FORESTRY POTENTIALS IN EMPLOYMENT GENERATION IN AKURE-OFOSU FOREST RESERVE OF ONDO STATE, NIGERIA

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ABSTRACT

This research work surveyed forestry potentials in employment generation in Akure-Ofosu Forest Reserve of Ondo State, Nigeria. Four villages were purposively selected from Akure Ofosu Forestry Reserve. Primary data were collected from eighty respondents sampled from each location with well structured questionnaire and analysed with the use of descriptive (tables, percentages) and inferential statistics (Regression analysis). It was revealed among others that forest activities impacted positively on the immediate and remote communities around the forest estates in the areas of raw materials, source of income, employment generation and inter-communal relationship. It was recommended that all the stakeholders should be enlightened on the economic values of the forest and forest products as well as preserve and encourage the planting of more trees.

Keywords: *Forestry, forest products and employment generation.*

INTRODUCTION

Forestry according to the Oxford Advanced Learner's Dictionary of English (2000) is the science or practice of planting and care of trees and forest. Scientifically, it is referred to as the science of planned management of forest and forestlands. Trees are tall plants that can live for a long time, they have thick central wooden stem from which branches grow, usually with leaves on them.

The forests are sources of raw materials for a wide range of industries and they create employment, improve environmental quality and effectively support food production (Adeyoju, 1981). Then forestry plays a vital role in the sustainable livelihood of the people living within the forest reserves. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain capabilities and assets both now and in the future while not undermining the rural resource base (DFID, 1988).

The management of forestry consists of forest protection, preservation, silviculture, felling, logging and hauling. Products from forest have been defined as biological resources which are harvested from either natural forest or managed forests. In reality, forests are made up of the soil, air and all the creatures that live in and around these trees. This is referred to as bio-diversity (Sally and Michael, 2000). The importance of forest can not be over-emphasized; forest all over the world provides a renewable source of raw materials, energy and services for nations and communities. Forest and trees renew the air we breath, moderate our climate, regulate atmospheric moisture, recycle processes and conserve soil in the fragile, hilly and coastal ecosystem with canopy cover (Dhyani 2003). Among the forest products, timber is regarded as the major forest product in Nigeria.

However, the forest is known to produce many other products, which are used widely in many fields though their consumption and trade are not appreciated. This group of products includes all biological materials other than timber such as chewing stick, fruits, nuts, honey, fuel wood, leaves etc. which are extracted from the forest for human use, and are termed minor forest products or non-timber forest products (Adeyoju, 1975). Forest contributes indirectly to household food security through the generation

of income and employment from the sale and exchange of gathered and processed forest products such as chewing stick, firewood, rattan, bamboo and fibres etc. (FAO, 1991).

For instance, the exploitation of timber from the forest reserves and the tree forest areas can be seen as a production process whereby wood is introduced into the economic system of Ondo State in particular and Nigeria in general as a produce through different silivultural and technical activities. Activities in different sections have shown that timber exploitation is major to procurement of wood as raw materials from the forests which serve as the source of wood product and delivery of the same to both consumers and industrial sector.

Globally, wood is at the forefront of world's industrial raw materials. Timber is converted into solid wood suitable for building and construction purposes. It is cheap, easy to work and fashion into different shapes and sizes (Walton, 1981). Forest and related industries are a major source of employment in the primary, secondary and tertiary sectors all over the country. It has been estimated that in the primary and secondary sectors, forestry activities generate employment to millions of persons per day. Forestry activities are labour intensive especially in the remote difficult areas. The various forest industries provide another gainful source of employment (Dhyani; et al, 2005 Dhyani; et al (2003) highlighted the role of agroforestry products and environmental services to meet the subsistence needs of low-income household and providing a platform for greater and sustained livehood of the society. Agroforestry provides employment with relatively lower investment for the unskilled rural sector.

The procurement and other activities of transformation of the major forest products (wood/timber) into industrial raw materials serve as a means of employment opportunities to many people in the rural areas. Some have taken it as their full time business while some are doing it as part time job. The forest products have tremendous potential to create job at village as well as industrial level. It has the capacity to provide employment and income to a fairly large number of people and around the forest area. The minor forest produce which include chewing stick, fuel-wood, rattan and pole bamboo among others provide substantial input into the liveli-hood of many people in the tropics, and particularly in the rural sector.

