<1.5= strongly disagreed; 1.5-2.49 = disagreed; 2.5-3.49 = undecided; 3.5-4.49 = agreed; 4.5-5 = strongly agreed

4.4 Chi Square Test Result

Chi square test was adopted to establish the relationship between rural women perception of deforestation and their socio-economic characteristics. The result displayed in table 3 shows that there was positive and significant relationship between rural women' perception of the effects of deforestation and age ($\chi^2 = 124.03$), marital status ($\chi^2 = 56.91$), educational status ($\chi^2 = 89.21$), religion ($\chi^2 = 19.51$) and occupation ($\chi^2 = 35.57$). The implication of these results is that age, marital status, educational status, religion as well as occupation influenced rural women perception of the effects of deforestation. According to Ayanwuyi, et al; (2007) age can be linked with experience since the older people have more history they can relate than the younger ones. Older women should have better information regarding the effects of deforestation. Similarly, wife's position and level of education also affect their perception since responsibility for fending for firewood and other forest products falls more on the junior wives than the senior ones. Also, the length of marriage will give better experience. Better educated women are bound to adopt better and easier cooking methods like the use of stoves or any other method than the uneducated ones. The higher the level of education, the more the level of awareness of the effects of deforestation. This agrees with the findings of Akinwalere (2012). Hence, the table revealed that the calculated chi-square values of all the variables are greater than the tabulated chi-square values when $\alpha = 0.05$. It was therefore concluded that there is a significant relationship between the socio-economic characteristics of the respondents and their perception towards effects of deforestation on economic activities in Ondo State, Nigeria. The null hypothesis was therefore rejected.

Table 3: Result of Chi-square Test

Variables	Calculated Chi-square(χ^2)	df	Tabulated Chi Square	Decision
Age	124.03	93	116.511	Significant
Marital status	56.91	40	55.758	Significant
Education	89.21	61	80.232	Significant
Religion	19.51	9	16.919	Significant
Occupation	39.82	26	38.885	Significant

$\alpha = 0.05$

Source: Field Survey, 2014

**CONCLUSION**

The study established that majority of the rural women involved in the study were at their old age, able to give information on the situation of the forest in the past fifteen years. The claim that rural economic activities were dependent on the forest has been replaced by others.

It was revealed that socio-economic characteristics of rural women insignificantly influenced their perception of deforestation. However, deforestation effects resulted into reduction in soil fertility, scarcity of fuelwood, scarcity of bush meat, scarcity of snails, reduction in crop yield and soil erosion.

RECOMMENDATION

- [1]. Deforestation effects could be ameliorated by the promulgation of government policies that will regulate the use of forest products.
- [2]. Amelioration of the effects of deforestation should include dissemination of information on forests and environmental sustainability issues.
- [3]. Education on afforestation and agro-forestry in order to improve and maintain the farm land including soil fertility and the forest. This could be done by organizing seminars and extension training.
- [4]. It is also recommended that ban on setting forest on fire also should be implemented as bush burning destroys trees of all sizes including seedlings.

REFERENCES

- [1]. Alfred, S. D., and Alfred, B. E., (2012). Rural Households' Perception of the Expanded Programme on Children Immunization (EPI) in the Southwest of Nigeria. *Greener Journal of Medical Sciences* ISSN: 2276-7797 Vol. 2 (1), Pp. 12-18
- [2]. Akinwalere, B.O. (2012). Determinants of Factors Affecting Adoption of Agroforestry Practices among Farmers in South-West Nigeria. (UnpublishPh.D Thesis). Federal University of Technology Akure, Nigeria. pp 16
- [3]. August, B., Kiyiapi, J and Pieter Van Lierop, (2005). Improving agriculture and natural resources education in Africa: A Stitch in time. *World Agroforestry Centre, Nairobi, Kenya*, pp: 6-15
- [4]. Davidson, J., (2000). Women and the Environment. Unpublished paper prepared for common wealth secretariat Cited in *Sustainable Development: An Imperative for environmental protection*. Report on environment Concerns London, pp: 106-108.
- [5]. Fearnside, P.M., (2006). Spatial Concentration of deforestation in the Brazilian Amazon Brazil. pp: 74-81.
- [6]. Food and Agricultural Organization of United Nations (FAO), (2000). *Tree Planting Practices in African Savannah*. Forestry Paper FAO Rome, pp: 170-185.
- [7]. Mumoki, F. (2006). "The Effects of Deforestation on our Environment Today." *Panorama*. Taking IT Global. Web. 24 March
- [8]. Nagbrahman, D. (2003). "Women's Drudgery in Firewood Collection", in *Economic and Political Weekly*, 1-8 January.
- [9]. Okafor, J.C., (1980). Edible indigenous woody plants in the rural economy of the Nigerian forest Zone. *Lost crops of Nigeria*, UNAAB Abeokuta, Nigeria.
- [10]. Overseas Development Agency ODA, (1994). *Strategy for support to the Renewable National Resources (RNR) Forestry Sector in Nigeria*, pp: 1-23.
- [11]. Raymond, R. (1992) "Deforestation: Problems, Causes, and Concerns." In Narendra Sharma, ed., *Managing the World's Forests: Looking for Balance Between Conservation and Development*. Dubuque, Indiana: Kendal Hunt Publications

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- [12]. Renu, D., (2000). Women and Environment in the Third World, In: Dankelman. E (Ed.), Alliance for the Future Earth scan Publications London, pp: 134-150.
- [13]. World Health Organization, (2014). Ebola Virus Diseases. Facts Sheet No. 103. World Health Organization. September.
- [14]. World Wildlife Fund (2014). Facts about Soil erosion and Degradation. Promoting sustainable agriculture. Forest conservation initiative. www.worldwildlife.org Web. Global IT.
- [15]. World Wildlife Fund (2006). Determining links between agricultural crop expansion and deforestation. A report prepared for the WWF Forest Conservation Initiative. `
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