The importance of chewing stick as forest product on employment

generation is becoming more pronounced because of the current upsurge in the price of chemical toothpastes and brushes. The procurement, processing and marketing of these products depend on the rural dwellers in and around the Forest Reserve (Akande et. al. 1998). Millions of people worldwide depend on wood, primarily from material forest and trees outside forest areas as their only source of household energy. In developing countries, urban households especially poor families, often spread 20-30 percent of their income to buy fuel wood (FAO, 1982). In Nigeria over 60% of the population depends on fuel wood for cooking and this dependence has resulted in forest over exploitation with grave environmental consequences.

Rattan (cane - stick) has long been used by rural people for a great variety of purpose which according to Wickens (1991) have significant potential in terms of employment opportunities; small business enterprises as well as improving the well being of local people without depleting natural resources.

Planting forest trees such as teak, Gmelina or some indigenous species like nuclear, mansonia etc. requires the services of labour, which are mainly people from within the locality, which serve as a means of providing daily bread to the people and reduce unemployment. This tends to improve the potentiality of regaining our lost forest and products. In fact the livelihood of some rural communities is directly dependent on the forest. Apart from involvement of government in tree plantings, farmers involvement in conserving and planting of indigenous and exotic tree species in their farms will stimulate and enhance peoples participation in conservation of trees, and planting in large scale has been considered vital for the success of any plantation programme (FAO, 1987) and thus serve as source of employment and income generation to the participants.

METHODOLOGY

The study was carried out within the geographical location of Akure Ofosu Forest Reserve in Akure North Local Government Area of Ondo State, Nigeria. The Forest Reserve shared a boundary with Ala forest in Akure North Local Government and Idanre Ofosu forest reserve in Idanre Local Government. Akure Ofosu Forest Reserve covers a land mass of about

401.45 square Km. It lies on the longitude of 50 150-50 300t latitude 60 411 - 60 491 (Oyesanmi 2009). The camps and villages within the jurisdiction of the Forest Reserve includes Lagbata (an enclave), Asaboro, Agotitun, Ala, Igbolowowa, Olowu, Aladura, Ominiyan, Ogunmakinju, Onilaga and others. The study area is notable for commercial production of industrial raw materials such as timber and non-timber forest product. The target population for the study is the people who are strongly and actively involved in the exploitation of forest products.

Purposive random sampling was used to select four villages for the study while proportionate random sampling based on the population of the selected villages was used to administer questionnaire on the respondents from the study area. The sampling frame consists of 80 respondents selected from Egbeta, Ala Asaboro and Aladura villages of Akure-Ofosu Forest Reserve based on the nearness and availability of the natural resources in the area. Primary data were collected with the use of structured questionnaire and oral interview. Information were elicited on socio-economic characteristics, available forest, industrial raw materials benefit derived and factors influencing the rural involvement in forestry in the study area.

The data were analysed using descriptive statistics such as frequency tables and percentage with respect to personal characteristic of the respondents, benefit derived from forest reserve and problems associated with the products procurement practices.

Regression analysis was used to determine the effect or change in dependent variable as a result of unit changes which change in the independent variable as a result of unit changes in the independent variable. The dependent variables are gender of respondents, marital status, family size, educational qualification and major occupation while the kind of forest activities engaged is the independent variable.The coefficient of determination (R^2) was used to explain the variation in the dependent variable as explained by the independent variables. The implicit function is as stated below.

$Y = F(X_1, X_2, X_3, X_4, X_5, X_6)$

Where:

$Y =$ Forest activities engaged

$X_1 =$ Gender of respondents

X_2 = Age of respondents
X_3 = Marital status
X_4 = Family size
X_5 = Level of education
X_6 = Major occupation

The linear model is as follows:

$$Y = B_0 + Bx_1 + B_2 x_2 + B_{3x3} + B_{4x}4 + B_{5x5+} B_{6x6}$$

The evaluation criteria of regression result are economic, statistical and econometric all aim at knowing reliability of result of the ordinary least square regression Analysis. It involves deciding whether the estimated parameters are theoretically meaningful and statistically satisfactory. Economic criterion ensures that the sign and magnitude of the estimated parameters conform to a priority expectation.

Statistical criterion made use of F-test and R^2

(i) F-test is done to test the overall significance of the whole function.

(ii) The R^2 is the coefficient of multiple determinations and it measures the goodness of fit of the regression model. The econometric criterion ensures that the assumption of econometric techniques like the ordinary least square is satisfied.

RESULTS AND DISCUSSION

The results of analysis and interpretation of data collected from the field in respect of socio-economic characteristics of the respondents are contained in Tables 1 to 4 while result of findings on various forest activities and the industry are contained on Tables 5 to 12. Table 1 show that 96.2% of the respondents are male. An indication that the business is a tedious one which requires high masculine labour beyond what could be rendered by women. For example felling of trees, road making, scribing, and loading and off loading among others are done by men.

Table 2 indicates that majority (95.0%) of the respondents involved in timber business are married. This may imply that the business could generate enough income to sustain the family. Table 3 reveals that 98.8% of the respondents are literate. This implies that forestry has engaged most people that would have been wasting their time in seeking for white collar

jobs. This underscores the income generating potential of the forestry industry. Table 4 indicates that 85% of the respondents are timber contractors and tree takers. This shows that the forestry industry has high labour absorptive potential while the products are of high demand.

Table 1: Gender Distribution of the Respondents

Sex	**Freq.**	**%**
Male	77	96.2
Female	3	3.8
Total	80	100

Source: Field Survey, 2009

Table 2: Marital Status

Sex	**Freq.**	**%**
Single	4	5.0
Married	76	95.0
Total	80	100

Source: Field Survey, 2009

Table 3: Educational Qualification

Educational Status	**Freq.**	**%**
Primary	5	6.2
Secondary	55	68.8
Tertiary	19	23.8
Non-formal Education	1	1.2
Total	80	100

Source: Field Survey, 2009

Table 4: Major Occupation

Occupation	Freq.	%
Farming	5	6.2
Sawmiller	4	5.0
Timber Contractor	5	6.2
Tree takers	63	78.8
Civil Servant	3	3.8
Total	80	100.0

Source: Field Survey, 2009

Table 5 indicates that 53% of the respondents engage in felling of trees . This may be the major attraction of respondents in the study area. 42.5% of the respondents engages in timber exploitation which deals with the facilities of evacuating the dressed logs to the saw mill industry for conversion. Table 6 shows that 98.8% of the respondents embark on one forest activity or another which serve as their source of income. This may imply that forestry industry has high income generation potentials.

Table 7 shows that 92.5% of the respondents sell planks from which they derived their income. This indicates that the immediate products of round logs are planks which are used for various degrees of construction projects. The planks are stored in the plank shed or market where many people are involved in buying and selling. Table 8 indicates that apart from job satisfaction by forest industry, there are other advantages that make the people to be contented with the business. Job satisfaction, self reliance, business diversification are some of such advantages.

Table 5: Kind of Forest Activities Engaged

Activity	Freq.	%
Felling of log	42	52.5
Timber exploitation	34	42.5
Fetching firewood	1	1.2
Hunting of animals	2	2.5
Others	1	1.2
Total	80	100

Source: Field Survey, 2009

Table 6: Forest activity as source of income

Variable	**Freq.**	**%**
Yes	79	98.8
No	1	1.2
Total	80	100

Source: Field Survey, 2009

Table 7: Distribution of Respondents according to various activities

Activities	**Freq.**	**%**
Selling of planks	74	92.5
Selling of firewood	1	1.2
Selling of hunted animal	3	3.8
Others	2	2
Total	80	100

Source: Field Survey, 2009

Table 8: Other advantages derived from forest industry activities

Advantages	**Freq.**	**%**
Job satisfaction	22	27
Business expansion	15	18.8
Economic status	18	23
Human relation	12	15.0
Self reliance	13	16.2
Total	80	100

Source: Field Survey, 2009

Table 9 shows that 23.8% of the respondents remark that labourers do not always listen to the directive of their employers thereby make the job to be difficult. Also 23.8% of the respondents made it known that forest activities are full of danger and risk in its entire ramification. While 20% declared that forest industry activities is full of fowl play and insincerity. 20% expressed their concern about the negative effect of the constant change of the rules and regulations that guide forestry activities while some 6.2% express their dissatisfaction about the impact of thuggery involved in the job and 2.5% extinction of economic trees.

Table 10 shows that 92.5% of the respondents indicated that forest activities determine their source of income.

Table 9: Problems faced in the industry

Problem faced	Freq.	%
Workers are difficult to control	19	23.8
It involves fowl play	16	20.0
Change in government policy	16	20.0
It is prone to danger and risk	19	23.8
Thuggery involvement	5	6.2
Extinction of Economic trees	2	2.5
Mobility	3	3.8
Total	80	100

Source: Field Survey, 2009

Table 10: The way forestry determines your standard of living

Ways	Freq.	%
It is a source of raw material	2	2.5
It enhances marketing of the products	1	1.2
It encourages employment opportunities	3	3.8
It is the source of their income	74	92.5
Total	80	100

Source: Field Survey 2009

The outcome of regression analysis is shown in equation (1)

$$Y = 5.149 + 0.53419X_1 + 0.016X_2 - 1.000X_3 - 0.441X_4 - 0.004X_5$$
$$(0.498) \quad (0.015) \quad (0.445) \quad (0.072) \quad (0.161) \quad (0.102)$$

$R^2 = 0.570$, $R^2 = 0.510$, $F = 4.509$

Significant value at 5%

The regression result shows that R2 is 0.570. It implies that 57.0% of the variability in the forest activities (Y) engaged it is being accounted for by the independent variables in the specified model. Gender (X_1), age (X_2), marital status (X_3), family size (x_1), level of education (X_5) and major occupation (X_6) of respondents are economic variables that have implications on forest activities engaged in, in the area of study.

From the result, (X_3) marital status (X_4), family size and (X_6) major occupation of the respondents are all significant at 5% level. This implies that they are the variables that had important implications for employment

generation potentials in the forestry industries. The positive sign associated with the gender (X_1), age (X_2) and level of education (X_5) of the respondents, implies that the higher the magnitude of these variables, the higher the different kinds of forest activities engaged in, in the area of study. It may be inferred that the forest activities are gender, age and level of education sensitive. Thus, requiring more able bodied men than the women; matured men with relatively high level of education.

Whereas, the negative sign associated with marital status (X_3), family size (X_4) and major occupation (X_6) implies that reduction in the number of married person and in family size will reduce the number of investors in forest business and thus decrease in forest activities engaged in the study area. Should the number of people that take forest business as their primary occupation decrease; there would be drastic decrease in forest activities in the study area.

CONCLUSION AND RECOMMENDATIONS

The potential of forestry in generating employment opportunity is examined and it was realized that forests have the potential of alleviating rural and urban poverty because of the operations involved in forest activities which serves as a source of income to the people engaged in forest activities. It could be inferred from the study that forest activities has created a wide range of employment opportunities in the study area in particular and it is capable of providing the same benefits to a good number of people in the country in general.

Also forestry has the potential of absorbing unemployed youth as well as interested employed individual; it could therefore improve the overall economy of the nation. It was noticed that most of the respondents involved in forestry activities are males due to the tedious nature of the activities; while many problems were quoted in the industry with bad attitude of the labourers being the most prominent. On the basis that forestry provides employment, as a means of sustenance and sources of income to many families; it is recommended that government at all tiers should play a significant role in adequately protecting the forests from indiscriminate cutting of trees operating within the forest. In essence, effective monitoring of the forests must be done by the governments and their agents.

The people of Akure Ofosu Forest Reserve should be enlightened on the economic values of the forest products and the need for their conservation while planting of exotic and indigenous tree should be encouraged by government and private individuals.

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